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What Leaders in Industry and Academia Think About Technical Communication Training and Education

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Rebekka Andersen, PhD, and Carlos Evia, PhD

We highlight preliminary results of a multi-staged, multi-year research project that examines the skills that students and early-career practitioners need to lead and innovate in the changing profession of technical communication. Strong technical writing skills are still important, but professionals in the 21st century rarely can build and sustain a career on them alone. We report on skills and competencies that in the contemporary workplace are as important as the more traditional skills in rhetorical analysis, writing, and design associated with the discipline.

Introduction

Several trade and scholarly publications have offered preliminary assessments of skills and competencies expected of technical communication students and early-career practitioners (see Andersen, 2014; Batova & Andersen, 2018; Bailie & Urbina, 2013; Dicks, 2009; Evia, 2018; Evia & Andersen, 2018; Evia et. al, 2015; Rockley & Cooper, 2012). Following those conversations, we decided to conduct a study with the goal of developing strategies for preparing students and early-career professionals to conduct meaningful knowledge work in the changing profession. As part of that study, we have been conducting workshops at conferences (2 as of this writing) and interviews (25 thus far) with industry leaders and university administrators and educators. Preliminary findings from our workshops and interviews point to needed changes for technical communication education at various levels, from degree-granting undergraduate programs to certificate programs to industry onboarding practices.

In this paper, we share what we have learned from our interviews to date. In future publications, we plan to address implications of the results of our larger research project for students and early-career professionals, as well as for hiring managers, educators, and trainers.

Methods

To advance from informal conversations to properly documented evidence, we designed a multi-stage, multi-year research project. We are gathering qualitative and quantitative data that will help technical communicators understand current career paths and challenges in the profession. Our project is guided by the following question:

What can industry leaders, university administrators, educators, and recent graduates contribute to the development of curricula that prepare students to be leaders and innovators in the rapidly changing profession of technical communication? (Evia & Andersen, 2018).

We ventured out to study the skills and competencies that students need after graduating from college. We started the project by organizing workshops with industry leaders and university administrators and educators (stage 1).

So far, we have conducted two workshops:

- At the Association for Computing Machinery Special Interest Group on Design of Communication (ACM SIGDOC) conference in August 2017 (28 participants—mostly from academia)
- At the Best Practices conference of the Center for Information-Development Management in September 2017 (15 participants—the majority of them from industry at a managerial level).

Based on input collected at the workshops, we created a series of interview questions and have been talking via video chat applications with individuals identified as leaders and innovators in the academic and workplace facets of technical communication. As of this writing, we have talked to 25 experts and plan to conduct 10 additional interviews in the late spring and early summer of 2019 (stage 2).

Thus far, the interviews represent the opinions of fourteen workplace experts (8 male and 6 female) and eleven academic experts (8 female and 3 male). Of the workplace experts, five also have an active presence as educators or college-level instructors. From the academic experts, eight are currently in administrative positions as directors or deans.

For the third stage of the project, we plan to conduct a series of interviews with recent alumni from undergraduate programs in technical communication who are now working full time in areas related to the discipline. We want to learn about their experiences applying for jobs in the field and the extent to which their undergraduate training prepared them for particular content roles and activities in their current organizations. The final stage of this project will include a survey of industry professionals and a survey of administrators, educators, and researchers.

Preliminary Results

At a high level, we are asking each interview participant the following core questions:

- What does it mean to be a technical communicator today?
- How do you see technical communicator roles and activities changing? At the entry level? At the advanced level?
- How do you see hiring needs changing, particularly at the entry level and particularly for content-focused jobs?
- What do you see as implications of changing roles and hiring needs for education in technical communication?
- What should be covered at the technical writing 101 level today?

Based on an initial round of structural coding of transcripts, we have identified several themes in response to our research questions. We highlight these themes below. After completing all interviews, we will conduct a more extensive analysis of the transcripts.

Changing Roles and Activities of Today's Technical Communicator

When asked what it means to be a technical communicator today and how roles and activities are changing, participants talked mostly about the following two topics:

- The different kinds of products that technical communicators now produce. Writers now are not just writing books. They are writing structured content for reuse and multi-channel publishing, scripts for videos, conversational content for chatbots, and much more. This is a type of writing that requires a good understanding of how to categorize and tag information so that people can find it. One workplace expert suggested that technical communicators produce what she defined as "human usable contextualized data."
- The many *hats* that technical communicators must wear. They are seldom just writers anymore; they assume many roles such as information architect or taxonomist and engage in a wide range of activities. One workplace expert commented that years ago there were specialty roles like editors, graphic artists, and instructional designers; now, these roles are often merged together.

Technical communicators still write and must be excellent communicators, but because they now produce many different kinds of products supported by increasingly complex, technical processes and tools, they need more technical knowledge and know-how than was once required. The chair of a department of communication that offers a BS and BA in technical communication summed up the need for technical knowledge and skills in this way:

> I don't think many roles today will allow you to not be technically savvy, so even though you may not be the developer and you may not be writing the code that goes into the software product, you have to know enough technically about the product that's being created in order to be able to talk to the developers. I think frankly the way we're delivering information means you have to know enough about the back-end of how information is transmitted, collected. So, I'm thinking about things like structured authoring or the fact that you might need to know enough about building websites so that you can be the person who puts the information that customers are going to need. You build the website. Maybe you're not dealing with the SQL server and whatever else, but you know enough HTML and CSS to at least present information.

To keep up with the profession, noted several workplace experts, technical communicators have to understand a considerable amount of technological

applications and workflows that communicators and writers in other professions do not have to understand.

Changing Hiring Needs

According to all of our workshop participants and interviewees, strong written and oral communication skills, as well as interviewing skills, are as important as ever. But organizations hiring for entry-level technical communication positions are increasingly looking for additional skills and qualities that align with their current or anticipated content development environments. Most participants noted that organizations need people who are not afraid to learn new tools and processes, who can get up to speed on a project quickly, and who are curious and adaptable.

Workplace experts particularly emphasized changing expectations regarding tool familiarity. Many organizations now expect people applying for entry-level positions to have exposure to structured authoring and have the ability use the right tools, whatever they are, to create well-written, well-structured content. When asked how technical communicators can move into more strategic roles in their organizations, many of these experts noted how it is not realistic for students to be hired into more advanced positions. More strategic roles require substantial technical expertise, or an in-depth understanding of business goals, processes, and content needs, or in-depth understanding of the product lifecycle, or advanced audience analysis skills (i.e., the ability collect data on and analyze different markets, demographics, and experiences).

Despite their recognition that hiring needs are changing, some academic and workplace experts commented on the wide variety of skills and tool knowledge that they have noticed in job descriptions, from proficiency in Microsoft Word and strong writing skills as preferred qualifications to the more advanced business, technical, and content strategy skills discussed above. The range suggests that many organizations still produce traditional technical products using traditional desktop publishing tools, and there remains a need for writers who use tools for producing unstructured content.

Implications of Changing Roles and Hiring Needs for Education in Technical Communication

Some implications that participants tended to discuss frequently focused on the need for academic programs to be aware of industry trends, if not be responsive to them, and direct students to resources for learning about those trends. Both workplace and academic experts touched on the need for programs to require technical courses as part of their technical communication curricula. And more than half stressed the need for students to understand the importance of separating content from form and be familiar with at least some processes, tools, and standards for doing this.

One academic spoke on the importance of viewing the technical communication curriculum as a dynamic product. An important implication of all the changes in the profession, she suggested, is that programs need to think about the lifespan of individual course offerings and be ready to redevelop courses in response to changing technology and business needs.

To prepare students to become leaders and innovators in the profession, workplace and academic participants commented on the need for programs to encourage academic minors and electives in business and leadership as well as a technology-focused discipline, such as computer science. Many workplace experts spoke of the need for programs to prepare students for working in business environments, to focus more on business processes, agile development, and product lifecycles. One academic expert touched on this as well: When alumni of her program were asked the question, “What were you least prepared for,” they talked most about the business context and technical knowledge.

Workplace experts also tended to talk about the need for professionals who can lead content reuse and integration initiatives. One prominent consultant noted that many organizations are hiring people with library science degrees to categorize and tag content, a skill set that she suggested students in technical communication should be developing as part of their curriculum. Hiring managers, she claimed, should not have look elsewhere for this type of skill. Several other consultants felt that technical and content standards, taxonomy development, and semantics should be central to any training program.

Reflecting some agreement between the workplace and academia sides of the field, some of our faculty interviewees talked about curricular changes responding to trends and changes that most of our industry experts emphasized. Some academic programs are rebranding to focus more on user experience, content management, or project management

and less on the aspects of writing and rhetoric that most technical communication programs housed in English departments in the United States have traditionally embraced.

Perspectives on What Should Be Covered at Technical Writing 101 Level Today

In our workshops, participants told us that regardless of what roles and titles become in the future, technical communicators need to be skilled in *technical writing 101*: the fundamentals required to start in the profession. But when we asked what should be covered at this level, we received very different answers. Therefore, we decided to explore that concept in our interviews and ask our participants about the technical writing 101 level. Some of the opinions we have gathered focus on the following two sets of skills and competencies:

- Traditional skills. Write clear and concise prose, collect and analyze primary data, use that data to demonstrate or argue a particular value or case, have strong interpersonal and collaboration skills, use proper style and grammar.
- Competencies that reflect changes in the profession. Study contemporary approaches to organizing information, learn how to structure and tag content for reuse and multiple use in different deliverables and platforms, implement principles of minimalism.

An industry expert summarizes the technical writing 101 level in the following sentence: “At the most fundamental level, you need to understand what you’re trying to do and how you’re trying to communicate.”

Preliminary Conclusion

The future of education in technical communication depends on the extent to which the discipline is able to reflect on the changing profession and adapt its educational goals accordingly. The need for effective writing skills across disciplines and professions will certainly not go away; however, to lead and innovate in the profession, one now needs technical and business knowledge and skills in addition to the more traditional humanities-based skills in rhetorical analysis, writing, and visual design.

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