



# Assessment of a Professional Development Program on Adult Learning Theory

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**abstract:** Librarians at colleges and universities invested in graduate education must understand and incorporate adult learning theories in their reference and instruction interactions with graduate students to more effectively support the students' learning. After participating in a professional development program about adult learning theory, librarians in this study reported that, in many ways, they already employed teaching and learning strategies grounded in one or more adult learning theories. They also indicated gaining a greater awareness of student development, enabling them to more successfully tailor their interactions.

## Introduction

It is important that librarians in colleges with significant investment in graduate education have a foundational understanding of adult learning theory to adequately support graduate students in their academic endeavors. Understanding how adult students learn enables librarians to better tailor their one-on-one reference work and their group library instruction to create more relevant learning opportunities for students.

Scholars and organizations define adults "biologically, psychologically, legally, or socioculturally" depending on their use of the term.<sup>1</sup> For example, Gordon Darkenwald and Sharan Merriam state that a student is an adult learner if "the ordinary business of life continues and the role of the student is subordinate to it."<sup>2</sup> To study adult learners in higher education, many other scholars use psychological age to define adulthood. When evaluating the information-seeking behaviors of students in a graduate social work program, Lizah Ismail identified adult learners as students over the age of 25.<sup>3</sup> After reviewing the literature, Marieluse Frei Raven and Ronald Jimmerson determined that, along with age, adult learners also "carry out adult responsibilities in addition to being a student."<sup>4</sup> For this study, all students enrolled in a graduate program were

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considered adult learners because their needs were distinct from those of undergraduate students of traditional age.

The intention of this study was to examine whether participating librarians accustomed to working with undergraduate students believed they would be better equipped to support graduate students after learning more about adult learning theories and models. Through this study, librarians had an opportunity to read about adult learning theories and examine how they might incorporate the theories in the work that they do. The librarians participated in a professional development experience, which is defined by Marilyn Brink, Rachel Vourlas, Lynn Uyan Tran, and Catherine Halversen as the “ongoing learning for and about one’s practice that practitioners engage in as they increase their expertise and skills.”<sup>5</sup>

During the program, librarians reflected on their own experiences as adult learners, made connections to one or more theories, and identified how they incorporated adult learning theory into their reference and instruction work with students. Through a qualitative analysis of data in reflective essays gathered before and after the workshops, this investigator hoped to better understand how librarians approached their work with adult learners, as well as provide them with an opportunity to learn how to incorporate adult learning theory into their interactions with graduate students to better support and facilitate student learning.

### Literature Review

There is little research available on the use of adult learning theory in libraries, with only one study exploring adult learning theories in relation to information literacy instruction. Donald Gilstrap surveyed librarians to determine the extent to which they perceived adult learning theories within the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education.<sup>6</sup> Adopted in 2000, the Standards serve as the benchmark from which librarians create information literacy programs and assess students’ development of information literacy skills. Even though the Standards are grounded in adult learning theories, Gilstrap found that, the more familiar librarians were with the Standards, the more likely they were to use pedagogical approaches when working with students.<sup>7</sup>

Despite the connection between adult learning theory and the work of reference and instruction librarians, much of the library research on graduate students and adult learners focused on their experiences using library services and resources rather than exploring how they learn. The overarching themes within this body of literature were the need for libraries and librarians to support adult learners and the methods of doing so.<sup>8</sup> Other studies examined graduate student or adult learner needs,<sup>9</sup> measured satisfaction and quality of services,<sup>10</sup> evaluated library research and information literacy programs and workshops,<sup>11</sup> and sought to understand the graduate or adult learner’s experience and behavior, including help-seeking and library anxiety.<sup>12</sup> Additional literature, while not research studies, identified practical uses of adult learning theories when working with adult learners in libraries, predominantly Malcolm Knowles’s assumptions of andragogy.<sup>13</sup> Knowles, a leader in the field of adult education, helped spread the theory of andragogy—that is, how adults learn—in the United States.

There are hundreds of adult learning models and theories that have been developed in the fields of psychology, sociology, and education. Knowles made popular the concept of andragogy with a set of six assumptions about adult learning distinct from that of pedagogy—how all people, but especially children, learn:

- (1) As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being.
- (2) An adult accumulates a grown reservoir of experience, which is a rich resource for learning.
- (3) The readiness of an adult to learn is closely related to the developmental tasks of his or her social role.
- (4) There is a change in time perspective as people mature—from future application of knowledge to immediacy of application. Thus, an adult is more problem-centered than subject-centered in learning.
- (5) The most potent motivations are internal rather than external.
- (6) Adults need to know why they need to learn something.<sup>14</sup>

While much of the library literature on adult learning theory has focused on andragogy specifically, other theories, such as transformational and narrative learning, are relevant to academic librarians as well.

Transformational learning may be defined as learning that results in a change in how we see ourselves. It is “learning that transforms problematic frames of reference to make them more inclusive, discriminating, reflective, open, and emotionally able to change.”<sup>15</sup> Jack Mezirow, an American sociologist, is credited with originating the theory of transformative learning after his wife returned to college in middle age. According to Sharan Merriam, Rosemary Caffarella, and Lisa Baumgartner, Mezirow’s ten-step transformational learning process is comprised of four parts, “experience, critical reflection, reflective discourse, and action.”<sup>16</sup>

Over the years, Mezirow and other theorists expanded upon and refined his theory of transformational learning to include the ideas of “habits of mind” and “disorienting dilemma.” Habits of mind are “set[s] of assumptions—broad, generalized, orienting predispositions that act as a filter for interpreting the meaning of experience.”<sup>17</sup> Transformational learning occurs when habits of mind are re-formed. This often happens as the result of a disorienting dilemma, “a particular life event or life experience . . . that a person experiences as a crisis.”<sup>18</sup> The dilemma initiates a transformative learning process, whereby the learner makes life-changing new meaning of the event. Librarians can facilitate transformational learning experiences with students by giving them a disorienting dilemma, such as a research question or informational problem that is difficult to answer. Through the process of searching for an answer, the students learn new ways of conducting library research and evaluating and understanding their findings so that their habits of mind may be re-formed.

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Narrative learning, a strategy commonly used in teaching, is “how we craft our sense of self, our identity” and is closely tied to adults’ experiences.<sup>19</sup> Narrative learning is a constructivist approach, meaning that learners construct their own understanding and knowledge of the world by experiencing things and reflecting on those experiences. Narrative learning allows for individuals to make meaning of their experiences through hearing, telling, and recognizing stories.<sup>20</sup> M. Carolyn Clark and Marsha Rossiter posited that narrative learning works effectively through journal writing, autobiographical writing, and case studies.<sup>21</sup> Jaclyn Devine, Todd Quinn, and Paulita Aguilar explored the effectiveness of narrative as a teaching method with adult learners in library instruction in their exposition of the use of macro- and micro-narratives. As they explain, “Macro-narratives are stories that are common across many cultures and contain universal themes and lessons. Micro-narratives are stories that are uniquely relevant to the members of a particular group.”<sup>22</sup> Providing specific examples of instructional scenarios, the authors demonstrated how “learning through stories encourages interaction and active listening, build[s] respect, collaboration . . . and allows people to relate” to their own experiences.<sup>23</sup> Incorporating students’ own experiences through narratives or stories helps engage them in the learning process by providing them a relevant context from which to understand and retain library research concepts and information literacy skill development.

With the numerous barriers to learning and the complexity of experiences that adult learners as graduate students face, it is important that librarians receive training to develop programs and services that meet the students’ needs and support their educational goals. Examining academic/research librarian job postings, Russell Hall found that 65 percent of hiring supervisors “stated that instruction skills were required for qualification” for job seekers.<sup>24</sup> Despite expecting job applicants to have teaching skills, supervisors reported that “on-the-job training and observation of other instructors” were the typical “ways that a librarian learns to do instruction.”<sup>25</sup>

Dani Brecher and Kevin Michael Klipfel recognized a lack of pedagogical or teacher preparation in library science curricula in their commentary on instruction librarians’

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education.<sup>26</sup> They argued that additional training for librarians was necessary for several reasons. For example, “incorporating information literacy instruction into the university curriculum” is often a requirement for reference and instruction librarians. Employers seek librarians with teaching experience because information literacy is frequently included in library mission statements, and having an understanding of the theory of “how students learn” is required for librarians to help students.<sup>27</sup> Several studies support these claims. Theresa Westbrook and Sarah Fabian conducted a survey to “de-

termine how librarians felt about their education and graduate school preparation for the responsibilities of teaching.”<sup>28</sup> Overwhelmingly, the majority of respondents indicated that they primarily developed their instruction skills on the job or were self-taught, but

they would have preferred to learn the proficiencies through library graduate programs.<sup>29</sup>

Given increased demands for teacher preparedness in academic libraries and librarians' desire to develop their skills while completing their library science training, Claudene Sproles, Anna Marie Johnson, and Leslie Farison evaluated reference course syllabi to determine the extent to which information literacy (IL) was included in courses and whether the courses adhered to ACRL's 2007 Standards and Proficiencies for Instruction Librarians and Coordinators.<sup>30</sup> They found that although "66% of students [were] exposed to the concept of information literacy instruction in a required reference course," this number was low compared to the "high demand information literacy skills have in entry level academic reference jobs."<sup>31</sup> Additionally, they determined that, despite all courses including some of the proficiencies for instruction librarians, none of them were comprehensive enough to provide adequate training for librarians who would be responsible for teaching library research and IL classes in their professional work.<sup>32</sup>

With limited formal educational opportunities to study how adult college students learn, librarians are thus required to seek out information on their own. Jana Varlejs surveyed members of the American Library Association (ALA) to examine librarians' self-directed learning activities and behaviors.<sup>33</sup> She determined that three-quarters of the librarians surveyed spent "more time learning on their own than they do in formal CE [continuing education]."<sup>34</sup> Varlejs also found that, as librarians moved into leadership roles, their learning transitioned from singular, task-oriented functions to ongoing, big-picture concerns, reflecting a change from formal to informal, self-directed learning.<sup>35</sup>

In conclusion, research exploring the use of adult learning theories and models in libraries to support adult learners or graduate students is scarce. The literature primarily includes expositions and narratives on how to use the theories and their importance in instructional settings. Most research in libraries about adult learners or graduate students focused on their experiences and satisfaction with library resources and services and their patterns of anxiety and help-seeking. This may not be surprising given that the research indicates a minimal level of teacher preparation in library science graduate programs. As a result, there is a continued need for professional development training of librarians to help them effectively support adult learners.

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### Methodology

The purpose of the study was to provide librarians with a professional development opportunity to read about adult learning theories and models and examine how they could incorporate adult learning theory in their work with graduate students. Through a professional development program, participants: (1) identified connections between adult learning theories and their own learning experiences; (2) explored applications of adult learning theories in reference and instructional settings; and (3) assessed the value in using adult learning theories when working with graduate students.

The study took place at a small, private, liberal arts college in New England. Participants included any college employee working in the library who had completed a graduate course of study in library science or library and information science from an accredited ALA institution. Individuals who met the population criteria were recruited via e-mail with an invitation to participate in the study. A nonrandom, purposive selection method was used due to the limited number of individuals who met the criteria. All who responded favorably to the recruitment e-mail were invited to participate to allow for maximum participation and as large a sample as possible. The sample of six participants represented a 100 percent response rate; however, two participants dropped out of the study prior to its completion.

There were minimal human subject issues related to this study. The project posed little or no risk to federally defined vulnerable subjects; therefore, no steps were required to minimize such risks. There were no psychological, legal, economic, social, or physical hazards. Participation was voluntary and did not affect the participants' employment at the college.

### Theoretical Framework

The professional development program consisted of providing readings, inviting reflection, and holding two workshops to introduce librarians to adult learning theories and models. For specifics about the program's curriculum, see Appendix A. Merriam, Caffarella, and Baumgartner's *Learning in Adulthood: A Comprehensive Guide* served as the introductory text, specifically the chapters on andragogy and those on self-directed, transformational, experiential, embodied, spiritual, and narrative learning.<sup>36</sup>

The program format was designed to provide participants with an opportunity to experience Mezirow's transformational learning, including experience, reflection, discourse, and action. The foundation of their learning began with the participants' own experiences as learners. In the first workshop activity, participants shared their own stories of transformational learning, providing them an opportunity to describe their feelings and experiences, a factor important to the learning process as described by Lynda Baloché.<sup>37</sup> Through this narrative, they became more aware of themselves as learners,

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engaged more fully with the material they read, compared and contrasted their experiences with those of other librarians, and began to form a sense of community with one another. Community is important to creating climates conducive to learning. Knowles recommended that adults should "feel accepted, respected, and supported," with the facilitator and students having equal roles in the learning experience.<sup>38</sup> According to Patricia Cranton and Chad Hoggan, the support and the challenge—the

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"If such elements are present, learners will have the support and the challenge—the

safety, the disconfirming experiences, and the invitation to take risks—that can make transformative learning possible.”<sup>39</sup>

Morris Fiddler and Catherine Marineau stated that, for reflection to lead to learning, it must include “questioning and examining assumptions, beliefs, mental models, values, and a host of other qualities that characterize meaning.”<sup>40</sup> Pre- and post-reflection narratives not only served as the evaluation instrument for the study but also provided an opportunity for participants to think critically about their experiences as learners, their work with graduate students, and the connections they made with adult learning theories.

Employing adult learning theory strategies may be challenging for librarians accustomed to traditional, pedagogical modes of teaching and learning with college students. Terry Müller noted, “As adults recount their experiences, details and meanings emerge. Initially salient aspects of experience may retreat into the background as others become more significant. Eventually, the writers assign greater importance to some aspects of experience than others. This sorting process shapes and reshapes experience.”<sup>41</sup> Writing about their experiences and challenges stimulated growth and the making of meaning, as well as helped the librarians identify significant aspects of their experiences. This, in turn, enabled them make connections between the adult learning theories and models and their work with both graduate and undergraduate students.

Reflective discourse provided the librarians an opportunity to achieve clearer meaning. The group work and active learning activities in the workshops helped them engage in dialogue. Theorists have identified several definitions for *dialogue* and *discourse*. Mezirow defined *discourse* as “dialogue devoted to assessing reasons presented in support of competing interpretations, by critically examining evidence, arguments, and alternative points of view.”<sup>42</sup> Edward W. Taylor, a professor of adult education at Penn State University in Harrisburg, extended Mezirow’s definition by incorporating the transformative learning process through which “dialogue becomes the medium for critical reflection to be put into action, where experience is reflected upon, assumptions and beliefs are questioned, and habits of mind are ultimately transformed.”<sup>43</sup> An added benefit of dialogue is that hearing others’ interpretation of one’s experiences can stimulate thinking and enrich reflection.”<sup>44</sup> The combination of participants’ interactions, new skill development, and reflection allowed the librarians to learn by doing as well as by thinking about doing.

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### Data Collection

Pre- and post-reflective essays, a method of narrative research, summarized the learning outcomes of the study. Qualitative methods, such as narrative, are appropriate within a social constructivist paradigm, which holds that knowledge is constructed and reconstructed through social interactions. Such methods allow researchers to “gain an understanding of the constructions held by people” within a given time and context, such as the professional development program in this study.<sup>45</sup> The use of qualitative methods also

fits within the research question types identified by Michael Patton, specifically that “the focus of the research is on the process, implementation, or development of a program.”<sup>46</sup>

Vivienne Elizabeth proposed participant writing as a form of social science qualitative research in that, through writing, “Language is central to the social construction of social realities.”<sup>47</sup> While Elizabeth reported that feminist researchers and psychologists generally used participant writing in therapeutic research, it was chosen as a method of inquiry for this study for “its potential to contribute to productive change.”<sup>48</sup> This method not only served as the analysis tool for the researcher but also promoted self-reflection, learning, and changed behaviors for the participants. Rather than using free writing, as suggested by Elizabeth, the data collection process was modified to use guided questions to assess participants’ understanding of adult learning theories. See Appendix B for the list of guided reflection questions.

Responses to the pre- and post-reflection essays remained confidential and available only to the principal researcher. Participants provided their college identification card barcode for purposes of comparing pre- and post- responses; however, no other identifiable information was collected. The study was not anonymous in that the librarians interacted and learned from one another in the workshops. Trustworthiness, a “criteria for rigor” stipulated by Egon Guba and Yvonne Lincoln within “a framework for ethical practice of qualitative research,” was achieved through member checking, also known as respondent validation—that is, soliciting feedback from respondents on the researcher’s findings.<sup>49</sup>

### Data Analysis

The written reflection narratives were analyzed using standard practices of qualitative NVivo coding to evaluate the participants’ mastery of the professional development program’s outcomes and to examine their development over time. The NVivo method of coding was used to ensure that the librarians’ voices were maintained through the data analysis process and to capture behaviors and meaning through “imagery symbols,

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and metaphors for rich category, theme, and concept development.”<sup>50</sup> Through this process, the transcripts of each librarian’s narratives were evaluated to identify themes and patterns, which were then cross-checked with the responses of others. While learning is rarely linear, there were discernible differences in the thinking and writing of the participants after the workshops, suggesting that learning and grappling with new concepts demonstrates adult learning theory in action.

### Results

From the analysis of the narratives, two primary themes emerged. The first was that the librarians reported that, unbeknownst to them, they were already incorporating strategies grounded in adult learning theories in their work with both graduate and undergraduate

students. This was not surprising given their use of the ACRL Standards, which include adult learning theories in their language and design, in developing library instruction programs and lessons. It also was understandable that the librarians were unaware of how their practices were connected to the theories because they likely experienced limited teacher preparation in their graduate school programs.

The second theme was that the librarians reported that adult learning theories could be effectively used with other campus populations in addition to graduate students, such as undergraduates and faculty and staff. Despite the growing graduate population on campus, the librarians continued to work predominantly with undergraduate students. As subject liaisons, the librarians also collaborated with faculty and staff through their outreach efforts. Adult learning theory principles could be utilized with both campus groups.

### Adult Learning Theories in Use

Much of the workshop dialogue and narrative reflection focused on the librarians' experiences working with undergraduates, who made up the majority of students on campus. For a group of librarians accustomed to working with undergraduates, it was not surprising that some entered the professional development program with skepticism about focusing on adult learners specifically. A few concerns arose early in the program, including the lack of universality of the adult learning theories, the validity of using age to define learners, and the perceived "age" of the theories themselves. As noted by one reference librarian:

The complexity of backgrounds that go into making adult learners goes deeper than their identity as an adult. While some of the theories attempted to address the other facets of life, few were able to make (to me) a compelling theory that could be applied across the board. I agreed with the notion of andragogy, in that adults are bringing much more baggage to the classroom than children, but few of these theories convinced me that there is anything unique about the group designated as "adult."

This librarian's skepticism of who was classified as an adult was unsurprising given the lack of consensus among the disciplines for this age designation.<sup>51</sup>

One librarian wondered about the age of the theories themselves and whether they were still relevant with today's technologically savvy students. She wrote, "All of the models [about] self-directed learning were developed pre-widespread use of the Internet. I wonder how technology has changed our ways of achieving self-directed learning." None of the theories presented in the readings that the participants discussed and reflected upon directly addressed the extent to which educational software, instructional technologies, and online learning have changed how adults learn. Therefore, the librarians wondered about the extent to which uses of technology in teaching and learn-

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ing might impact the theories and their relevance to today's students.

Despite the librarians' initial concerns, by the end of the program, they successfully connected various adult learning theories with their own experiences as learners and with their observations of working with students. In their post-reflection narratives, the librarians expressed that they had already incorporated adult learning theories in their work with students. As stated by one librarian:

I think the biggest takeaway from the workshop is that we are already applying the adult learning ideas to our lesson planning. Once we read and discussed the articles on applying the adult learning ideas, I could see that many of the activities we were already doing were the exact same things mentioned in the articles. The adult learning ideas were not something far out there that we didn't know about and were not already applying to our teaching repertoire.

For this librarian, the professional development program provided her the opportunity to engage with the theories and see the practical applications of the theories in her instructional design process. She realized that the ideas were not "far out there," despite not knowing the names of the learning theorists or the specifics of the theories they developed.

Another librarian said she appreciated having an opportunity to learn why the strategies she used in the classroom were effective. She elaborated, "My biggest takeaway from this workshop was just learning that there were names for the techniques I like to use in the classroom, and theoretical explanations of why these work so well."

In his study, Gilstrap proposed that librarians begin to define their roles as adult educators and in doing so "draw from educational theories to develop our library instruction curricula . . . particularly since we appear to have no strong curriculum theories emerging from library science programs."<sup>52</sup> For the librarians in this study, learning about the theoretical explanations of the teaching strategies was the first step to using them intentionally, rather than accidentally, in their lesson planning.

In describing how they already incorporated adult learning theory in reference and instruction activities, the librarians demonstrated their student-centeredness, an

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andragogical approach to teaching. According to Knowles, learning for children is teacher-centered, with the teacher making all the decisions about how, what, and why something is learned, "leaving to the learner only the submissive role of following a teacher's instructions."<sup>53</sup> In contrast, learning for adults is learner-centered in that the learners participate in deciding how, what, and why they acquire knowledge. In many ways, the librarians discussed how they were student-centered, such as viewing their role as a mentor or facilitator for the students. One librarian noted, "I see myself as a facilitator, coach, and mentor as I try to create authentic learning opportunities in my reference and instruction work."

Another librarian wrote about the importance of Mezirow's concept of disorienting dilemmas within transformational learning, which involves trying to challenge students' preexisting assumptions by asking them to "transform [their] taken-for-granted frames of reference."<sup>54</sup> For example, librarians sometimes encounter students who believe they already know everything they need to know about doing research and finding and using information. Librarians could present such students with a challenging research question, giving them free rein to answer using their existing knowledge of information searching. Very likely, the students will struggle with the process of searching for information to answer the question. This process creates a disorienting dilemma and provides an opportunity for the students to challenge their preexisting knowledge and reframe their habits of mind. Attempting to create a similar learning opportunity for students, this librarian stated, "Sometimes I will challenge students' assumptions (there's life beyond google!, etc.), and I hope to give them opportunities to critically reflect on their information literacy experiences." She also wondered if the emphasis placed on making students comfortable might conflict with faculty who were intentionally creating disorienting dilemma situations through their assignment design. She reflected:

Transformational learning and growth can be uncomfortable, difficult, and scary! Could there be situations when we're creating positive, comfortable environments that are stunting authentic learning? Do we place blame on faculty and others who may be putting students in this disorientated dilemma with unclear assignments and activities? Are we too concerned about making students happy (emotions) and not enough about authentic transformational learning?

Finding the balance between, on the one hand, creating disorienting dilemmas and coaching students through them, and, on the other hand, creating a comfortable learning environment—as noted by Knowles—is important for librarians. They often see students only during one-shot, fifty-minute library instruction sessions.

One librarian identified using humor as a strategy to help students feel more comfortable. She wrote: "A dose of self-effacing humor goes a long way to showing students that I do not consider myself a supreme expert, and that I am also forever a student. This encourages students to feel comfortable contributing their ideas without worry of judgment or fear of looking stupid."

According to Merriam, Caffarella, and Baumgartner, creating a trusting environment that is comfortable and welcoming is connected to multiple adult learning theories, including Mezirow's transformational and John Dewey's experiential learning theories.<sup>55</sup> In addition to using humor to create trust and a comfortable environment, the librarians wrote about serving as coaches or mentors to students rather than as teachers, so that the librarians and students become partners in learning.

All the librarians identified the importance of the experiences of both the instructor and the student with regard to student-centered learning, and they wrote about their experiences through the lenses of both. Writing about the role life events played in her identity as a learner and now as an educator, one librarian noted, "I think my most authentic learning experiences are through life experiences—I agree that learning is 'intertwined with doing.' As I get older, I think I define myself more and more by my experience, like Knowles observed." Because the librarian's life experiences were closely

linked to her identity, she expected her instructors to incorporate her them in formal classroom environments. Doing so helped motivate her to learn when she realized that the in-class knowledge would help her at work and in her personal life. She wrote, "In my formal learning, I want my facilitator to acknowledge and value the variety of experiences I bring." When instructors incorporated her experiences into her learning, the process helped her make connections to real-life situations and created a context for her learning.

Similarly, another librarian reflected on her graduate education and the connection between the instructor acting as a facilitator in an andragogical model rather than as a teacher in a pedagogical model, and the value a facilitator placed on the students' prior experiences in the learning process. She noted, "Many of [my] classes were grounded entirely in student engagement and participation with the instructor merely as a facilitator. This emphasized that our experience and knowledge were valid, and worth considering." She further wrote that the "real world experiences" of the instructors were equally valuable in helping her and her peers make connections with the concepts they learned in class and actual scenarios in life and work. She reported, "Some of the best instructors I had used their own real world experiences, either in working professionally or in their own research, to help us understand how the concepts and skills we were learning would be directly applicable to our own lives and work."

Experience as a catalyst for supporting the learning of others is found in numerous adult learning theories. Knowles recognized that adults, simply having lived longer, bring into learning situations "a greater volume of experience" and "different kinds of experience," as well as defining their identity through what has happened to them.<sup>56</sup> Taylor identified experience as one of the core elements of transformative learning. He explained, "Both prior experiences and those created in the classroom through activities, readings, and relationships with others provide the gist for critical reflection and classroom dialogue."<sup>57</sup>

### Adult Learning Theory Applied to All Adults on Campus

The second theme that emerged from the analysis of the participants' reflection narratives was that they discussed the ways that adult learning theories could be applied to

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other populations on campus in addition to graduate students. For example, one librarian reflected on the applicability of andragogical methods in certain undergraduate settings: "I think that many of these andragogical methods (vs. pedagogical methods) we examined are well suited for the work we do, especially in upper level courses where we are encouraging

our students to think about information literacy within the discipline ([writing intensive] courses, capstones, etc.)."

Malcolm Knowles, Elwood F. Holton III, and Richard A. Swanson stated that it was the responsibility of the educator to determine which of his or her assumptions were “realistic in a given situation” and to choose the most appropriate method for the desired result.<sup>58</sup> In this case, the librarian is responsible for identifying which strategy is most appropriate for undergraduate students, depending on their developmental level, needs, and coursework.

Librarians could be more successful in this endeavor by collaborating with faculty to more accurately assess the students’ needs. One of the librarians described a situation wherein she met with two sections of the same course at the request of a faculty member to show them how to use a particular resource:

The first class was quiet and didn’t seem very engaged in the lesson. The second class was really engaged and got right to work finding articles and asking questions . . . I discussed the two session[s] with the teacher later and found out that in the first session, the majority of the students were taking the class earlier in the sequence. The second class was full of seniors. The seniors were really excited to find this particular database full of articles specific to their discipline. They wished they had heard about it earlier. Looking back on that experience and others really highlights the developmental changes seen in students over the course of their 4–5 years of undergraduate education.

Through this story, it was evident that, had the librarian known about the difference between the two sections, she might have approached the first section with more pedagogical strategies and the second session with more andragogical techniques. Additionally, after the professional development program, this experience reinforced to the librarian the developmental changes that occur in undergraduate students transitioning from adolescence to adulthood while in college. The librarian further stated:

The majority of the students that I teach are in the first year of college so they are used to having pedagogical techniques applied to their learning. They are transitioning to being ready for higher forms of learning and taking charge of their own learning and mastery of skills. I can apply more of the andragogical techniques to my more advanced classes or when working with graduate students.

Similarly, another participant reported that learning about adult learning theories helped her become better attuned to student development and behavior, thus enabling her to switch gears “in the moment” and address students’ immediate interests and needs. She reported:

Now that I have more of an understanding of these theories, I find myself trying to be more attuned to student behavior, so that I could amend the content and style of my teaching. In the case of some advanced students I worked with this semester, I allowed them to dictate the direction and flow of the class based on their own involvement and interest in the subjects covered. Since these students were more engaged and understood the implications of what they were learning, they were making connections and discovering ideas on their own, that I would normally have to present and explain to other classes. Noticing this difference, I was able to change my lesson to accommodate even more student interaction and made for a rewarding experience for both the students and myself.

In this situation, the librarian allowed the students to identify their needs and take the lead in what would be discussed and how the class would proceed. Being aware of various adult learning theories allowed this librarian to better prepare for working with students so her interactions were more effective. She also could make changes on the fly to use more appropriate learning strategies when the original lesson plan did not appear to be working well. This was another example of the librarians' student-centered, andragogical approach.

Understanding why the theories were effective was critical for the librarians to value them as tools or strategies to help improve students' learning. In his description

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of andragogy, Knowles recognized that adults need to understand why they need to learn something to be open to acquiring knowledge.<sup>59</sup> This was demonstrated through the librarians' initial skepticism about their introduction to adult learning theories at the beginning of the professional development program, and their transition to understanding and valuing the theories by the end. One librarian reflected: “Understanding more about

why tools and plans are effective was a significant breakthrough . . . making these adult learning theories more present in my planning will hopefully lead to an ever improving classroom experience for all those involved.” Through reading, reflection, and discourse with her peers, this participant connected aspects of the theories to practical applications in her work with students. For her, understanding why the theories worked was how she recognized their value.

Another librarian noted that, in addition to identifying the ways in which she could incorporate adult learning theories in her interactions with graduate and undergraduate students, she also considered other adult populations on campus. She extended her own learning to other groups and thought about how and in what ways this could be

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**Understanding why the theories were effective was critical for the librarians to value them as tools or strategies to help improve students’ learning.**

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useful. She noted, “This workshop made me think about ways to reach other populations of adult learners on campus and beyond graduate students—faculty, staff, and even library staff members.” Using adult learning strategies while working with faculty, in particular, could help

librarians build collaborative relationships and partnerships on campus to better support student learning.

The transformative learning that occurred through the professional development program was also personal. One librarian reported, “I [now] seek to incorporate more opportunities and allow time for reflective practice in my reference and instruction work.” Mezirow distinguished the difference between reflection and critical reflection.

The process of reflection included assessing situations or understandings and how you addressed them, whereas critical reflection “challenge[d] the validity of presuppositions in prior learning,” including “the negation of values that ha[d] been very close to the center of one’s self-concept.”<sup>60</sup> Reflective practice was important to the librarians’ development, but for transformation to occur, the librarians had to engage in critical reflection and challenge their prior knowledge to reshape their habits of mind.

Through the professional development program, the participants learned about adult learning theories and models and engaged in critical reflection and discourse. In doing so, they made connections between the theories and their own personal learning experiences as well as their work with college students. In the end, the librarians realized that, in many ways, they were already incorporating strategies based in adult learning theories while working with students, and that the theories could be applied to both undergraduate and graduate students as well as other adult populations on campus. They also learned how to recognize when it was appropriate to use such strategies while working with traditional-aged college students transitioning from adolescence to adulthood.

### Implications for Practice

The results of this study reinforce the four propositions that Gilstrap presented to engage the academic librarian community in conversation on how to incorporate adult learning theories and models in reference and instruction work. The four recommendations were (1) redefining college and university librarians roles as adult educators; (2) developing instruction programs integrated into the college curriculum; (3) creating professional development programs within ACRL to improve teaching; and (4) working with graduate schools to improve curricula to better prepare new library professionals.<sup>61</sup> ACRL offers several professional development opportunities through its Immersion Program series, five of which directly relate to helping librarians learn to be better teachers, develop instruction programs integrated into the curriculum, and assess student learning.<sup>62</sup>

Some programs appear to incorporate learning theory within library science graduate curricula. In its Master of Library and Information Science program, Rutgers, the State University of New Jersey offers a course called Information Literacy, Learning, and Teaching. The course description specifically mentions integrating adult learning theory within the instructional design process of library instruction curricula.<sup>63</sup> The demonstrated need for librarians to know effective teaching methods and practices suggests that library science graduate programs must incorporate more coursework on learning theory. Nicole Cooke and Merinda Hensley have begun such an exploration at the University of Illinois at Urbana–Champaign by adding experiential learning and reflection to library instruction courses.<sup>64</sup> This type of work should be extended to other graduate programs in library science as well, to ensure that new librarians are prepared for their teaching roles in reference and instruction positions.

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This study demonstrates the effectiveness of a small, localized professional development program for librarians to engage in critical reflection and discourse. For a transformational model to be effective, Kathleen King suggested, "Educational organizations should design and develop continuing programs . . . where adult learning is anticipated and supported on an ongoing basis."<sup>65</sup> Through readings, reflection, and participating in discourse, the librarians began this process of transformation.

The librarians might continue the transformational process by regularly engaging in critical reflection and discussion to challenge their assumptions and re-form their habits of mind. They might do this by drawing on the expertise of the center for teaching and learning on campus to assist them with considering learning theory broadly or within the scope of specific campus populations or reference and instruction situations. For example, workshops could include discussing other learning theorists, such as Jean Piaget, the first psychologist to systematically study cognitive development; Lev Vygotsky, the founder of cultural-historical psychology; or Patricia M. King and Karen Strohm Kitchener, the developers of the reflective judgment model, which explains how students approach complex issues and defend what they believe. In such workshops, participants could identify how their theories fit within behaviorist, humanist, constructivist approaches. Librarians could then create specific lessons or activities using strategies within the learning theories to address specific reference and instructional needs and scenarios.

Adult learning theories are embedded in the work of reference and instruction librarians through the ACRL Standards and the new Framework for Information Literacy for Higher Education. The experienced librarians in this study reported using adult learning theory teaching strategies with both undergraduate and graduate students but were unaware of doing so until they participated in the professional development program. This finding supports our profession's need for developing a theoretical framework in learning theory for our field. The new Framework may provide us with this opportunity in that it engages with learning theory at a much higher level than the Standards do. As suggested by Gilstrap, although adult learning theory was incorporated in the Standards, the skill-based nature of the Standards may have prevented librarians from moving beyond pedagogical approaches to teaching.<sup>66</sup>

The Framework, on the other hand, revolves around a core set of interrelated concepts or "frames" rather than a concrete set of skills. Interestingly, while early drafts of the Framework presented to the library community for comment included language specific to adult learning theorists, some of that language was removed from the final version. For example, the third draft included Mezirow's "habits of mind" in the definition of *information literacy*: "a spectrum of abilities, practices, and habits of mind that extends and deepens learning through engagement with the information ecosystem."<sup>67</sup> However, in the final version, that phrase was removed: "the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning."<sup>68</sup>

Mezirow's theory evidently shaped the development of the Framework, so why was the terminology removed? Are librarians uncomfortable using the language because they do not understand the theory? Do they really not understand the theory, or, as the librarians learned, are they using theories of adult learning but are unaware of doing

so? The Framework provides us with an opportunity to explore answers to these questions and to serve as a “disorienting dilemma” for librarians struggling to reconcile the Standards with the new Framework. If we seek to challenge students to rethink their prior learning and preconceived assumptions, should we not do the same ourselves? The Framework also sets the stage for librarians to conduct further research on learning theory and to collectively begin to form a theoretical framework for library instruction.

### Limitations of the Study

One of the most significant limitations of this study was its small sample size. Strategies were initially employed to ensure the largest sample size possible, such as extending recruiting beyond reference and instruction librarians to all professional librarians at the college. Nevertheless, two of the six participants could not finish the program.

The program timeline was initially coordinated to fit within librarians’ schedules.

While this helped ensure greater librarian participation, it did not coincide with the time frame of the graduate students’ research process, and so the librarians had few opportunities to practice adult learning strategies with graduate students during the months between the two workshops. One of the goals of the professional

development program was to allow librarians time to apply the strategies they learned while working with graduate students and then reflect upon and discuss with one another their successes and challenges. In this study, the workshops took place at the beginning and middle of the spring term, a time when most graduate students had already completed their library research. To be more effective, the workshops should spread across the entire academic year to parallel the graduate student research experience.

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**If we seek to challenge students to rethink their prior learning and preconceived assumptions, should we not do the same ourselves?**

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### Conclusion

A better understanding of graduate students and their experiences, preferences, learning styles, and behaviors is critical to successfully supporting their academic endeavors. To

do this, librarians must use teaching strategies grounded in adult learning theories. Through the implementation of a professional development program, this study explored how librarians understood adult learning theories through their own experiences as learners, as well as how they incorporated strategies based on the theories in supporting graduate students. Because the librarians were adults themselves, the curriculum for the program incorporated multiple adult learning theories in its design, including transformational, andragogical, and narrative approaches.

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**A better understanding of graduate students and their experiences, preferences, learning styles, and behaviors is critical to successfully supporting their academic endeavors.**

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The professional development program introduced the librarians to new ideas and concepts about adult learning theories through readings of their choice. They had the opportunity to engage in critical reflection and discourse through pre- and post-guided reflection narratives and two in-person workshops. An analysis of their reflection essays indicated that, while the librarians initially did not believe they knew anything about adult learning theories, they were, in fact, already incorporating adult learning concepts

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**All of the librarians recognized that incorporating experience through storytelling—for both the instructor or facilitator and the student—was an important way for adult learning to occur.**

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in their reference and instruction interactions with students. The program's structure enabled the librarians to identify effective uses of adult learning theories in their own experiences as adult learners, both in the classroom and in informal settings. As a result of the program, they also saw more clearly the appropriateness of gradually incorporating andragogical techniques as traditional-age undergraduate students develop during the course of their enrollment in college. All of the librarians recognized that incorporating experience through storytelling—for both the instructor or facilitator and the student—was an important way for adult learning to occur.

Librarians should continue to seek opportunities for professional development to improve teaching and learning in the library, which they could do by working with the center for teaching and learning on campus. Reference and instruction librarians as well as the greater academic librarian community should consider using ACRL's new Framework for Information Literacy for Higher Education to engage in dialogue about learning theory in relation to information literacy and to begin developing a theoretical framework for library instruction.

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## Appendix A

### Pre-Workshop

1. Participants completed guided reflection narrative provided through Google Forms, a Google feature used to create surveys and analyze results.
2. Participants chose two readings most interesting to them to review prior to the first workshop from a list of eight options, including book chapters and articles on varied learning theories.

### Workshop 1

1. Storytelling of transformational learning experiences.
2. Participants were provided a reflection prompt to think about their own transformational learning and then shared their stories with the group.

### *Jigsaw activity*

1. Participants met in small groups based on the readings they picked. Participants who finished the readings met first to discuss what was most important to them or what they connected to most in the readings. They wrote their responses on large paper backed with repositionable adhesive.
2. Participants then reconfigured into small groups of different readings to share with the new members what the previous group members found meaningful and important.
3. The groups reconvened into the larger group to share what they discussed and found meaningful about the different adult learning theories.

[Lunch break]

### *Adult Learning Theory and Librarianship Problem-Solving*

1. Groups re-formed based on which theories they chose to explore further.
2. Together, they considered broadly the work that they do with students and the learning theories to identify connections between the two. They wrote their answers on large paper.
3. Reconvening in a larger group, they participants shared and discussed their ideas.

### *Adult Learning Theory and Working with Graduate Students*

1. Smaller groups re-formed to create a list of specific actions and behaviors they could implement when working with graduate students, tied to their theories of choice. Answers were written on large paper.
2. Reconvening in a larger group, the participants shared and discussed their ideas.

### *Wrap-Up*

Overview of the day's events and plans for second workshop.

### Between Workshops

1. Participants searched for one or two readings most relevant to them related to a learning theory of their choice and to libraries, information literacy, reference, instruction, teaching and learning in higher education, or simply more information about the theory.
2. Participants sought out opportunities to incorporate what they learned about adult learning theories in their work with graduate students.

### Workshop 2

#### *Think, Pair, Share Activity*

1. Participants were provided a reflection prompt to consider the reading or readings they chose between the two workshops.
2. The participants broke up into pairs to share with a partner what the reading or readings were about, why they chose the materials, and how the readings were relevant to adult learning theory and working with graduate students.
3. The pairs then met as a larger group and shared their discussions.

#### *Final Thoughts*

Through a facilitated discussion, the participants considered the following questions:

1. Were you able to incorporate any adult learning theories into your work in the last two months? If so, what did you do? What theory did you use? Was the result? Did it work or not? What challenges, if any, did you experience? What did you learn? What will you do differently in the future?
2. Is there anything you wanted to do, but couldn't or didn't? What prevented you from doing it?
3. Do you have any final thoughts about your experience through this professional development program?

### Post-Workshop

Participants completed guided reflection narrative through Google Forms.

## Appendix B

### Pre-Workshop Reflection Questions

1. What readings did you pick and what drew you to them? What did you find interesting about them?
2. What connections do you see between your own learning experiences as an adult learner and the theories you chose to read about?
3. Describe how you approach your work with students.

## Post-Workshop Reflection Questions

1. What connections do you see between your own learning experiences as an adult learner and the theories you have learned?
2. What connections do you see between your work with students and the theories you have learned?
3. What changes, if any, have you already made or plan to make in how you approach working with students?
4. What final thoughts, if any, would you like to share about your experience in this professional development opportunity and study, what you have learned, and how it has or will affect your work with graduate students?

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