

Disciplinary Variation in Curriculum Internationalization: Findings from a Global Pilot Study

Pouneh Eftekhari*

Centre for Internationalisation of Education, Campus Fryslân, University of Groningen, The Netherlands

*Corresponding author: p.eftekhari@rug.nl

Address: Centre for Internationalisation of Education, Campus Fryslân, University of Groningen, Wirdumerdijk 34, 8911 CE, Leeuwarden, The Netherlands

Abstract

Top-down strategies for curriculum internationalization (CI) often neglect discipline-specific preferences in content and teaching methods. This limited understanding of how content is prioritized across disciplines makes relying on a single implementation plan impractical. To supplement the few, almost exclusively qualitative, studies on this topic, this pilot study aims to answer the questions: what are the discipline-specific rationales for (non)engagement with CI? and what are the preferred internationalized teaching strategies across disciplines? In this study the relationship between variables about international learning environment and outcomes were tested against Biglan's classification of academic disciplines using Chi-square, Spearman's and Fisher's tests. Preliminary findings of this study show no statistical significance in the relationship between disciplinary groupings and questions about international learning environment and outcomes. The findings of this study imply that the two most-cited frameworks used in CI literature (Biglan and Becher, who builds on Biglan's framework) may result in incomplete or misleading interpretations regarding disciplines' orientations towards internationalization.

Keywords: academic disciplines, curriculum internationalization, internationalization of the curriculum at home (IoCaH)

Introduction

In the global landscape of higher education, the pursuit of internationalization has been a longstanding goal. However, despite its significance, the application of a uniform approach across diverse disciplines has led to the multiple ways curriculum internationalization (CI) takes shape within a single university; from no engagement to internationalizing entire degree programs. This is likely because higher education leaders often prioritize institutional commitment and leadership for internationalization over curriculum and faculty policies in various disciplines (Guneyli et al., 2024). This reality exists because academic disciplinary culture varies across disciplines, which research suggests is quite strong as visible through national and international discipline-specific associations and activities (Becher, 1994), discipline-specific preferences for teaching pedagogies (Neumann et al., 2002), and the prevalence of diverse frameworks for categorizing academic disciplines (see Braxton & Hargens, 1996 and Jones, 2011 for a summary of major frameworks). This reality and the limited literature on the orientation of disciplines towards internationalization is problematic since without a comprehensive understanding of how disciplines prioritize curriculum content, relying solely on a single top-down approach and expecting uniform success becomes unfeasible, potentially resulting in ineffective resource allocation or, at worst, fueling resistance to future internationalization efforts. This pilot study therefore aims to answer the following questions:

1. What are the discipline-specific rationales for (non)engagement with CI?
2. What are the preferred internationalized teaching strategies across disciplines?

Literature Review

Literature about internationalizing teaching and learning (i.e., internationalization of the curriculum, internationalization at home (IaH), international classroom, etc.) is abundant, however few studies focus on the impact of disciplinary culture on this area. When studies do include a disciplinary dimension, they often claim that disciplinary culture matters but do not discuss the issue further (e.g., de Wit & Leask, 2015; Leask & Bridge, 2013; Marantz-Gal & Leask, 2020); aggregate the findings instead of analyzing them according to individual disciplines/disciplinary groups (e.g., Jin & Schneider, 2019; Zahid & Neary, 2023); or focus on just a single discipline rather than comparing findings across disciplines (e.g., there is no cross-case analysis of the disciplinary cases presented in Whitsed & Green's (2015) book). Few comparative studies on CI across several disciplines exist and less than a dozen of these studies disaggregate their findings at the level of disciplinary grouping (e.g., Agnew, 2013; Teshome et al., 2024; Zou et al., 2023), allowing for a comparison across multiple disciplines. These studies all used Biglan or Becher's (who built on Biglan's) classification frameworks for their analyses and investigated the approaches across disciplines typically using a single case (institution) or context (country), mostly from the Anglo-speaking world. All studies concluded that there were indeed variations in the topic of investigation across disciplines.

Theoretical Framework

The findings of this study are analyzed using Biglan's Framework for Classifying Academic Disciplines (henceforth Biglan's framework). Biglan's framework categorizes disciplines based on their orientations towards empirical methods, theoretical knowledge, and practical applications (Biglan, 1973). The groupings are referred to as hard-pure (e.g., mathematics, theoretical physics), hard-applied (e.g., engineering, medicine), soft-pure (e.g., philosophy, anthropology), soft-applied (e.g., psychology, sociology).

This research acknowledges that there are similarities between disciplines (Clifford, 2009; Leask & Bridge, 2013; Whitsed & Green, 2015) which are not considered by Biglan's framework. These include, but are not limited to, the similar ways in which academia operates across contexts, the requirement to "publish or perish," and the emergence of inter-/multi-/trans-/cross-disciplinary fields. Despite its limitations, Biglan's framework remains highly cited and has been validated over time (Jones, 2011; Simpson, 2017). Although a recent study suggests that faculty perceptions of their disciplinary

culture differs from Biglan's original conceptualization (Braught et al., 2024), this study employs Biglan's framework, acknowledging its limitations, to facilitate easier comparison with previous studies on CI.

Methodology

To answer the proposed research questions, a survey with open- and close-ended questions was employed to investigate bachelor-level teachers' conceptualization and practice of curriculum internationalization (CI). The survey consisted of three main sections. The first covered demographic information on educational background, employment context and disciplinary affiliation. The second focused on teaching practices used to develop discipline-specific attitudes, knowledge, and skills. The final section asked specific questions about CI, including five questions about the necessity of student diversity and international/global perspectives in the classroom to achieve course learning outcomes as well as rationales for CI within their discipline (e.g., to improve the quality of education, to prepare students for professional practice, to prepare students for life in an interconnected world). The bachelor's level was selected because it covers fundamental disciplinary knowledge and the limited research on CI across disciplines warranted investigation of both conceptualization as well as practice.

Using snowball sampling, a Qualtrics survey was distributed via email and social media channels, primarily LinkedIn but also X (formerly Twitter). Through these channels, a total of fifty responses were collected and used for this analysis. The responses collected represent an almost even gender distribution (48% male, 52% female) of academics who for the most part hold a terminal degree (64%) from disciplines across all four of Biglan's categories (4% hard-pure, 22% hard-applied, 22% soft pure, 52% soft-applied). The disciplinary distribution is representative of previous findings (e.g., few hard-pure). Previous research on this topic is also limited in terms of geographical contexts therefore there was no geographical focus for this study. The survey yielded responses from five continents (18% Africa, 14% Asia, 4% Australia, 38% Europe, 24% North America, 4% unspecified). There were no responses from Latin America. Considering that disciplines are strong and transcend national borders (Becher, 1994) and that universities around the world are similar types of organizations, this pilot study has validity, and the sample size is appropriate for the purpose of testing the survey questions and format.

Results

The statistical analysis, initially employing a Chi-square test, aimed to examine the relationship between Biglan's 4 groupings (hard-pure, hard-applied, soft-pure, soft-applied) and the responses to five questions about international/global learning environments, education quality, and competence development for functioning in international/global work and society. Due to low cell count, Fisher's exact test was used, yielding statistically non-significant results. To further investigate the relationship between the five questions related to international learning environments and the extent to which they were implemented, Biglan's classification was regrouped into two groups: hard/soft and applied/pure. This new grouping also did not show statistically significant relationships. Since the findings did not show statistically significant relationships, no qualitative data analysis was conducted according to Biglan's groupings. The qualitative data was not analyzed because using the invalidated Biglan framework would result in unreliable findings.

Discussion

The findings of the Fisher's exact test suggest that Biglan's framework (including the modified grouping of hard/soft and applied/pure) may not be the best way to group disciplines in relation to their orientations towards internationalization. This is unexpected since previous studies on internationalization and disciplines have used Biglan's framework or related (e.g., Becher) and concluded there are variations across disciplines. Previous studies were, however, almost exclusively qualitative, which may explain the difference in our findings. Furthermore, each of these studies focused on different topics and samples (e.g., teachers, students, etc.). The departure from previous findings signals the importance of exploring methodological approaches as well as recognizing that our current, albeit limited, understanding of internationalization across disciplines may not fully capture the nuances or complexities across disciplines.

Implications and Conclusion

The findings of this pilot study show non-significant relationships using Biglan's framework to group academic disciplines according to their orientation towards internationalization. This warrants further investigation using more data points to confirm these findings but also new studies exploring alternative ways to group disciplines to better understand their orientation towards internationalization. The importance of a new framework for grouping academic disciplines is critical to research as it would allow the identification of common themes, as well as differences, across disciplines which would not be visible when looking at each discipline in isolation. By identifying new ways to group the disciplines, we can begin to identify statistically significant variables that can explain the rationales behind the level of engagement with CI across disciplines. Identifying these variables is needed to empower university leaders and other key stakeholders to make more informed policy decisions and optimize implementation plans across disciplines. The continued use of Biglan's classification framework to demonstrate disciplinary differences is appropriate, however, these results suggest it is inappropriate for guiding implementation plans. With this in mind, a new global study is being developed to answer similar research questions as well as explore different ways to group academic disciplines.

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POUNEH EFTEKHARI is a PhD candidate at the Centre for Internationalisation of Education, Campus Fryslân, University of Groningen (The Netherlands) alongside her full-time work with internationalization at Lund University (Sweden). Her research focuses on how disciplinary culture blocks or enables curriculum internationalization (CI) and the role of educational developers in CI. Pouneh regularly contributes her expertise and research skills to international organizations and projects as a consultant, trainer, advisory board member, and researcher. Email: p.eftekhari@rug.nl (ORCID ID: 0000-0002-1588-6348)

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