

Instructor approaches to teaching and learning in relation to diversity

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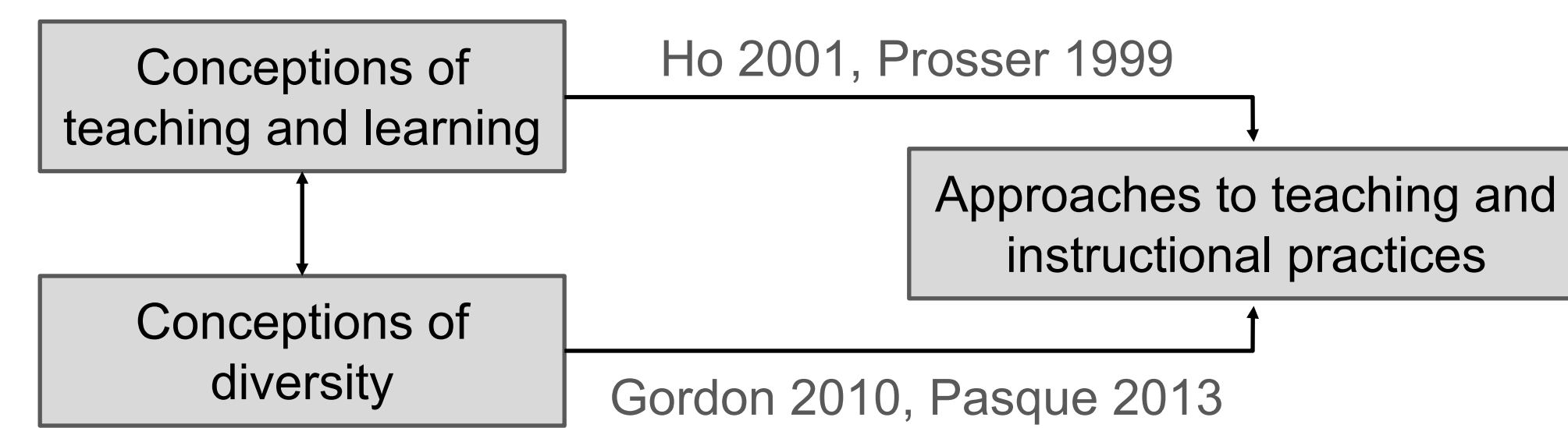
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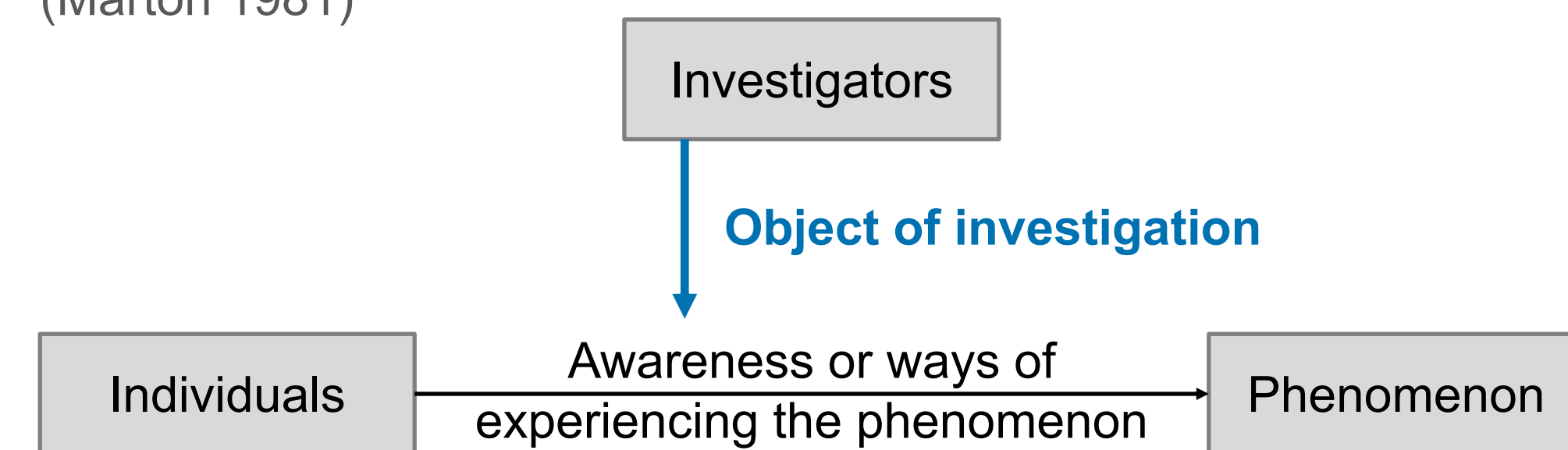
Research questions

How do instructors understand diversity in their classrooms?



Theoretical framework

Phenomenography: Descriptive investigation of the different ways that individuals experience or think about the same phenomenon (Marton 1981)



Methods

Interview questions

- When you hear the word “diversity” in relation to higher education, what comes to mind? Are there other words that your campus or department use to describe ideas related to diversity?
- Does student diversity influence your teaching? Does student diversity influence how your students learn?
- What do students who excel in your course or discipline have in common? What do students who are struggling have in common?

Data analysis

- Interviews (n = 30) conducted with three populations of current and future faculty in various NIH- and NSF-funded projects*
- Transcribed and analyzed using grounded theory with open, axial, and selective coding (Corbin 2015)

5 aspects that vary across conceptions

Aspect	Description
Diversity	Features of student diversity that instructors recognize
Instructor mindset	Instructors' underlying belief of student intelligence
Legitimized membership in higher education	How instructors position students within higher education
Teaching	How diversity impacts instructors' approaches to teaching
Learning	How diversity impacts instructors' approaches to learning

Legitimized membership

Conception	Definition	Excerpt
Type I	Newcomer	“Because at the beginning I would just (...) give a midterm and then I would say, “Oh my God. We did all these problems and lectures, how come they don't know how to do this? ” Because the first expectations when you teach is everything you say, students should know how to do. And I tell them when I teach, “Everything I say, I assume you know how to do. If you don't, you're not doing the minimum. ”
Type II	Guest-Host	“Very often they might have kind of reading difficulties, but I feel that it's a great thing trying to prepare them for the inevitable load of reading that they will be confronted with during their, kind of like, four or ten years in college. Giving them some tools that might help them at the start of that journey is great.”
Type III	Rightful Presence	“I felt it was important to invite the students into the exploration process and to make them feel like they could be experts about some piece of it. (...) there's so much about the discourse of academic English and the discourse of higher ed that is still couched in a really waspy, white way. And if we presume that's the only knowledge to value and the only way people will display or perform knowledge, then we're cutting people out automatically who don't want to present that way or don't want to speak that way. ”

Summary: Distinct conceptions of diversity

In phenomenography, the ways of experiencing a phenomenon are arranged into an outcome space with specific aspects that describe the phenomenon, as well as the variations within these aspects that define the experiences (Marton 1997, 2004)

Aspect	Type 1	Type 2	Type 3
Diversity	Demographics	Ideologies, abilities, & perspectives	Lived Experiences
Instructor Mindset	Fixed	Growth Deficit	Growth Asset
Legitimized membership	Newcomer	Guest-Host	Rightful Presence
Teaching	Equality	Accommodation	Intentional Implementation
Learning	Irrelevant or Impediment	Strengths & Weaknesses	Reciprocity

Thought questions

- What are some fundamental differences that you notice between the three conceptions for each aspect, e.g. newcomer vs. rightful presence in legitimized membership?
- How would you name the three types of conceptions of diversity (instead of Type I, Type II, and Type III)?
- Would you expect an individual's conception to be consistent across the aspects? Or can an individual hold e.g. a Type II conception about teaching practice and a Type III conception about student learning?

Comments

Please leave any comments or questions you may have. Thank you!

References: Corbin J, Strauss, A (2015) Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. (4th edition). Thousand Oaks CA: SAGE Publications. | Gordon S, Reid A, Petocz P (2010) Educators' conceptions of student diversity in their classes. Studies in Higher Education, 35: 961-974. | Ho A, Watkins D, Kelly M (2001) The conceptual change approach to improving teaching and learning: An evaluation of a Hong Kong staff development programme. Higher Education 42: 143-169. | Marton F (1981) Phenomenography: Describing conceptions of the world around us. Instructional science 10: 177-200. | Marton F, Booth S (1997) Learning and Awareness. Mahwah NJ: Lawrence Erlbaum Associates. | Marton F, Tsui ABM (2004) Classroom Discourse and the Space of Learning. Mahwah NJ: Lawrence Erlbaum Associates. | Pasque PA, Chesler MA, Charbeneau J, Carlson C (2013) Pedagogical approaches to student racial conflict in the classroom. Journal of Diversity in Higher Education 6: 1-16. | Prosser M, Trigwell K (1999) Understanding Learning and Teaching: The Experience in Higher Education. Buckingham: Society for Research into Higher Education and Open University Press.

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