

Academic Librarians' Teaching Identities and Work Experiences: Exploring relationships to support perspective transformation in information literacy instruction

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Abstract: Academic library leaders have a vested interest in quality library instruction, but strategies to ensure this happens can vary across environments. In this study, the author analyzed data collected using King's Learning Activities Survey to consider how work demographics impacted instruction librarians' teaching identity development. Through one-way analyses of variance and cross-tabulation analyses, she found several statistically-significant relationships between how academic librarians' institution types and times at their institution differently inform their teaching identity development. These relationships offer opportunities for library leaders to offer intentional, data-driven support for academic librarians in developing teaching identities while offering high-quality instruction for learners.

Keywords: academic libraries, information literacy instruction, teacher identity, professional development

While academic librarians' work responsibilities can vary by environment or job title, instruction is a common thread for library professionals across higher education. What this instruction looks like, or even what it is called -- for instance, bibliographic instruction, information literacy instruction, teaching research skills, or fostering critical thinking -- can vary, but the academic library has an increasingly important role in the teaching mission of any 21st century post-secondary institution. As higher education has become increasingly data-driven, it has also become critical for academic librarians to demonstrate their contributions to student success and retention. Often, this can happen through information literacy instruction and the effects of such interactions on students (Britto & Kinsley, 2018; Nichols Hess, Greer, Lombardo & Lim, 2015; Thorpe, Lukes, Bever & He, 2016). Therefore, academic library leaders and administrators have a vested interest in the quality of their library instruction programs. How different types of institutions, with diverse populations of library professionals, can ensure quality in their instructional programs, though, may be more varied.

In this research, the author sought to examine a specific construct related to academic librarians' work as instructors -- their teaching identities, or senses of themselves as educators (Walter, 2008). She explored whether librarians who engaged in instruction as part of their job responsibilities believed they had experienced shifts in their thinking, or perspective transformation (Mezirow, 1981), around their teaching. To collect this information, the author used a modified version of the Learning Activities Survey (King, 2009) and conducted cross-tab analysis and one-way analysis of variance (ANOVA) to identify statistically-significant relationships. While the author has developed the data collected from this study into several scholarly contributions (Nichols Hess, 2018, 2019), she presents focused research on librarians'

work environments in this article. In this specific area, the author found that there were relationships between both academic librarians' institutional affiliations and time at their workplaces and the influences they believed had impacted their senses of themselves as educators. For academic library leaders, this scholarship can offer a way to more deeply understand how academic librarians believe their teaching identities develop. In turn, having this knowledge can help those in managerial or administrative roles to more effectively support instructional librarians and information literacy programs in meaningful and intentional ways.

Literature Review

To best frame the concepts examined in this research study, it is first important to ground them in the relevant existing scholarship. There are three important areas to explore in the existing literature: first, the theoretical framework around transformative learning and perspective transformation; second, the concept of teaching identities in both the education and library literatures; and third, academic librarians' work experiences and environments in relation to their professional self-concepts. Considering these areas individually, and then in relation to each other, can help to scaffold the author's research inquiry and identify where it fits in the broader scholarly field.

Transformative Learning Theory and Perspective Transformation

Jack Mezirow's (1978, 1981, 1994, 1997, 2000) concept of transformative learning provides a theoretical starting for considering how adults' personal evolution and development can happen. His work, which originated with women returning to education in the mid-20th century, is grounded in the idea that individuals' perspectives come out of their experiences in the world. However, individuals can rely on unchecked or adopted perspectives, such as

points-of-view shared by family, friends, or authority figures that they have not personally evaluated (Mezirow, 1997). In Mezirow's estimation, transformative learning happens when individuals -- and specifically adults -- establish their own views of, and ethics about, the world around them based on their personal experiences (Mezirow, 1994). This process is what Mezirow (1981) referred to as perspective transformation. Adults' perspectives are made up of cognitive "frames of reference," which facilitate how they make sense of the world (Mezirow, 1978); in turn, these frames of reference are built from "habits of mind," or the initial reactions or judgments individuals make, almost instinctively (Mezirow, 1997). Adults' points of view, then, are the external expressions of their frames of reference and habits of mind (Mezirow, 1997). frames of reference and habits of mind may change with inputs from individuals' experiences in the world (Mezirow, 1978, 1994, 2000); in such instances, external-facing points of view also shift. The goal of experiencing transformation is to then enact changes in individuals' behaviors and, in turn, foster more authentic senses of selves.

Teaching Identity as a Professional Self-Concept

In considering how adults experience shifts in their thinking, it is useful to operationalize this concept by examining it in a specific context. For this research, such a situation involves how educators develop teaching identities. The idea of "teacher identity" or "teaching identity" represent how an individual who works in an instructional context thinks of herself or himself in relation to his or her work as an educator (Beauchamp & Thomas, 2009). In the extant literature, researchers have explored the notion of a teaching identity in K-12 teacher education and preparation contexts (Agee, 2004; Friesen & Besley, 2013; Henry, 2016; Rahmawati & Taylor, 2018, Smagorinsky, Cook, Jackson, Fry, & Moore, 2014; Stillwaggon, 2008) and, to a lesser

degree, in post-secondary education (Gormally, 2016; McNaughton & Billot, 2016; Nevgi & Löfström, 2015). In these instances, scholars have established teacher identities are multifaceted, dynamic self-concepts that evolve throughout an individual's career.

As information literacy instruction's importance in academic libraries has grown, the notion of teacher identity has been applied to librarians as well. Walter (2005, 2008) began the scholarly exploration by identifying that academic librarians' teacher identities centered on how they framed their educational roles within their post-secondary institutions. Roy and Hensley (2011) then adapted this concept and considered how to prepare library school students for their instructional identities in the context of reference librarian work. Similarly, Booth's (2011) exploration of how librarians can engage in reflective, intentional instructional practices in a variety of settings sought to build academic librarians' capacities to think of themselves as educators. More recently, library researchers have considered this facet of academic librarians' professional self-concepts using the lenses of transformative learning theory (Nichols Hess, 2018, 2019) and the scholarship of teaching and learning (Hays, 2018). Delving deeper into academic librarians' experiences with teacher identities can further expand the research on this topic, then, and reinforce the instructional role librarians play in higher education.

Librarians' Teacher Identities and Their Work Contexts

From an exploration of how academic librarians can develop teacher identities that represent their roles as post-secondary instructors, it is then useful to consider how specific external factors may influence such a process. In the existing scholarship, the relationships between work-specific inputs and academic librarians' teaching identities have been considered in limited ways. For instance, scholars have focused on the overarching factors, such institution

type (Arnold, 2010; Bolin, 2008; Feldman & Sciammarella, 2000) and tenure/promotion structure (Freedman, 2014; Silva, Galbraith, & Groesbeck, 2017; Walters, 2016) and how these pieces inform academic librarians' instruction-centric learning experiences. There has been less of a focus, though, on how the duration at an institution influence academic librarians' perceptions of their teaching proficiency. There is, however, scholarship that has established that librarians' time at their institution can influence retention, job satisfaction, and overall performance (Lee, Oh, & Burnett, 2016). These scholars asserted that, for librarians who are well-established at their institutions, they can develop deeper understandings of professional norms, establish cross-unit relationships, and create instructional repertoires (Lee, Oh, & Burnett, 2016). Better understanding how both time at an institution and institution type shape academic librarians' teacher identities may be particularly important to academic library leaders: They need to support instruction librarians who have diverse work backgrounds in meaningful, grounded, and authentic ways.

While the existing research provides some insight on how work-related factors influence academic librarians' senses of themselves as professionals in higher education, researchers have not offered guidance on different kinds of work environments and their influences on academic librarians' instruction. Using transformative learning theory, the teaching identity concept, and the existing research on how academic librarians' experiences impact their professional identity, the author explored how academic librarians' type of institutions and time at their respective institutions interacted with external inputs, such as relationships, professional experiences, and work factors to influence their teaching identity development.

This line of inquiry built on research that has established academic librarians can experience perspective transformation around their teaching identities (Nichols Hess, 2018; Walter, 2006) and that different types of hands-on experiences as educators may shape these identities in myriad ways (Nichols Hess, 2019). This prior scholarship identified an area for inquiry around academic librarians' teaching identities and perspective transformation. In this research, then, the author sought to advance this topic by considering whether job-specific components influenced academic librarians' teaching identity development.

Methods

The author used a modified version of Kathleen P. King's (1997, 2009) Learning Activities Survey (see Appendix A) to collect data for her research. She adopted an exploratory perspective and used this particular instrument to solicit a voluntary sample from academic librarians engaged in instruction. Although other researchers have used qualitative research methods to consider librarians' teaching-based perspective transformation (Walter, 2006), the author chose a survey instrument to establish a broader foundation for future scholarship. While she did not generate generalizable data, the exploratory approach did allow her to collect a large pool of deductive data from academic librarians. This data set has formed the basis of several other publications in addition to this article (Nichols Hess, 2018, 2019); although the data collection and analytical methods are consistent (and those procedures are represented similarly in Nichols Hess, 2019), the findings presented here are unique and complementary.

Survey Instrument and Data Collection Procedures

King's (1997, 2009) LAS is grounded in Mezirow's transformative learning theory and, as such, respondents are asked to consider whether they believe they have experienced

perspective transformation in any version of the instrument. If participants believe this shift has occurred, they can then indicate which inputs they believe have been influences in the process. King (2009) developed, copyrighted, demonstrated the reliability of, and validated the LAS; since then, she has encouraged researchers to use or modify her instrument to explore perspective transformation in different contexts (see, for example: Brock, 2010; Kitchenham, 2006; Kumi-Yeboah & James, 2014), so long as she is credited as the creator and copyright holder. To encourage reuse while maintaining the instrument's integrity, King (2009, 36-44). developed specific modification guidelines. All versions of the LAS have three question types: demographic items; items about whether perspective transformation has occurred; and items identifying the inputs impacted an individual's perspective transformation process. According to King's (2009) guidance, questions related to whether individuals have experienced perspective transformation should not be altered except to provide relevant context. For this research, the author modified the LAS per King's directions to maintain the instrument's reliability and validity while grounding librarians' transformative experiences in the broader body of research.

The author used Qualtrics to build her version of the LAS, and she distributed it the acrlframe-l, infolit-l, and lirt-l email listservs. Using this process, she recruited a voluntary sample of 501 individuals from February-April 2017. While anyone could participate in the survey, those who indicated that they did not engage in library or information literacy instruction as a part of their job responsibilities were directed to the end of the instrument. All incomplete responses were automatically recorded when the survey closed.

Data Clean-Up for Analysis

Once the author had distributed and collected responses to her modified version of the LAS, she cleaned and prepared the data set for analysis. While these steps are not included in any subsequent statistical analysis, they are important to describe for replicability and research integrity. The processes that preceded statistical analysis helped the author generate a workable data set with meaningful variables for analysis.

Identifying Respondents with Perspective Transformation

In making sense of the data collected from any version of the LAS, researchers must begin by reviewing participants' responses to the items related to whether they believe they have experienced perspective transformation. From this information, they then generate perspective transformation index (PT-Index) groups before using statistical analysis to explore relationships between variables (King, 2009). The PT-Index groups serve as a baseline metric to identify individuals reported experiencing perspective transformation and establish a sub-group of participants that the researcher can use for subsequent analyses. In this research, the author began by assigning all respondents a PT-Index designation based on their responses to four questions:

- Item 14: Think about your professional experiences in teaching – check off any of the following statements that apply.
- Item 15: Since you have been providing information literacy instruction, do you believe you experienced a time when you realized that your values, beliefs, opinions, or expectations (for example, how you viewed your work responsibilities or roles as an academic librarian) changed?

- Item 16: Describe what happened when you realized your values, beliefs, opinions, or expectations about your instructional responsibilities had changed.
- Item 20: Think back to when you first realized that your views or perspective had changed. What did your professional life have to do with the experience of change?

First, the author identified individuals who had checked at least one of the affirmative statements in Item 14, or who had indicated “Yes” or “I’m not sure” in response to Item 15. These individuals were initially classified in the YES PT-Index group. Individuals who had not selected any of the affirmative statements about transformation in Item 14, or had indicated “No” to Item 15, were classified in the NO PT-Index group. The author then reviewed respondents’ free-text comments for Items 16 and 20 to affirm or modify these assignments as needed. From the total pool of 501 respondents, there were 353 participants in the YES PT-Index group. These individuals indicated that they believed they had experienced transformation around how they thought of themselves as educators. The author excluded all individuals in the NO PT-Index group from any additional analyses.

Using Principal Component Analysis to Identify Transformative Constructs

Using the data from the YES PT-Index group ($n = 353$), author then sought to identify what factors had influenced the respondents’ perspective transformation processes. Items 17-19 of the LAS asked participants to identify the interpersonal (item 17), experiential (item 18), and professional (item 19) inputs they felt had influenced their teaching identity development. These three items contained 41 potential options, some of which had overlap across items; nonetheless, participants could select all that applied in each item.

Because of the number of inputs, the author did not find that meaningful statistical analysis could be done between each individual component and librarians' demographic categories. She, instead, identified broader transformative constructs from these 41 inputs by using SPSS to run a principal component analysis using Varimax (orthogonal) rotation followed by a subsequent confirmatory factor analysis. These analytical procedures helped the author determine where participants had selected common variables in response to the items; from there, she could develop meaningful, broader constructs.

The principal component analysis reduced 40 of the 41 variables into 12 transformative constructs, with one remaining variable not aligned to any construct. The author used the resulting confirmatory factor analysis to identify these constructs; they each had eigenvalues greater than 1.0 and significant factor criterion of at least 0.4. The author used the inputs within each construct to determine the terms used to describe each construct's core ideas.

In response to item 17 on the LAS, the relationship-centric constructs that influenced participants' teaching identity development were:

- Supportive interpersonal relationships, which was comprised of six inputs related to the positive relationships participants developed laterally—such as with colleagues and disciplinary faculty—as well as their interactions with students
- Motivating leaders, which was comprised of four inputs related to the relationships participants had with their work mentors, supervisors, and administrators in more of a top-down structure

- Challenging colleagues, which was comprised of three inputs related to participants' negative interactions (e.g., criticism, negative feedback, comments on issues with instruction) with colleagues, other librarians, and disciplinary faculty
- Other important relationships, which was comprised of other relationship-centric inputs participants could include

In response to item 18 on the LAS, the experience-centric constructs that influenced teaching participants' identity development were:

- Professional learning, which was comprised of seven inputs related to participants engaging with diverse readings on teaching, attending professional development workshops, and observing other librarians' instruction
- Writing and technology-rich teaching, which was comprised of four inputs related to participants' experiences teaching online or in hybrid environments and writing about teaching practices for publication
- External feedback, which was comprised of three inputs related to participants' experiences observing disciplinary faculty's teaching, receiving comments from students, and getting feedback from disciplinary faculty
- Library-centric input, which was comprised of three experiential inputs related to participants' library school coursework, engaging in discussion with other librarians about their instructional practices, and completing teaching self-reflections
- Self-reflection and other experiences, which was comprised of two inputs related to participants' use of reflection journals, and other experience-centric inputs participants could include

In response to item 19 on the LAS, professionally centric constructs that influenced teaching participants' identity development were:

- Completing graduate education, which was comprised of two inputs related to participants' library and non-library program graduation (that is, not their education level itself—but that the experience of completing an educational program had impacted these participants' senses of themselves as educators)
- Changing job statuses, which was comprised of three inputs related to participants' first professional job, changes in professional jobs, or job losses
- Other shifting responsibilities, which was comprised of two inputs related to participants' changing work duties and other work-centric inputs participants could include

Each variable aligned with only one transformative construct, but one – teaching face-to-face – did not align with a specific transformative construct. This outlier remained because 179

respondents (of $n = 353$) selected this input as an influence in shaping their teaching identity.

Face-to-face teaching, then, influenced teaching identity transformation across participants' other experiences rather than aligning as part of a particular construct. The author maintained this input as a categorical variable (e.g. Yes/No) in subsequent data analysis (description of all processes originally shared in Nichols Hess, 2019).

From these data clean-up processes, the author was able to examine whether there were differences between librarians with varied work experiences and how they had experienced teaching-based perspective transformation. However, it is important to reiterate that the eigenvalues/factors associated with 12 transformative constructs were not used in any subsequent

analyses. Rather, they represent a preliminary preparatory step that allowed the author to make the data more meaningfully analyzable.

Generating Standardized Z-Scores for Statistical Analysis

As a last step before examining the relationships between participants' work-related factors and the 12 transformative constructs, the author had to transform participants' ($n = 353$) combined responses for each construct into composite scores. This process was necessary because each of the constructs was comprised of different numbers of variables, as indicated in the previous section. By working through such a process, the author could more accurately examine how the twelve constructs had influenced perspective transformation around teaching identities. The author used SPSS to convert participants' ($n = 353$) now-compiled responses for each of the 12 transformative constructs into standardized Z-scores. In Z-scores, 0 represents the mean and one unit indicates a standard deviation in the sample. The author could then calculate the probability of a score occurring within a normal distribution from these standard scores. Using these Z-scores, the author then used statistical tests in SPSS to analyze whether the twelve different construct affected participants' teaching identity transformation processes in relation to their work experiences. The author did not convert participants' response to the remaining variable of whether experiences teaching face-to-face impacted their teaching identity development.

Statistical Analysis: One-Way ANOVA and Cross-Tabulation

Once her data set was ready to analyze, the author ran one-way analyses of variance (ANOVA) tests to explore if there were statistically-significant relationships between librarians' demographics and the 12 transformative constructs. When comparing multiple groups within a

population – for example, years of experience at a particular institution – the one-way ANOVA test compares means in relation to a single variable (e.g. a transformative construct). One-way ANOVA is appropriate when the independent variable is categorical (i.e., mutually-exclusive options) and the dependent variables are continuous (i.e., points on a fixed scale). In this research, participants' responses to the demographic questions about their institution type and time at institutions – the independent variables – were categorical. Because the author transformed participants' responses to the twelve transformative constructs into Z-scores, these data were continuous. One-way ANOVA, then, is the most useful way to examine whether librarians with different work-related backgrounds felt that different transformative constructs influenced their teaching identity development. Since one-way ANOVA only identifies if differences exist between groups, the author used Fisher's Least Significant Distance (LSD) post-hoc comparison tests to examine where those differences existed between groups to more fully understand the statistical results. The author relied on the standard alpha level of .05 to argue for significance for this analysis.

In the instance of the one categorical input – teaching face-to-face – the author used SPSS to run cross-tabulation analysis with a chi-square test statistic to consider its relationship to librarians' teaching identity development. This type of analysis determines if statistically-significant relationships exist between categorical independent variables (e.g. institution type, time at institution) and a categorical dependent variable such as teaching face-to-face. The author analyzed librarians' responses to this item in this way because this input did not align with a single transformative construct. The author employed the standard alpha level of .05 to argue for significance for this analysis.

Results

Participants' Workplace Demographics

Within the participants ($n = 353$) who had experienced perspective transformation around their teaching identities, 135 worked at doctoral or research universities, 80 worked at Master's-granting institutions, 75 worked at four-year colleges, 60 worked at community or junior colleges, and three worked at another kind of institution (see Figure 1).

The participants ($n = 353$) who reported experiencing perspective transformation around their teaching had worked at their institutions for varying lengths of time. Ninety-three individuals had worked in their current environment for ten or more years, 87 had 1-3 years of institutional tenure, and 73 had 4-6 years of workplace experience. Fifty-five respondents had been employed by their current institution for less than a year, while 45 had been at the same college or university for 7-9 years (see Figure 2).

Institution Types and Transformative Experiences

The author did not observe that librarians' institution types impacted how teaching face-to-face or eleven of the twelve transformative constructs related to their teaching identity transformation. However, she did find differences in how the library-centric input construct impacted participants' teaching identity development in different institutional settings ($F [4, 348] = 2.688, p = .031$). In Table 1, the author illustrates the differences observed for this component. The first column lists participants' institution type; in the second column, the groups where differences occurred are presented, along with the appropriate p values. The third column

presents the means (represented as Z-scores), organized in ascending order, and the fourth column contains standard deviations.

Those at community or junior colleges and doctoral or research universities cited library-centric feedback as influential at the highest levels -- 0.29 and 0.26 standard deviations *above* the mean, respectively. Those librarians at four-year institutions and Master's-granting institutions indicated this construct as an influence in their perspective transformation around teaching .11 and 0.13 standard deviations *below* the mean, respectively. These results suggest that those academic librarians at community colleges and research institutions may be more likely to report having experienced teaching-related perspective transformation because of library-focused input than their peers at four-year or Master's-granting institutions.

Time at Institutions and Transformative Experiences

The author did not observe that a librarian's time at his or her institution impacted how teaching face-to-face related to teaching-centric perspective transformation. She did note, however, that librarians who had been at their institutions for varying lengths of time indicated differences in the roles that supportive interpersonal interactions ($F [4, 348] = 2.773; p = .027$), professional learning ($F [4, 348] = 3.935; p = .004$), writing and technology-rich teaching ($F [4, 348] = 4.972, p = .001$), library-centric input ($F [4, 348] = 4.830, p = .001$), and changing job statuses ($F [4, 348] = 6.620, p < .001$) played in their perspective transformation processes. In tables 2-5, the author illustrates the differences observed for these four components. The first column lists participants' time at their institutions; in the second column, the groups where differences occurred are presented, along with the appropriate p values. The third column

presents the means (represented as Z-scores), organized in ascending order, and the fourth column contains standard deviations.

In these data, those who were newer to an institution – often, within their first year of employment – were less likely to report supportive interpersonal interactions, professional learning, or writing and technology-rich teaching as influential to their teaching identities to their colleagues who were more well-established at their workplaces. As illustrated in Table 2, those librarians who had been at an institution for 10+ years reported that supportive personal interactions had impacted their teaching identities at rates 0.54 standard deviations *above* the mean. These data suggest that a librarian's workplace tenure may influence how interpersonal interactions shape her or his perspective transformation around teaching.

Similarly, those librarians who had been at their institutions for 10+ years reported that professional learning had impacted their perspective transformation around teaching 0.64 standard deviations above the mean (see Table 3). This rate was significantly higher than librarians with any other institutional tenure. These data suggest that professional development opportunities may influence librarians' teaching identities when those individuals are more established in their workplace environments.

The author also observed that librarians' perceptions of how writing and technology-rich teaching influenced their perspective transformation differed across time at institutions (see Table 3). Those librarians who had been at their workplaces for three years or fewer reported this construct as impactful to their teaching identities 0.18 (1-3 years) and 0.21 (< 1 year) standard deviations *below* the mean. In contrast, librarians with at least 7 years at their institution cited this construct as influential in their instruction-centric perspective transformation 0.44 (7-9

years) and 0.39 (10+ years) standard deviations *above* the mean. These data suggest that writing about teaching practices and engaging in technology-rich teaching may have a bigger impact on librarians' teaching identity development processes as they accrue time at their institutions.

In addition, the author observed that librarians newer at their institutions reported that library-centric feedback and changing job statuses were more important to perspective transformations around teaching than their more senior counterparts. Those librarians with less than one year and 1-3 years at institutions believed that library-centric input had impacted their perspective transformation around teaching 0.56 and 0.25 standard deviations *above* the mean, respectively (see Table 4). Conversely, librarians with 7-9 years and 10+ years at institutions indicated that this construct influenced their teaching identities 0.27 and 0.15 standard deviations *below* the mean, respectively (see Table 4). These data imply that librarians newer to a work environment may find feedback from their close colleagues more influential to their perspective transformation around teaching than librarians who have worked in a setting for longer periods of time.

Finally, the author observed that individuals who had worked in an environment for less than a year cited changing job statuses as influential at higher rates than their more entrenched colleagues. Librarians who had been at an institution for less than a year cited this construct as transformational 0.74 standard deviations *above* the mean; conversely, librarians with 7-9 years and 10+ years in a workplace identified changing job statuses as transformational 0.16 and 0.15 standard deviations *below* the mean, respectively (see Table 5). These data suggest that individuals newer to a work environment may find new job roles more influential to teaching identity development processes than their established colleagues.

Discussion

From these data, then, we can see that the work-related factors of institution type and time at an institution can differently influence what shapes' academic librarians' teaching identity development processes. At a theoretical level, these findings reinforce a core tenet of Mezirow's (1994, 1997, 2000) work in that relationships, experiences, and environments differently affect individuals' self-concepts, differently. While this study's conclusions are exploratory and suggestive, the statistically-significant relationships present ideas for library leaders to consider for ongoing teaching identity development. In fact, there are several takeaways for academic library leaders' practices as they consider the academic librarians at their institutions, what they can do to foster teaching identity development in their particular institutional environment, and how they can support individuals with varying times in the workplace.

As a starting point for these implications, the relationships between these data and librarians' institution types offer specific insights into how transformation happens in different postsecondary environments. At community/technical colleges and doctoral/research institutions, academic librarians indicated they found feedback and support from their library colleagues more influential in their perspective transformation around their teaching identities. Conversely, those academic librarians at four-year and Master's-granting institutions were less likely to cite their colleagues' and other librarians' feedback as transformative to their instructional perspectives and practices.

These dynamics offer questions for library administrators interested in fostering teaching transformation. For instance, do librarians at community colleges and doctoral universities may

have less meaningful interactions with colleagues outside of their libraries? If so, can this be remedied? Or, do these individuals find their instruction markedly different from their non-librarian teaching colleagues? Are there untapped connections to make? Is there something in the structure, environment, or focus of four-year and Master's-granting institutions that promotes cross-campus instructional relationships that influence academic librarians' teaching in meaningful ways? Can such facets be replicated at community colleges or research institutions? While these data do not provide answers, they do offer ideas for academic library managers and administrators to consider as they invest in teaching identity development and transformation at their institutions.

As for librarians' time at their respective institutions and the factors that influence their teaching identity development processes, the statistical differences exist along experiential lines. The longer an academic librarian has worked at an institution, the more they believe that supportive interpersonal relationships, professional learning, and writing/technology-rich teaching influence their teaching identity development processes. Perhaps librarians who are newer to institutions do not report these as influential transformative constructs because they have not had time to establish relationships, engage in professional development, or push their teaching into new arenas. These findings do seem to support the existing research that librarians expect, and engage in, on-the-job professional learning (Sare, Bales, & Neville, 2012). Similarly, these relationships seem to reinforce that these practices become more important to librarians' teaching identity formation with time (Julien & Genuis, 2011). Conversely, as academic librarians accrue more time at their institutions, other librarians' feedback and their job statuses influence their teaching identities to lesser degrees. Library leaders, then, may find it useful to

consider how they can support both newer and more established librarians in appropriate professional development activities with an eye to more fully developing their teacher identities.

Limitations

While the author sought to identify whether statistically-significant differences in academic librarians' education, work experiences, and transformative inputs in developing teaching identities, this research does have limitations to consider in interpreting these results. Perhaps most importantly, this research does not present any causal relationships, and any results should be viewed as suggestive. Also, the researcher used a voluntary sample, which may have influenced the findings. In the future, further research that can mitigate these constraints would help to better contextualize the relationships illustrated by the author in this study.

Practical Implications for Library Leaders

Despite the study's suggestive nature and limitations, there are several specific implications for library leaders as they support information literacy instruction and teaching identity development with diverse groups of librarians. When working with academic librarians who have varying tenures at their respective institutions, library managers can encourage those librarians who have been working in the same instructional environment for some time may find it most beneficial to pursue teaching-focused professional learning experiences outside of librarianship. Conversely, library administrators can support more junior academic librarians in finding internal library colleagues' perspectives to build their teaching identities. And overall, library leaders invested in building teaching capacity should support both newer and more veteran instructional librarians in pursuing these targeted, meaningful influences over those inputs which perhaps have less resonance. While these types of support may mean more than a

one-size-fits-all professional learning environment, it may help to foster teaching transformation across instructional units.

As library administrators and managers work with academic librarians at different types of institutions, they may want to consider how the twelve transformative inputs highlight the need for situational and targeted professional development based on their environments. Those at community colleges and doctoral/research universities should investigate whether internal, library-based teaching development programs offer growth potential; their counterparts at undergraduate and Master's institutions may benefit more from cross-campus professional learning around instruction. In these situations, library leaders can initiate the processes of finding, creating, or partnering with other groups to offer ongoing instructional development that facilitates their institution's instruction librarians' perspective transformation around teaching.

Conclusions and Future Directions

In this study, the author analyzed data from academic librarians who indicated they had experienced perspective transformation around their teaching identity to determine if there were relationships between individuals' work environments and inputs that influenced that transformation. She used one-way ANOVA with twelve transformative constructs and cross-tab analysis with one categorical input to identify where differences existed between these demographic categories. The author found that there were some statistically-significant differences between academic librarians' work environments and the inputs they believed had influenced their perspective transformation processes. These relationships offer opportunities for library leaders to offer intentional and data-driven support for academic librarians as they

develop their own teaching identities and offer authentic, high-quality learning interactions for students.

In the future, researchers may find it beneficial to conduct additional, focused scholarship so as to more deeply understand these relationships. Such scholarship may generate specific or in-depth action items for different institutional environments or populations of librarians with varying lengths of time at their institutions. For instance, interviews with an intentional sampling of academic librarians at different types of institutions could offer more in-depth insight into how a college or university's structure or individuals' time at their institutions shape how different transformative inputs influence their senses of themselves as educators. Such research may help library leaders to better understand the academic librarians with whom they work and their needs in developing teaching identities.

References

- Agee, J. (2004). Negotiating a teaching identity: An African American teacher's struggle to teach in test-driven contexts. *Teachers College Record*, 106(4), 747-774.
doi:10.1111/j.1467-9620.2004.00357.x
- Arnold, J. (2010). The community college conundrum: Workforce issues in community college libraries. *Library Trends*, 59(1-2), 220-236.
- Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, 39(2), 175–189. doi:10.1080/03057640902902252
- Bolin, M. (2008). A typology of librarian status at land grant universities. *Journal of Academic Librarianship*, 34(3), 220-230.
- Booth, C. (2011). *Effective teaching, reflective learning: Instructional literacy for library educators*. Chicago: American Library Association.
- Britto, M., & Kinsley, K. (Eds.). (2018). *Academic libraries and the academy: Strategies and approaches to demonstrate your value, impact, and return on investment*. Chicago: Association of College and Research Libraries.
- Brock, S. E. (2010). Measuring the importance of precursor steps to transformative learning. *Adult Education Quarterly*, 60(2), 122-142.
- Feldman, D., & Sciammarella, S. (2000). Both sides of the looking glass: Librarian and teaching faculty perception at six community colleges. *College and Research Libraries*, 61(6), 491–498.

- Freedman, S. (2014). Faculty status, tenure, and professional identity: A pilot study of academic librarians in New England. *portal: Libraries and the Academy*, 14(4), 533-565.
- Friesen, M. D., & Besley, S. C. (2013). Teacher identity development in the first year of teacher education: A developmental and social psychological perspective. *Teaching and Teacher Education*, 36, 23-32. doi:10.1016/j.tate.2013.06.005
- Gormally, C. (2016). Developing a teacher identity: TAs' perspectives about learning to teach inquiry-based Biology labs. *International Journal of Teaching & Learning in Higher Education* 28(2), 176-192.
- Henry, A. (2016). Conceptualizing teacher identity as a complex dynamic system: The inner dynamics of transformation during a practicum. *Journal of Teacher Education* 67(4), 291-305. doi:10.1177/0022487116655382
- Julien, H., & Genuis, S. K. (2011). Librarians' experiences of the teaching role: A national survey of librarians. *Library & Information Science Research*, 33(2), 103-111.
- King, K. P. (1997). Examining activities that promote perspective transformation among adult learners in higher education. *International Journal of University Adult Education*, 36(3), 23-37.
- King, K. P. (2009). *The handbook of the evolving research of transformative learning based on the Learning Activities Survey*. Charlotte, NC: Information Age Publishing.
- Kitchenham, A. (2006). Teachers and technology: A transformative journey. *Journal of Transformative Education*, 4(3), 202-225.

- Kumi-Yeboah, A., & James, W. (2014). Transformative learning experiences of international graduate students from Asian countries. *Journal of Transformative Education*, 12(1), 25-53.
- Lee, J., Oh, S., & Burnett, G. (2016). Organizational socialization of academic librarians in the United States. *Journal of Academic Librarianship*, 42(2), 382-389.
- McNaughton, S. M., & Billot, J. (2016). Negotiating academic teacher identity shifts during higher education contextual change. *Teaching in Higher Education* 21(6), 644-658.
doi:10.1080/13562517.2016.1163669
- Mezirow, J. (1978). Perspective transformation. *Adult Education Quarterly*, 28(2), 100-110.
- Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education Quarterly*, 32(1), 3-24.
- Mezirow, J. (1994). Understanding transformation theory. *Adult Education Quarterly*, 44(4), 222-232.
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult & Continuing Education*, 74, 5-12
- Mezirow, J. (2000). Learning to think like an adult. In J. Mezirow and associates (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 3-33). San Francisco: Jossey-Bass, 2000.
- Nevgi, A., & Löfström, E. (2015). The development of academics' teacher identity: Enhancing reflection and task perception through a university teacher development programme. *Studies in Educational Evaluation* 46, 53-60. doi:10.1016/j.stueduc.2015.01.003

- Nichols Hess, A., Greer, K., Lombardo, S. V., & Lim, A. (2015). Books, bytes, and buildings: The academic library's unique role in improving student success. *Journal of Library Administration* 55(8), 622-638. doi:10.1080/01930826.2015.1085241
- Nichols Hess, A. (2018). *Transforming academic library instruction: Shifting teaching practices to reflect changed perspectives*. New York: Rowman & Littlefield.
- Nichols Hess, A. (2019). Academic librarians' educational factors and perceptions of teaching transformation: An exploratory examination. *Evidence-Based Library and Information Practice* 14(3). Retrieved from <https://journals.library.ualberta.ca/ebliip/index.php/EBLIP>
- Roy, L & Hensley, M. K. (2011). Helping LIS students understand the reference librarian's teacher identity. *Reference Librarian* 57(4), 336-340.
doi:10.1080/02763877.2016.1146562
- Sare, L., Bales, S., & Neville, B. (2012). New academic librarians and their perceptions of the profession. *portal: Libraries and the Academy*, 12(2), 179-203.
- Silva, E., Galbraith, Q., & Groesbeck, M. (2017). Academic librarians' changing perceptions of faculty status and tenure. *College and Research Libraries*, 78(4), 428-441.
- Smagorinsky, P., Cook, L. S., Jackson, A. Y., Fry, P. G., & Moore, C. (2004). Tensions in learning to teach: Accommodation and the development of a teaching identity. *Journal of Teacher Education*, 55(1), 8-24. doi:10.1177/0022487103260067
- Stillwaggon, J. (2008). Performing for the students: Teaching identity and the pedagogical relationship. *Journal of Philosophy of Education*, 42(1), 67-83.
doi:10.1111/j.1467-9752.2008.00603.x

- Thorpe, A., Lukes, R., Bever, D. J., & He, Y. (2016). The impact of the academic library on student success: Connecting the dots. *portal: Libraries and the Academy* 16(2), 373-392.
doi:10.1353/pla.2016.0027
- Walter, S. (2008). Librarians as teachers: A qualitative inquiry into professional identity. *College & Research Libraries*, 68(1), 51-71.
- Walter, S. (2006). Instructional improvement: Building capacity for the professional development of librarians as teachers. *Reference and User Services Quarterly*, 45(3), 213-218.
- Walter, S. L. (2005). *The librarian in the academy: Exploring the instructional role of librarians in higher education* (Unpublished doctoral dissertation). Pullman, WA: Washington State University.
- Walters, W. H. (2016). Faculty status of librarians at U.S. research universities. *Journal of Academic Librarianship*, 42(2), 161-171.

Appendix A: Survey Instrument

1. Do you agree to participate in this study?

- Yes, I agree to participate in this study.
- No, I do not agree to participate in this study.

2. Is information literacy instruction part of your current work responsibilities?

- Yes
- No

3. Gender

- Prefer not to say
- Male
- Female

4. Ethnicity

- White / Caucasian
- Hispanic or Latinx
- Black or African American
- Native American or American Indian
- Asian / Pacific Islander
- Other
- Multiracial
- Prefer not to answer

5. Age group

- Under 25
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 or over

6. What is the highest level of education you have completed?

- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree
- Other

7. Have you completed a graduate degree **in addition to** a Master's degree in library/information science?

- No
- No, but I am in the process of completing an additional Master's degree
- No, but I am in the process of completing a professional degree
- No, but I am in the process of completing a doctoral degree
- Yes, I have an additional Master's degree
- Yes, I have a professional degree
- Yes, I have a doctoral degree

- Other

8. When did you graduate from library school?

- I did not attend library school
- I am currently in library school
- Within the last year
- 1-3 years ago
- 4-6 years ago
- 7-9 years ago
- 10+ years ago

9. At what kind of institution do you work?

- I am not currently employed
- Community or junior college
- Four-year college
- Master's-granting university
- Doctoral/research university
- Other

10. How long have you worked at your current institution?

- Less than one year
- 1-3 years
- 4-6 years
- 7-9 years
- 10+ years

11. How long has instruction been a part of your work responsibilities?

- Less than one year
- 1-3 years
- 4-6 years
- 7-9 years
- 10+ years

12. What kinds of instruction are part of your work responsibilities? Select all that apply.

- Face-to-face instruction
- Online instruction
- Blended / hybrid instruction

13. On average, how frequently do you engage in classroom instruction?

- Once a year
- 1-3 times a semester
- 4-6 times a semester
- 7-9 times a semester
- 10+ times a semester

14. Think about your professional experiences in teaching—check off any of the following statements that apply.

- I had an experience that caused me to question the way I normally teach.
- I had an experience that caused me to question my ideas about professional roles

(Examples of professional roles include the kinds of instructional responsibilities an academic librarian should take on.)

- As I questioned my ideas, I realized I no longer agreed with my some or all of my previous beliefs or role expectations.
- As I questioned my ideas, I realized I still agreed with some or all of my beliefs or role expectations.
- I realized that other people also questioned their beliefs about their instructional roles or responsibilities.
- I thought about acting in a different way from my usual teaching beliefs and roles.
- I felt uncomfortable with professional expectations (for example, what my job responsibilities or work roles were) around teaching and instruction.
- I tried out new teaching roles so I would become more comfortable and confident in them.
- I tried to figure out a way to adopt these new ways of acting.
- I gathered the information I needed to adopt these new ways of acting.
- I began to think about the reactions and feedback from my new professional behavior.
- I took action and adopted these new ways of acting.
- I do not identify with any of the statements above.

15. Since you have been providing information literacy instruction, do you believe you experienced a time when you realized that your values, beliefs, opinions, or expectations (for example, how you viewed your work responsibilities or roles as an academic librarian) changed?

- Yes
- No
- I'm not sure

16. Describe what happened when you realized your values, beliefs, opinions, or expectations about your instructional responsibilities had changed.

17. Did any of the following individuals influence this change? Check all that apply.

- Interaction with a student or students
- Support from a colleague
- A challenge from a colleague
- Support from another librarian
- A challenge from another librarian
- Support from a subject area faculty member
- A challenge from a subject area faculty member
- Support from a mentor
- A challenge from a mentor
- Support from a supervisor
- A challenge from a supervisor
- Support from my library/institution's administration
- A challenge from my library/institution's administration
- Other: _____
- No individual influenced my experience of change

18. Did any specific learning experience or resource influence this change? If so, check all that apply.

- Taking a class or classes in library school
- Taking a class or classes in another graduate program

- Teaching in a face-to-face course
- Teaching in an online course
- Teaching in a blended/hybrid course
- Observing other academic librarians' instructional practices
- Receiving feedback from other academic librarians on your teaching practices
- Observing subject area faculty's instructional practices
- Receiving feedback from subject area faculty on your teaching practices
- Receiving feedback from students who participated in your instruction
- Completing a self-assessment of your teaching practices
- Writing about your teaching practices in a reflection journal or other personal format
- Writing about your teaching practices for publication
- Attending meetings, workshops, or trainings within your normal working environment
- Attending professional meetings, conferences, or workshops outside of your normal working environment
- Participating in online webinars or seminars
- Reviewing guidelines, standards, or other documents from professional organizations
- Reading scholarly literature on information literacy instruction
- Reading scholarly literature on the scholarship of teaching and learning
- Other _____
- No experience influenced the change I experienced

19. Did any significant professional event influence the change? If so, check all that apply.

- Completion of library graduate program

- Completion of other graduate program
- First professional job after graduate school
- Change of job
- Loss of job
- Change in job responsibility or duties
- Other _____
- No professional event influenced the change I experienced

20. Think back to when you first realized that your views or perspective had changed. What did your professional life have to do with the experience of change? [Free response]

21. Would you characterize yourself as someone who usually thinks back over previous decisions or past behavior?

- Yes
- No

22. Would you characterize yourself as someone who reflects upon the meaning of your professional experiences for your own purposes?

- Yes
- No

23. Which of the following factors have been a part of your instructional work as an academic librarian? Please select all that apply.

- Interaction with a student or students
- Support from a colleague
- A challenge from a colleague

- Support from another librarian
- A challenge from another librarian
- Support from a subject area faculty member
- A challenge from a faculty member
- Support from a mentor
- A challenge from a mentor
- Support from a supervisor
- A challenge from a supervisor
- Taking a class or classes in library school
- Taking a class or classes in another graduate program
- Teaching a face-to-face class session
- Teaching or providing instruction for an online course
- Observing other academic librarians' instructional practices
- Receiving feedback from other academic librarians on your teaching practices
- Observing subject area faculty's instructional practices
- Receiving feedback from subject area faculty on your teaching practices
- Receiving feedback from students who participated in your instruction
- Completing a self-assessment of your teaching practices
- Writing about your teaching practices in a reflection journal or other personal format
- Writing about your teaching practices for publication
- Attending professional meetings, conferences, or workshops outside of your normal working environment

- Attending meetings, workshops, or trainings within your normal working environment
- Participating in online webinars or seminars
- Reviewing guidelines, standards, or other documents from professional organizations
- Reading the scholarly literature on information literacy instruction
- Reading the scholarly literature on the scholarship of teaching and learning
- Other _____
- None of these have been factors of my instructional work as a librarian

Complete this survey

Thank you for completing this survey! Would you be willing to participate in a virtual follow-up interview? If so, please include your first and last name as well as an email address where you can be reached during the summer months.

Name _____

Email address _____

Individuals who qualify to participate in the follow-up interviews will be selected at random.

This survey instrument has also been published in:

Nichols Hess, A. (2018). *Transforming academic library instruction: Shifting teaching practices to reflect changed perspectives*. New York: Rowman & Littlefield.

Nichols Hess, A. (2019). Academic librarians' educational factors and perceptions of teaching transformation: An exploratory examination. *Evidence-Based Library and Information Practice* 14(3). Retrieved from <https://journals.library.ualberta.ca/ebliip/index.php/EBLIP>

King (1997, 2009) retains the copyright to the original Learning Activities Survey.

Table 1: Impact of the library-centric input construct on teaching identity transformation for academic librarians across institution types.

Institution type (<i>n</i> = 353)	Significantly different from	Mean <i>Z-score</i>	Standard Deviation
Other (<i>n</i> = 3)	No other institutional types	-0.54	0.53
Four-year college (<i>n</i> = 75)	Community or junior college* Doctoral/research university*	-0.13	0.93
Master's-granting university (<i>n</i> = 80)	Community or junior college* Doctoral/research university*	-0.11	1.14
Doctoral/research university (<i>n</i> = 135)	Four-year college* Master's-granting university*	0.26	1.26
Community or junior college (<i>n</i> = 60)	Four-year college* Master's-granting university*	0.29	1.25
* <i>p</i> < .05			

Table 2: Impact of the supportive interpersonal relationships construct on teaching identity

transformation for academic librarians with different years of experience at their institutions.

Time at Institution (<i>n</i> = 353)	Significantly different from	Mean <i>Z-score</i>	Standard Deviation
< 1 year (<i>n</i> = 55)	10+ years at institution*	0.06	0.92
4-6 years (<i>n</i> = 73)	10+ years at institution*	0.22	1.03
1-3 years (<i>n</i> = 87)	10+ years at institution*	0.24	1.00
7-9 years (<i>n</i> = 45)	No other time at institution	0.43	1.18
10+ years (<i>n</i> = 93)	< 1 year at institution* 1-3 years at institution* 4-6 years at institution*	0.57	.99
* <i>p</i> < .05			

Table 3: Impact of the professional learning construct on teaching identity transformation for academic librarians with different years of experience at their institutions.

Time at Institution (<i>n</i> = 353)	Significantly different from	Mean <i>Z-score</i>	Standard Deviation
4-6 years (<i>n</i> = 73)	10+ years at institution**	0.07	0.93
< 1 year (<i>n</i> = 55)	10+ years at institution*	0.20	0.96
1-3 years (<i>n</i> = 87)	10+ years at institution*	0.21	1.11
7-9 years (<i>n</i> = 45)	10+ years at institution*	0.24	1.05
10+ years (<i>n</i> = 93)	< 1 year at institution* 1-3 years at institution* 4-6 years at institution** 7-9 years at institution**	0.64	1.04
* <i>p</i> < .05 ** <i>p</i> < .001			

Table 4: Impact of the library-centric input construct on teaching identity transformation for academic librarians with different years of experience at their institutions.

Time at Institution (<i>n</i> = 353)	Significantly different from	Mean <i>Z-score</i>	Standard Deviation
7-9 years (<i>n</i> = 45)	< 1 year at institution** 1-3 years at institution*	-.27	.73
10+ years (<i>n</i> = 93)	< 1 year at institution** 1-3 years at institution*	-.15	1.09
4-6 years (<i>n</i> = 73)	< 1 year at institution*	.09	1.14
1-3 years (<i>n</i> = 87)	7-9 years at institution* 10+ years at institution*	.25	1.22
< 1 year (<i>n</i> = 55)	4-6 years at institution* 7-9 years at institution** 10+ years at institution**	.56	1.41
* <i>p</i> < .05 ** <i>p</i> < .001			

Table 5: Impact of the changing job statuses construct on teaching identity transformation for academic librarians with different years of experience at their institutions.

Time at Institution (<i>n</i> = 353)	Significantly different from	Mean <i>Z-score</i>	Standard Deviation
7-9 years (<i>n</i> = 45)	< 1 year at institution** 1-3 years at institution*	-0.16	0.72
10+ years (<i>n</i> = 93)	< 1 year at institution** 1-3 years at institution*	-0.15	0.74
4-6 years (<i>n</i> = 73)	< 1 year at institution**	0.01	0.82
1-3 years (<i>n</i> = 87)	< 1 year at institution* 7-9 years at institution* 10+ years at institution*	0.25	0.94
< 1 year (<i>n</i> = 55)	1-3 years at institution* 4-6 years at institution** 7-9 years at institution** 10+ years at institution**	0.74	2.14
* <i>p</i> < .05 ** <i>p</i> < .001			

Figures

Figure 1:

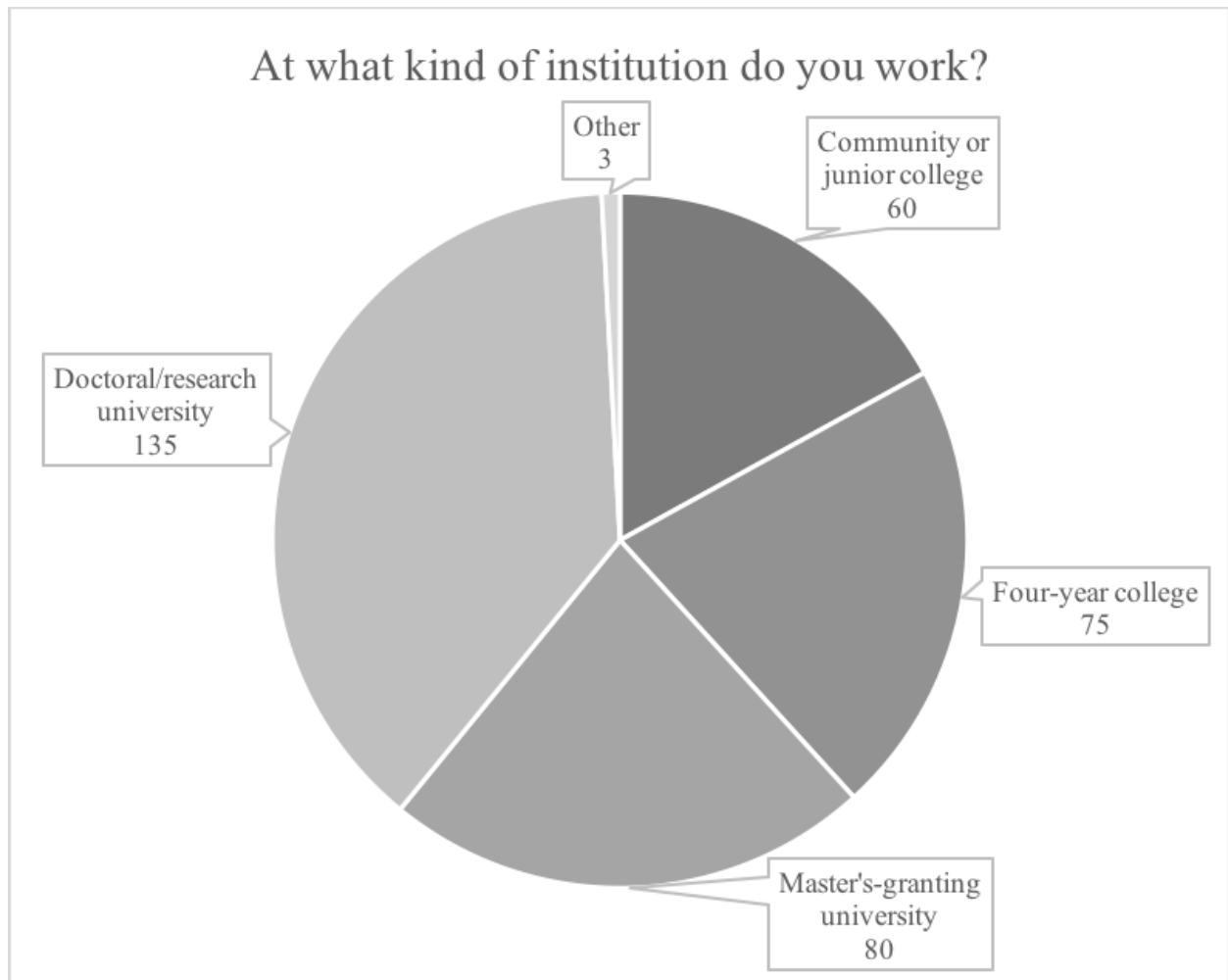


Figure 2:

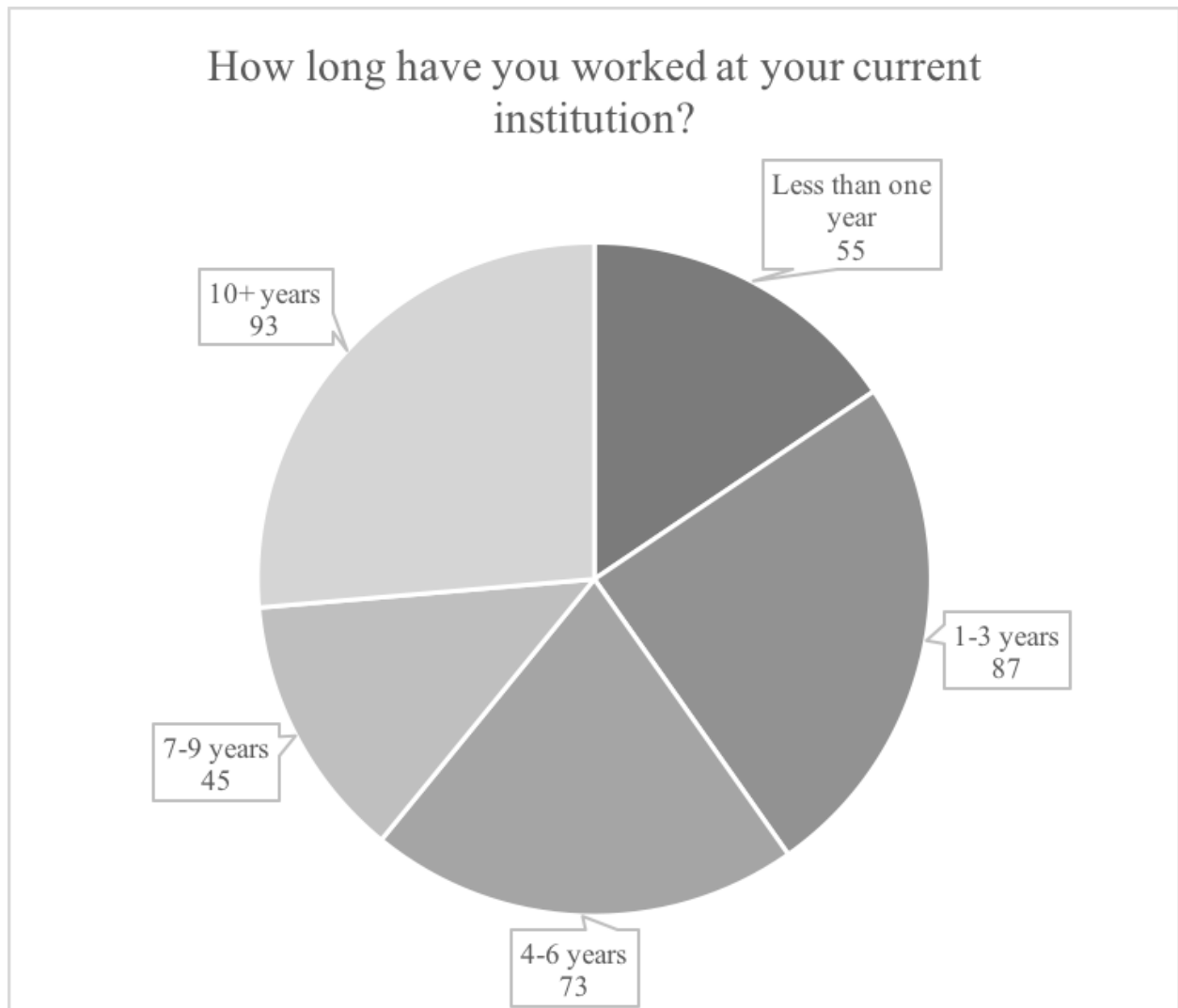


Figure captions:

1. Figure 1: Participants' institution types ($n = 353$)
2. Figure 2: Participants' time at their institutions ($n = 353$)