

Contemplating Quality: Conceptions of an Engineering Education PhD Program Director [Work-in-Progress]

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Abstract

This work in progress paper explores conceptions of engineering education PhD program quality as understood through a qualitative analysis of data collected from the multifaceted experiences of a single program director.

Introduction

Doctor of Philosophy (PhD) degree programs occupy the apex of the academic hierarchy largely because graduates are required to extend the bounds of existing knowledge¹. In the recent doctoral discipline of engineering education, students are prepared to conduct effective educational research in the areas of engineering curriculum, pedagogy, assessment, and faculty development” among other topics². The educational context of doctoral research programs results in sources of influence dispersed across a spectrum of institutional and national leaders; these stakeholders control entry into PhD programs; the process of one-on-one doctoral training; publication outlets; career development; and research funding³. Our study examines the conceptions of AK [participant-selected pseudonym], an engineering education PhD program director whose portfolio, as s/he describes it, has “a lot to do with dealing with students and issues around students”. Though Pruitt-Logan and Isaac contend that the course of a student’s doctoral studies may be influenced by several stakeholders, we learn from AK, the sole participant of this study, that program directors play a significant role in students’ development. From the overarching view of a program leader, we examine these and other conceptions of engineering education PhD program quality.

Quality in Engineering Education PhD Program

Research into the quality of doctoral-level programs is at an all-time high due to increased attention by national agencies, disciplinary bodies, and higher education stakeholders¹. These calls are the result of several contextual factors, but they have gained a tremendous amount of traction because of the relationship between research doctoral programs and the economy⁴. Nerad provides the analytic lens for this study, as we seek to understand conceptualizations of doctoral quality that exceed “completed dissertations or degrees” and which promote the essence of programmatic “goodness of fit.”⁴

Methodology

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This study constitutes a sub-project which originated from a larger Interpretative Phenomenological Analysis. Notwithstanding its origin, this study employs a generic qualitative research design that most closely aligns with a pragmatic research lens. The use of design elements that avoided any predetermined axiological structure gave rise to procedures that best allowed for the identification and examination of programmatic “goodness” entrenched in the participant’s interview responses.

Emerging Findings

Early understanding from AK’s conceptions indicates that quality in Engineering Education PhD programs involves a myriad of factors. Through these insights, we identify the importance of faculty who understand the organizational culture within their department and wider institution as one such facet of quality. Additionally, AK highlights the need for a shared understanding around the type of intellectual interest and prerequisite skill that competitive admission candidates should possess. To comprehensively grasp these findings there were broader contextual insights which needed also to be examined. One such example would include the understanding that quality is neither clear nor static and is a concept which has the capacity to change with time and taste.

Summary and Conclusions

This study sought to understand how a program director of an engineering education PhD program constructs conceptions of program quality. Here, we learn that the concept of quality is rarely static but at its core focuses on student learning and outcome.

References

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Dr. Benjamin has amassed over a decade of experience in the field of education. Her career spans local and international borders and has included roles in educational research, program administration, higher education accreditation and K-12 teaching. She is the recipient of the Robert Newby Award for Diversity Efforts, the Central Michigan University College of Graduate Studies 2019 Outstanding Dissertation Award, a Central Michigan University Department of Educational Leadership Faculty Endowed Award and is consistently motivated by the distinction of her University of the West Indies Most All-Round Social Policy Student award. Dr Benjamin is a previous New York City Teaching Fellow and a current member of the inaugural American Society for Engineering Education Post-Doctoral E-Fellowship. Through her scholarship, she explores topics related to minoritized student experiences, doctoral education, and engineering education with an educational philosophy that equates quality with equity. Dr Benjamin is committed to transforming educational systems into more inclusive, equitable and just spaces that adequately support learners – particularly, learners who have been historically positioned at the fringes of education – to succeed, excel, and thrive.

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