The Cyclical Nature of Expertise Development

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The paper examines the development of expertise and the multidimensional forces at work in the process. A qualitative study involving 12 participants at four museums found that expertise development is a cyclical and fluid process and impacted by content, context, and audience. Two areas comprised the focus of this research: (1) the process of expertise development, and (2) the factors influencing the development of expertise.

Keywords: Expertise, Adult Learning, Museums

Over the last thirty years, the study of expertise has expanded greatly. The seminal work of Chase and Simon (1973) and deGroot (1966) with chess expertise laid the foundation for the study of expertise beyond cognitive psychology into areas of artificial intelligence, human resources and organizational development (HROD) and even athletics. Growth in the area may be partially due to the appeal of building expertise in business and industry, as well as its correlation to the development of technological processes or systems. Expertise comes in many forms, from the skills of a typist (Gentner, 1988), to prediction of climate change by scientists (Mieg, 2001). The continued exploration of expertise and its development in individuals is important for HROD professionals and adult educators as they look for ways to enhance learning, promote retention, and foster growth in professionals and volunteers.

An expert and related to that, expertise, have long been recognized by those in the fields of artificial intelligence (AI) and cognitive psychology and viewed in HROD as a vital component of organizational success. Swanson (1994) describes expertise of employees as the performance fuel of the workplace. Sustaining organizational success is dependent upon, as Herling and Provo (2000) argue, employee expertise and the ability of highly knowledgeable employees to solve difficult and unique situational problems. While this statement seems straightforward, a review of the literature indicates that expertise is identified in a variety of ways (e.g., Dreyfus and Dreyfus, 1979; Swanson, 1994; Herling and Provo, 2000; Mieg, 2001). Existing scholarship in the area of expertise provides a foundation for this paper which draws from an exploratory study examining volunteer museum docents. Participants in the study are characterized as experts. Because of their extensive knowledge of subject matter content, their ability to deliver that content and knowledge, and facilitate learning by visitors.

Problem and Purpose

The number of museums in the U.S. is growing, as are the roles these cultural institutions play with visitors and the community. With this growth comes the demand for educational programming that is engaging, worthwhile, and even entertaining. This demand necessitates the need for museums to call upon volunteers to serve as docents and interpreters. To meet this end institutions must prepare docents, yet often the training is brief or insufficient for the demands of the job. If museums are to utilize volunteers effectively, museum educators must have a better understanding of how to address the training and developmental needs of these individuals.

The purpose of this study was to contribute to the area of expertise within HROD and adult education by formally examining expertise development and the multidimensional forces at work in the process. This study of museum volunteer docents establishes a foundation for recognizing the cyclical nature of expertise development and the impact of content, context, and audience on the process. Two areas are the focus of this research: (1) what is the process of expertise development, and (2) what are the factors influencing the development of expertise.

Methodology

This study was an interpretive qualitative inquiry (Merriam, 1998) seeking to understand the nature of expertise. Museum sampling selections were based on the definition from the American Association of Museums (AAM). Four sites were selected from two states and the District of Columbia. The sample included the Abigail Adams Historical Society and Birthplace, the Atlanta History Center, the U.S. Holocaust Memorial Museum (USHMM) and Boston By Foot. These sites are interpreted to visitors through volunteer docents.

The selection of docents occurred with the assistance of staff at the sites who acted as key informants. This staff included volunteer coordinators and museum educators. These individuals play an important role in identifying expert docents since expertise is dependent upon the context of the institution. As a result, each informant was asked to nominate up to four volunteer docents whom they considered to be experts based on specific criteria and the context of the institution. Participation was contingent upon the experts: (1) being a volunteer; (2) being responsible for leading tours and/or educational programs; (3) having been with the organization at least three years; and (4) being actively involved in the docent/volunteer program by serving as a docent at least six times in the last year. The sample consisted of ten females and two males, with four to 22 years of experience serving as a docent.

For the purpose of this research semi-structured, open-ended questions were used during interviews lasting between two and three and a half hours, and to a lesser extent, tour observation and documents including tour evaluations and training materials were reviewed in the data collection process. A constant comparative method (Glaser & Strauss, 1967) was employed with transcription taking place immediately after interviews and then, along with field notes, analyzed for meanings, understandings or concepts that capture the participants' understanding of the phenomenon. With each interview, significant language and phrases in the participant's own words were identified. For example, when discussing expert docent characteristics, the first interviewee repeatedly used words such as "knowledge" and "communication." Subsequent transcripts were analyzed to see if the same or similar terms occurred, while continuing to look for new terms. When the words "intuition" and "personal connections" appeared in later interviews, I returned to early interviews to see if I had overlooked those concepts, or similar ones, in the preliminary stages of data analysis. What I found were descriptions of a "sixth sense" and the notion of "just knowing" what needs to be done. As new interviews were conducted questions and probes were added based on initial findings generated from earlier interviews.

Once all the data had been reviewed, findings were aligned with possible properties of each category, and then categories were reduced into a smaller number of conceptual themes and recorded. One example of this analysis was when I examined the question: What types of learning experiences lead to the development of expert docents? Besides formal training and continuing education opportunities, participants described shadowing and observing, exchanging information with others, forming mentor/mentee relationships, reading, watching television and movies, and using the Internet. Additionally, the docents depicted instances of learning resulting from overhearing a peer docent giving a tour, or gaining new knowledge or insight as a result of participating in a tour at another cultural institution. These examples were compiled and based on the forms of learning discussed I assigned the category of informal and incidental learning.

Findings

What Is The Process For Expertise Development?

An analysis of all the data collected in this study led to the creation of a model to understand the process for expertise development. The model depicts the nature of expertise and consists of three parts: Dependence, Growing Independence, and Transcendence and the influence of content, context, and audience on the process. It should be noted that as part of the original, larger study of museum docents the characteristics of these experts was determined. These characteristics are: facilitating learning, including communicating information, reading and adapting to the audience, and subject matter knowledge, as well as the categories of integrating prior experience, demonstrating enthusiasm and commitment, and maintaining a sense of humor. After completing the data it was clear that all of these characteristics must be present for expertise to be achieved and that expertise development was a fluid, cyclical process. The phases are fluid in that individuals, both novice and experienced, pass through each phase at their own pace and forces exist which influence expertise development or the need for re-development. The following addresses the process for expertise development and is punctuated by data from the study involving museum docents. Due to space limitations, a limited amount of data is presented, but will be expanded upon in future manuscripts.

Dependence

Dependence is the first phase of expertise development and describes a person's dependence on others and information, such as scripts or formats. For instance, Bill was well trained at the USHMM and described participating in activities and projects that broke the exhibit into manageable parts. Yet, even with his background as a classroom teacher, Bill was unsure of his abilities: "Even after going through that training, I still felt really insecure." One dimension of Dependence is a docent's reliance on a script or standard set of information. April, at the Atlanta History Center shares how she depended upon her script and worked to commit it to memory: "When I first started I would recite it in the car as I was driving in…. When I was starting out you know, before you give your presentation in class you kind of go over it in your head."

Individuals at this phase also show concern for knowing their content well enough to seem competent to others. At the USHMM, Joanna expressed her concern at being able to remember and regurgitate so much historical information. She said, “I loved what I learned, I mean I was fascinated by the history which I knew very little of and they had some wonderful teachers, but I thought I’ll never be able to do this.” She continued, “I mean, how am I going to get up there for two hours and tell these people about things, what we went through sixty years ago?”

Growing Independence

Growing Independence is the second phase and moves beyond a reliance on others. Instead, docents at this point are comfortable with their scripts, sometimes even adding new information, and work to improve their knowledge and skills through research, experimentation, and practice. Docents in Growing Independence add on to what is originally gained during formal learning opportunities. Madeline, who volunteers with Boston By Foot, expressed how the notion of growth is key to a docent moving out of a Dependence stage; once a docent has a solid foundation they can add to the baseline information. She states, “You kind of have to know how we got there [in history] and it is just amazing how everything just interrelates and I think people just kind of expand.” April also explains how she has created a formula which she could expound on and try new things: “I know I'm going to talk about at least A, B, and C. Sometimes I get into D, E, and F and sometimes I don't.”

Transcendence

The third phase in expertise development is Transcendence. At this point an individual is so in command of his or her material, that there is a sense of “ownership.” The Transcendence phase is characterized by a sense of security in certain knowledge and abilities to the extent that freedom to improvise and modify work is common practice and intuition is trusted and followed. While they continue to add to their existing repertoire and knowledge through research and experimentation they are no longer conscious of what should be done, they just do it with a sense of confidence. After extensive preparation, practice, and application the actions of an expert are simply known in a non-cognitive way. As Madeline put it, “A lot is happening that I think I’m not aware of.” It becomes difficult for docents at this level to follow the original step-by-step sequence, and instead, as Joanna expressed, they simply “feel it” and make the tour their own unique product. A significant component of the Transcendence phase is the role intuition plays. Mary Catherine a long time docent of the Atlanta History Center calls it “a sixth sense,” and found that there was no longer a script, instead, “you don't give them too much information, but you've got it at your finger tips” depending on the tour and the audience. Shelly who also volunteers at the History Center relies on her intuition to guide her tours, and emphasized that she did not start out knowing what an audience needed. “You develop it over time,” and then she added, “I take cues from how people are responding to different types of information and then I try to alter it as I go along.”

Cyclical Model of Expertise Development

As illustrated in Figure 1, a person begins at the circle labeled Dependence and with time and preparation she or he moves to the second phase, labeled Growing Independence. This movement is illustrated with the large arching arrows. These represent the time and amount of work necessary to move to the next phase. If the necessary characteristics, skills, and knowledge are present the process continues in the same manner from Growing Independence to Transcendence, with the large, arching arrow again representing the work and time needed to transition. The model also illustrates redevelopment with movement between phases by experienced individuals. An individual at the Transcendence phase with years of work experience can just as easily find themselves back at Dependence.

Unlike Dreyfus and Dreyfus (1986) who describe expertise in terms of a pinnacle to attain, my model illustrates that reaching Transcendence does not guarantee a permanent level of expertise. For most individuals the content, context, and audience they work with are integral to expertise development. These influences are represented by three overlapping circles at the center of the model. When one or more of these factors is changed or significantly altered an individual moves back to Dependence, which is represented by a dashed arrow. Other dashed arrows are used to represent similar backward movement from Growing Independence to Dependence and from Transcendence to Growing Independence, which are a result of an absence of service or work.

Using the example of museum docents, a return to Dependence would be a result of factors such as changing exhibits, taking on new tours, or significant additions or modifications to existing tours, installations, or programs. This is represented with short solid arrows, demonstrating a more direct and less time consuming progression. Docents who have previously reached Transcendence will have to expend less work in less time to pass through each phase to Transcendence. Docents at the Growing Independence or Transcendence phase can also move back a phase if they have a hiatus from service. For example, Shelly an experienced docent at the Atlanta History Center recalls her need to start over when the Swan House, a plantation home on the grounds of the Center had been renovated: “When they brought all the furniture back and you have to kind of re-gear the tour then, I mean the basic

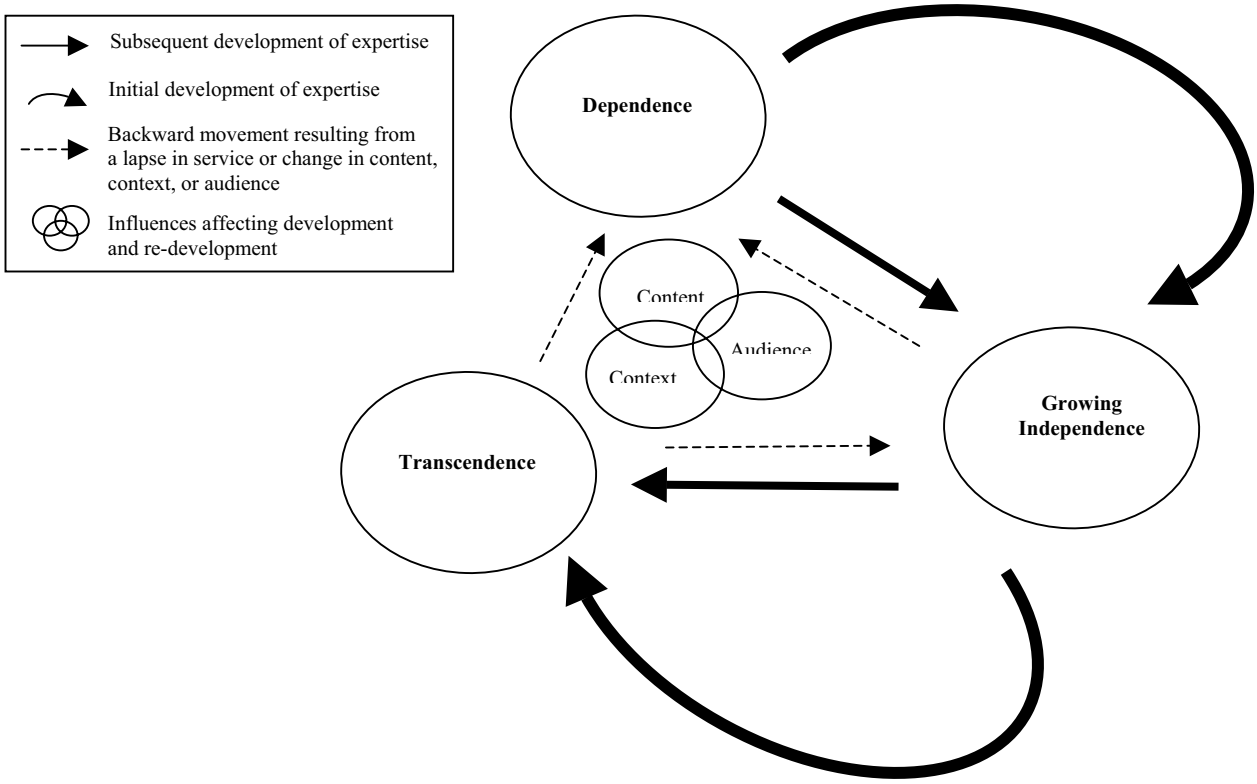

Figure 1. *Cyclical Model of Expertise Development*

information comes back pretty easily since I've been doing it for a while, but you have to learn things all over again." If all influences remained unchanged, and participation is consistent, once a docent who reaches Transcendence within an institution will not return to Dependence.

What Factors Influence The Development Of Expertise?

All three phases of the model are influenced by three factors: content, context, and audience. When one or more of these are significantly altered or changed the result is a need for re-development. In the case of this population, content refers to the information a docent incorporates into programs, such as exhibits and historical events. Contextual factors that influence docent expertise are the museum's format, location, and physical and social structure. Finally, the size of the group, as well as age, gender and physical and educational needs of visitors are aspects of how audience influences a docent's expertise.

Content

As context changes it influences learning, as well as an individual's level of knowledge and skill. This agrees with Herling (2000) who states that expertise is dynamic and as such involves internal processes of continuous learning typified by constant knowledge acquisition, reordering of information, and progressive problem solving. My findings indicate that when information or tours change from what one has been accustomed to he or she may maintain certain skills and knowledge but starts over in the initial phase of development, with the base knowledge and the added ability of moving to a new form of expertise more quickly. This is illustrated through a tour I attended as part of this study. David, a guide with Boston By Foot, had been identified as an expert by the key informant at the organization, as well as by other guides. Based on the findings I determined that he was indeed a docent who possessed the characteristics of an expert, yet when I observed his tour I was troubled by his dependence at times on note cards. The following is a brief excerpt from field notes gathered during David's tour:

> He looks at his note cards each time he refers to the 1872 fire-he fumbles to give a chronological story of the events and stammers when asked about the impact of the fire on the city, and individuals. Where he shines is in his description of the modern buildings that are scattered among those built immediately after the fire. He goes into great detail about the new convention center, a bank, and an architectural firm currently working on what looks like a vacant lot. His notes are held loosely at his side as he tells one of the tour members about a technique involving maintaining an original façade while constructing a new, modern high-rise behind it. It

creates a street view consistent with old Boston and a building to house many hundreds of residents and offices. He smiles as he gives more details about the politics behind the construction, but once he moves the group on the note cards are back out as he references the fire telegraph systems available at the time of the 1872 fire.

The tour was a Tour of the Month. This special tour is not a regular part of the offerings at Boston By Foot and as a result the content was different than what David was accustomed to in his regular tours. I determined that David was, in the case of this tour, in a Growing Independence phase. He was not completely scripted and did interject his knowledge of the area we were visiting, particularly in relation to modern structures, but he was dependent on his notes related to the Great Boston Fire, which was the theme of that particular tour.

With demands for new content knowledge and new programming formats and structures docents must be subject matter experts and expert facilitators. This means skills and subject matter knowledge are equally important. Experts require both "know how" and "know that" because organizations expect it. An expert cannot simple rely on experience and skills to guide him or her through a new context. This finding more closely resembles Daley's (2002) study of professional development. She contends that individuals with experience must go through a complicated process of constructing a knowledge base in practice. Moreover, Herling and Provo (2000) maintain that an expert is an individual who combines the domains of knowledge, experience, and problem solving within the domain of expertise. They also contend that expertise is domain specific; supporting my finding that expertise is contextually based. If this is the case than an expert docent cannot function as an expert in every museum environment. An expert interpreter in a historic home is not an expert in an art museum. An expert guide who conducts walking tours of New York City cannot walk into the Guggenheim and expect to start at the same expert level. It can also be said that the same guide cannot arrive in Chicago and start giving walking tours of that city at the same expert level as she had in New York. What Prenau, Adler, and Gunders (1992) describe as heuristics, or the rules of thumb used by experts cannot be relied upon by docents for achieving or maintaining expertise. While a docent may retain some heuristics, such as the ability to read an audience, a docent must adapt to the new demands of the context.

Context

Based on this study it was concluded that influences exist that are integral to the nature of expertise, both in how experts learn and how expertise is developed. Context is critical to how expertise is developed and cannot be ignored. In previous studies of experts, context has been labeled the current situation or problem faced by an expert (Dreyfus & Dreyfus, 1986), the day-to-day practices of experts (Benner, 1984), or the constraints of a task (Shanteau, 1992). Context in the study of museum docents was a complex blend of the previously identified situations, problems, and practices, as well as the institution itself both in its physical form and what it represents, and the commitment and competencies necessary to facilitate each program or tour.

The first significant contextual factor influencing expertise development related to learning processes. The context adults learn in is central to the learning process (Caffarella & Merriam, 2000). This is also true for docents as they gain knowledge and skills necessary for their work. The learning experts undertake is influenced by context related specifically to the physical nature of the institution, and the emotional and social impact of that institution on the individual. For example, at the USHMM, the size of the institution is very significant to docent learning and work. The permanent exhibit alone occupies 36,000 square feet and hundreds of volunteers and paid staff serve the public in more than a dozen departments. One USHMM docent, Rebecca, found the size of the institution inhibited opportunities to learn from peers. She often felt isolated and had to become more self-directed in her learning: "They need to do more in terms of making the group feel cohesive and allow the group to learn more."

Second, expertise development is influenced by dedication and commitment to the organization and its mission, a connectedness to history or sense of place, and a bond generated from relationships established through service to the organization. These are rooted in the emotional-social context and result in a greater commitment, dedication, and willingness to learn on the part of experts. The docents at the Abigail Adams House illustrate this point. For Cindy and Melissa, growing up in the shadow of Abigail's home and their families' history of volunteering for the Society sets the foundation for an emotional-social commitment to the organization. Cindy explains that there is a sense of obligation to the house and its history, "You almost get to the point where you say, oh, I've got to do this."

The study found that one aspect of emotional-social context on learning was the social interaction among the staff. Social groups supported each other personally and in their learning. Daley (2002) refers to the culture of an organization and how it can frame a professional's learning. This is further developed by Benner et al. (1996) who note that knowledge is produced communally in a dialog of divergent views and ideas. Suzanna stressed these relationships during her interview and described her sense of withdrawal when the organization closes to the public in the winter, "I have missed it and it's hard in the winter. That's why we have this group off-season that works on other tours for the next season."

Audience

The final factor influencing expertise development is audience. In this study the museum docent was affected by the individuals they served. Participants described how issues relative to audience interests, demands, knowledge and educational levels, and physical limitations had bearing on how docents conducted tours. Each individual and group is unique hence; a docent's preexisting knowledge or skills may not transfer to the new audience. Such an example was offered by Shelly who volunteers at the Atlanta History Center. She noted that if an expert docent has been giving tours to adults about the antiquities displayed in a historic home and then begins offering the same tour to children the audience factor influences the docent's understanding of reading an audience, facilitating learning, and engaging visitors. Such an example illustrates how one might return to the Dependence phase to learn and develop an understanding and approaches for working with children.

Another is addressing problems created by a visitor's physical limitations or needs. One such example was offered by Madeline, also a docent with Boston By Foot. She described a tour in which a woman in a wheelchair was in attendance. The individual's physical limitations, coupled with the real world context of Boston's narrow streets, stairs, and old often brick sidewalks, challenged Madeline to invent her tour on the fly. She explains, "It was just very stressful because I kept thinking, okay we can't do this, we can't go in here. I had to restructure the entire tour." She continues, "We had a great time, but on the same token I was constantly trying to think, is this something we can do and between the heat and the hills and the narrowness and everything, it was quite a production."

Discussion

The conclusion that expertise development in docents is cyclical and fluid is represented in the model incorporating Dependence, Growing Independence, and Transcendence. While the model presents a progression from Dependence through Transcendence, it is not a ladder with a final level of expertise to be obtained like those defined by expert's ability to develop skills. Dreyfus and Dreyfus' (1986) Skills Acquisition Model suggests that individuals learn through practice and develop skills progressively from novice to expert. Benner (1984) suggests a similar skill acquisition model based on the embedded knowledge found in the practice of clinical nurses.

The models of Dreyfus and Dreyfus (1986) and Benner (1984) examine how expert skills are developed; the Cyclical Model of Expertise Development addresses the nature of expertise in context and what happens after an individual reaches an expert level. I assert that models that focus on skill attainment fit within the phases of my model. What Dreyfus and Dreyfus (1986) fail to incorporate and Benner (1984) fails to develop is the impact of context on the process of expertise development. Content, as well as the audience and physical context is critical to the develop expertise. The nature of previous studies of expertise, although useful in illustrating processes such as medical-judgment tasks (Camerer & Johnson, 1991) it does little to demonstrate the fluid nature of docent expertise. Skill development models indicate only an upward progression from novice to expert. Dreyfus and Dreyfus (1986) and Benner (1984) concentrate on skills that can be performed automatically and through intuition, such as flying a plane or playing chess, but not all expertise involves such skills, or such consistency in context. The focus is on expert performance rather than expertise and a clear distinction needs to be made between the two. With an emphasis on rules, such studies lack consideration for the impact of content knowledge on expertise development. The focus is on skills, practice, or performance, and as a result the impact of context change on content knowledge is ignored. In fact, Dreyfus and Dreyfus (1986) characterize expertise as "knowing how" not "knowing that," and as a result models such as theirs provide only one angle of examining the development of experts.

Additionally, Glaser and Chi (1988b) state that in a domain of knowledge which an expert does not specialize they behave as novices. Camerer and Johnson (1991) found that when cognitive abilities are poorly matched to environmental demands experts fail. In complex environments with dynamically changing context it can be difficult to make predictions and decisions, and may account in some part for inferior performance and decision making on the part of experts. This same idea holds true for individuals in other professions or areas of expertise. For example, in a study of expert nurse practitioners (Daley, 2002) a nurse identified as an expert, had expertise in gerontology. When the context dictated an understanding of gynecology she was dependent on OB-GYN nurse practitioners in her clinic to gain the necessary knowledge and skills to meet the contextual demands of her situation. Other examples can be found in literature related to master teachers and their classroom expertise. In a study of novice, advanced beginner, and expert teachers, teachers identified as expert express concern over their ability to perform well in a laboratory setting versus their own classrooms (Berliner 1992). When the context they were familiar with, specifically the classroom dynamics, relationships with students, understanding of students' abilities and a routine were altered by the researchers, the expert teachers' performance suffered. Berliner (1992) noted that the study, "had taken away the particular context in which these pedagogues had learned to excel" (p. 45).

Like Bereiter and Scardamalia (1993) who pose that expertise is a process and not a state, the model I propose accounts for both forward and backward movement, illustrating the fluidity of expertise. This fluidity is central to

the process and demonstrates the influence of context and dynamic nature of expertise. Novice and experienced alike move between phases and are found in Dependence if the context or situation dictates. In the case of this population, an individual cannot just adapt to a change in context using intuition as is suggested by Dreyfus and Dreyfus (1979; 1986). Nor can they simply rely upon "enormous background experience" (Benner, 1984) to address a new context; instead an individual must re-develop. Furthermore, when all aspects of docent expertise are present there is an indication that momentum plays a role in an individual's ability to move through phases quickly. The amount of experience and competencies retained after experiencing a shift in context, as well as opportunities for application aid re-development and expedite movement through the phases. This acceleration is supported by Glaser and Chi (1988a) who found that experts are fast and faster than novices at performing the skills of their domain.

Recommendations and Conclusions

This research illuminates some critical issues to consider and address, and there are implications for both practice and scholarship. Due to limited space available here, some preliminary implications are addressed. Museums, similar cultural institutions, and other organizations that rely heavily on volunteers should cultivate a means of developing volunteer expertise that could be added to existing training and programming. Paid staff can connect learning processes, such as those defined in each phase of the development model to the work of volunteers, thus creating situations that foster and inspire the volunteer, sustain the volunteer-organization relationship, and encourage personal growth. For example, those at Dependence would benefit from a structured mentoring program. In this phase an individual can observe others experienced in the necessary skills, and who is able to demonstrate strategies and offer resources and materials to support the learning process. Additionally, organizations with space and resources can establish a loaning library, knowledge management system, and professional development for those seeking new content knowledge necessary for their work. At Growing Independence implementation of critical reflection through the use of journals, Intranets, self-evaluation forms, peer meetings, and opportunities to discuss their work with managers and mentors can create an environment which encourages experimentation and fosters exploration, leading to Transcendence. At Transcendence, individuals can contribute to the organization while simultaneously benefiting from facilitating training and learning opportunities for others and designing original content and application. Such experiences support self-directed learning and continued personal growth and commitment to the organization, while at the same time serving the needs of others. Utilizing those in this phase also serves to encourage a move beyond comfort zones, putting a person into a context she or he has yet to master.

In the case of the docents in this study, by learning through designing, teaching and working with their peers, expert docents often enter a new context. They willingly take on content, formats, or audiences in the process of developing new tours and programs, thus moving them back to Dependence but with greater confidence and understanding of their work. For example, at Boston By Foot Madeline could have just continued giving tours she had mastered, but instead, she took on the responsibility of designing and training her peers for a tour of literary landmarks and Boston authors. By doing so, she voluntarily moved out of Transcendence and back to Dependence as she gained new knowledge, developed new content, and worked to create a format and presentation that would work for himself or herself, other docents, and visitors.

The model that emerged from this study is also a valuable tool for those responsible for training, development, and continuing education in a variety of fields where experts move from one realm of a profession or practice and into another, including the medical field, law enforcement, and education. It has implications for human resources and organizational development professionals and those responsible for hiring. The model indicates that even seasoned professionals need time to reach a Transcendence phase when faced with new contextual changes and HROD professionals need to take that into consideration when evaluating and assessing the work of employees.

With this study serving as a foundation for further research investigating the nature of expertise, it is important for researchers to continue to expand on these findings and conclusions and critically examine the Cyclical Model of Expertise presented here. Doing so will not only benefit museums and docents, but those in a variety of professions and disciplines. In particular, teacher education, nursing, and business programs should address the role of expertise and consider the integration of the previous models of expert skills acquisition with models of expertise development. By doing, scholars can more accurately determine their application involving individuals in the workplace and organizations. In the course of this study one of the participants described her development by stating she went, "From fear to comfort." Scholars and practitioners need to work together to identify and create opportunities where individuals whether volunteer or employee, can gain knowledge, develop skills, and grow in their work to such an extent that expertise can be attained within the realities of a multi-contextual workplace.

The purpose of this study was to contribute to the area of expertise within the fields of HROD and adult education by formally examining the development of expertise and the multidimensional forces at work in the

process. This study of museum volunteer docents establishes a foundation for recognizing the cyclical nature of expertise development and the impact of the content, context, and audience on the process. Two areas comprised the focus of this research: (1) the process of expertise development, and (2) the factors influencing the development of expertise.

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