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"The Focus Came in Handy for Me Too": Exploring Accessibility Learning and Identity Formation in a Web Development Course

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Abstract: In this paper, we explore learners' knowledge acquisition as it relates to accessibility-related identity formation. Utilizing Nasir's work on learning, identity, and goals as our conceptual framework, we analyze students' reflective responses to describe how learning about accessibility through implementation goals helps them foster identities as accessibility users, and how cultivating these identities helps further their understanding of web accessibility.

Introduction

Imagining themselves as the typical users of their sites, students center their own experience navigating a site and "if the design works for them, they conclude that it will work for everyone" (Rosmaita, 2006, p. 278). Thus, what happens when students are asked to implement accessibility that improve their own experience navigating the site?

Conceptual framework

Nasir (2002) explains how learning, identity, and goals are intertwined such that one creates the other and vice versa. She writes: "As members of communities of practice experience changing (more engaged) identities, they come to learn new skills and bodies of knowledge, facilitating new ways of participating, which in turn, helps to create new identities relative to their community" (p. 239). Through this relationship, while "new skills support the construction of [a] more engaged identity" (p. 240), a stronger identification encourages further learning by "prompting [community of] practice participants to seek out and gain the new skills they need to participate in their practice more effectively" (p. 240). Just as learning and identity help create each other, goals help create learning and identity, and vice versa (Nasir, 2002, p. 240).

Data and analytical approach

The responses for our content analysis were selected from a broader corpus (N=28) and are representative of students' described experiences implementing and testing accessibility features for their website. Namely, students were asked to implement three main accessibility features or behaviours: 1) ensuring their site was navigable using a keyboard only, 2) ensuring toggling behavior was screen-reader friendly, and 3) ensuring their site properly implemented the change of focus required for a modal box. Students also had the option to implement an extra credit feature that allowed the 'Escape' key to trigger the closing of a modal while preserving the appropriate keyboard focus and were asked to state in their written responses if they had implemented the extra credit option. In addition, students wrote responses to the following prompts: "Reflect on the work that went into making your website accessible. Was it a lot of additional work? What was the most challenging part? Do you think that designing for accessibility also improves the usability of the site for all users? Why or why not?"

Accessibility learning and identity formation

As students learn about accessibility through related implementation goals, they are enabled to recognize how *they* are beneficiaries of accessibility. In recognizing themselves as users of accessibility, students are motivated to learn the skills necessary to achieve more advanced accessibility goals and thus benefit from accessibility even further. Using the term *accessibility user* to describe any user who uses accessibility features or otherwise benefits from web accessibility, we present the analysis of two student responses to describe how students develop and cultivate 'accessibility user' identities, and how that cultivation helps further their understanding of the topic. We chose the responses of these students because they incorporated examples from their personal experiences navigating their sites, while also providing the most in-depth responses to the reflection prompts.

Student A

As they work towards achieving the goal of implementing "press Enter to submit a post", Student A learns that this common website behaviour they have come to *expect* is indeed an accessibility feature, and they recognize the importance of the assignment's goal in their learning: "if not for the accessibility requirements I wouldn't have gone through the pain of implementing it." In this process, the student begins to develop their own identity as an accessibility user noting "[i]t would be pretty annoying" to not be able to take advantage of the conveniences

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afforded by accessibility features. This identity formation helps them develop a deeper understanding of why accessibility matters: because it "improves the experience for users in general." With this understanding, the student is motivated to gain the skills necessary and "read *many* [emphasis in original] StackOverflow posts" to accomplish the accessibility goal of having a keyboard navigable site.

Student B

As Student B works toward the goal of testing their site's keyboard navigation, they recognize the convenience of being able to navigate a site using one's keyboard and *chose* to continue making use of the feature, thus cultivating their identity as an accessibility user: "in the end, I was using my keyboard to move around the page a lot anyway! The focus came in handy for me too." Their use of "anyway!" suggests that they felt the work put into the task paid off immediately and surprisingly, as they found their own navigation of the site to be improved with the accessibility feature. Like Student A, Student B's progress toward the implementation goal served as a motivator to further their learning about web accessibility as they "had a few strange bugs come up for a while" and had to work on debugging. They argue that despite their difficulty in resolving the bugs and the additional time spent doing so, the task itself was doable: "These definitely did take some additional thought and work to figure out, but overall, it absolutely was achievable, as demonstrated by my final product." By highlighting the evidence of their successful implementation, Student B demonstrates a sense of pride in their accomplishment.

Student C

Like Student B, Student C develops their identity as an accessibility user through the implementing and in particular, the testing, of their site since they *choose* to continue using keyboard navigation to "work with" their site because they found doing so "easier". Rather than be discouraged by the difficulty of implementing the task, Student C is optimistic about it becoming less difficult with more practice: "I'm sure if I developed that as a habit it'd be easier, but it did take some effort this time around." In fact, despite "quite a bit of additional work to get keyboard navigation to work properly," the student pursued a more advanced goal of implementing the extra credit feature, deepening their learning of accessibility. Furthermore, when they describe how another accessibility feature can benefit users in a non-disability related context: "I think all users can benefit from things like alt text (i.e., your browser might be slow one day and images don't load properly)", they plant the seed for deepening their own identity as an accessibility user the next time they find themselves relying on alt text due to something like a slow Internet connection.

Discussion

Finding ways to engage and deepen students' identity as users and beneficiaries of accessibility is crucial for helping students to sustain and improve their accessibility practices. In learning about web accessibility, students are enabled to foment their identities as users of accessibility, and as a result, are encouraged to continue their acquisition of knowledge and skills that will allow them to engage more deeply with this identity. As students acquire the skills necessary to pursue additional and more advanced accessibility goals, they deepen their learning and 'accessibility user' identities. While student identities as accessibility users are not a replacement for learning from and working with disabled users, our goal is to initiate a conversation on accessibility learning and identity formation. It is our hope that this early exploration motivates further work on these topics as a means of improving how accessibility is talked about, taught/learned, and implemented.

References

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