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Extended Abstract: Engineering Technical Communication Programs: A Change in Writing Instruction

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Abstract - This research project examines the Engineering or Technical Communication Programs (ECP/TCP) from the SCHEV peer institutions that are either housed in an engineering department or exclusively serve engineering students. Over half a dozen interviews were conducted with ECP/TCP directors and faculty to glean insights into how the programs function, how engineering students are being prepared for the communication aspects of their engineering careers; how universities support their engineering ECPs/TCPs via space, personnel, and budget; and the kinds of resources and instructions that engineering TCPs offer their students. The preliminary results of this research show that universities are hiring for ECP/TCP largely at instructor or lecturer level, and each program is created based on the specific needs of the engineering department(s) and students. Based on these findings, I argue that, as a field, we need to broker conversations with engineering departments to negotiate hiring for these positions at a higher-level for various reasons. I also recommend extending this research beyond the SCHEV institution peer list to include all national ECPs/TCPs to gain a broader and more conclusive mapping of these programs.

Index Terms - ECP, Engineering communication, TCP, Technical communication program

INTRODUCTION

In many US institutions, engineering departments have hired in-house writing professionals with communication or writing studies backgrounds to teach engineering writing/communication courses and run Engineering Communication Programs (ECP) or Technical Communication Programs (TCP) that specifically service engineering departments and students. And while this isn't necessarily a new trend, it is one that has proliferated in recent years. This study aims to collect data on institutions that fund in-house ECPs/TCPs and writing specialists in engineering departments to gain insights into the kind of personnel, space, budget, courses, and resources offered by the programs.

While scholars in the field have not focused much on ECPs/TCPs housed inside or exclusively serving engineering departments, much research has been conducted on the degree to which writing instructors can offer valuable writing instruction to engineering students when the writing instructors lack an engineering background. One scholar in technical communication argues that writing instructors who lack engineering writing experience can "serve only as novice readers" [1]. However, other scholars argue that writing instructors are able to mitigate their lack of specific engineering writing experience by focusing on the structure and style of the writing itself rather than the technical content (the technical content would fall within the purview of an engineering faculty mentor) [2] [3]. In other words, engineering students need both writing instruction and technical instruction to become successful engineering communicators, requiring both fields of expertise during their tenure at college.

This study analyzes ECPs and TCPs from The State Council of Higher Education for Virginia (SCHEV) list to examine how engineering departments provide writing expertise for engineering students through either in-house ECPs/TCPs or faculty with communication or writing studies backgrounds. By examining engineering TCPs at SCHEV peer institutions we can glean insights into how engineering students are being prepared for the communication aspects of their engineering careers; how universities support their engineering TCPs via space, personnel, and budget; and the kinds of resources and instructions that engineering TCPs offer their students. This information will offer valuable insights and advice for future developments of engineering TCP, especially given that engineering TCPs are a growing trend in engineering departments and colleges.

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METHODS

The selection process for this research was guided by The State Council of Higher Education for Virginia's (SCHEV) peer institute list for Virginia Tech. The list is determined "through a series of analyses and negotiations" that "approves a group of peers comparable to each Virginia college and university" [4]. The criteria for the list includes "enrollments, academic program offerings and degrees awarded, research funding, and the classification of institutions of higher education developed by the Carnegie Commission on Higher Education" [4]. Based on these criteria, SCHEV approved 25 peer institutions as comparable to Virginia Tech.

From this list, I first searched each peer institute to determine if the university supported any kind of program that was specific to engineering communication. For instance, a university could support an Engineering Communication Program (ECP) or a Technical Communication Program (TCP) that was housed in an engineering department or specifically served an engineering program(s).

Secondly, I searched for communication coursework or resources that served a specific engineering program(s) or department(s), but operated independent from an ECP or a TCP. In other words, the communication coursework and resources needed to be offered by a faculty member housed inside of an engineering department, although not necessarily a department that supported a specific ECP or TCP. This type of engineering communication support was categorized as "other" since their pedagogical services were not tied to an ECP or a TCP, but the communication faculty were nonetheless housed in an engineering department.

For this study, I define communication as any educational work (be it coursework, workshops, resources, or other) imparted exclusively to engineering students that provides knowledge and guidance about writing, public speaking, and presentations.

From the 26 SCHEV peer institutes, there were 7 ECPs, 2 TCPs, and 4 "other" across 10 universities. The "other" category covered engineering departments that did not have an official ECP or TCP, but provided communication resources to their engineering students in other ways. For my role, I am a TCP director in a mechanical engineering (ME) department, and the resources I provide are primarily for ME undergraduate students; my program is included the interview data.

I requested virtual interviews with the 12 remaining eligible ECPs/TCP directors (not including my own program). Out of those 12 requests, 7 faculty granted an interview, and 5 faculty never responded to my request.

RESULTS

The results of this research are preliminary; however, there were several patterns that emerged from the interviews conducted thus far:

1) There were no tenured positions in any official engineering or technical communication program that exclusively served engineering students (one of the "other" categories was a communication toolbox, which a tenured engineering professor created for engineering students).
2) Except for the tenured engineering professor, there was only one TCP director who held a non-tenure-track (NTT) assistant professor position; all other ECP/TCP directors and faculty were at instructor or lecturer level.
3) While the data set is perhaps too small to glean any substantial programmatic patterns, the ECP/TCPs that I examined fell under 4 different categories based on their shared attributes:
    a. Were an official ECP or TCP that was housed *inside* an engineering department and provided one or more engineering communication courses to the engineering student body from one specific engineering department and program.
    b. Were an official ECP or TCP that was housed *outside* of an engineering department and provided one or more engineering communication courses to the engineering student body from one or more engineering department(s) and program(s).
    c. Were a faculty member of a specific engineering program/department *without an official ECP or TCP* and supplied one or more communication courses to engineering student body from one engineering department and program.
    d. Were a faculty member outside of any engineering department/program and *without an official ECP or TCP* that supplies communication courses to engineering student bodies from one or more engineering department(s) and program(s).

CONCLUSION/DISCUSSION

Perhaps the biggest conclusion drawn from my research thus far is that there is no standardized way to create or maintain an ECP/TCP that is either housed in an engineering department or exclusively serves engineering students. The programs are created based on specific institution or department needs, and any changes that are made are often done so in response to external factors, such as decrease/increase enrollment or requests from administrators.

One potential area that we, as a field, may want to focus on is the hiring level for the ECP/TCP directors and faculty. While tenure-track positions may not be possible at the moment, engaging in conversations that promote hiring at NTT professorship levels are. Hiring these positions at a professorship level as equivalent to TT as possible will

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increase the quality of work, the quality of pedagogy, and the optics of the program to both colleagues and engineering students (and the optics when compared to other institutions with similar comm programs). Can there be a path for these positions to be TT someday? Perhaps, but starting with something more attainable in the current state is a more effective, and attainable, place to start.

Lastly, as a first step in this research, I examined ECPs/TCPs from the SCHEV peer institution list; however, there are many more ECPs/TCPs that could and should be evaluated for a more comprehensive understanding of these kinds of programs. Future work includes a more substantial survey of national ECPs or TCPs housed in engineering departments or faculty that provide communication education exclusively to engineering dept/programs—this work will start with a survey and extend to interviews as interest is indicated in the survey.

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About the Author

Kelly Scarff is a Collegiate Assistant Professor in Virginia Tech's Mechanical Engineering Department where she teaches communication courses and directs the department's Technical Communication Program.

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