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Pragmatic Research on Educational Practice *

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Abstract

During a round table discussion at a collegial conference on teaching and learning, a focus group with 12 teachers from a technical university discuss challenges with studying their own teaching practice. Furthermore, a concept called PREP – Pragmatic Research on Educational Practice, with the goal of engaging engineering educators in studying, documenting, and sharing their initiatives to improve teaching practices, is introduced and discussed. Among the main obstacles to researching their own teaching practice, the participants pointed to a lack of time, know-how, and motivation. They expressed that there is potential in the collegial part of PREP and the time efficiency of using what can be studied during a course. The role of PREP studies, in relation to regular educational research, is also discussed, and that PREP may be perceived as a devaluation of educational science was problematized. Some participants felt that it was very likely that they would participate in a PREP group next academic year if given the opportunity.

Sammanfattning

Under ett rundabordssamtal på en kollegial konferens om undervisning och lärande diskuterar en fokusgrupp, med 12 lärare från ett tekniskt universitet, utmaningar med att studera sin egen pedagogiska praktik. Vidare introduceras och diskuteras ett koncept kallat PREP – Pragmatic Research on Educational Practice, med målet att engagera ingenjörsutbildare i att studera, dokumentera och dela med sig av sina initiativ för att förbättra undervisningsmetoderna. Bland de största hindren för att beforska sin egen undervisningspraktik pekade deltagarna på brist på tid, kunnskap och motivation. De uttryckte att det finns potential i den kollegiala delen av PREP och i tidseffektiviteten att använda det som kan studeras under en kurs. PREP-studiernas roll, i förhållande till vanlig utbildningsforskning, diskuteras också och att PREP kan uppfattas som en devalvering av utbildningsvetenskapen problematiserades. Några deltagare ansåg att det var mycket troligt att de skulle delta i en PREP-grupp nästa läsår om de fick möjlighet.

Keywords: *higher education; pragmatic research; teaching practice*

1 Introduction

This paper reports on the results of a focus group discussion concerning the value of using a collegial process for studying one's teaching practice. The focus group was organized as a round table discussion at an engineering education conference. The first aim of the round

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table discussion was to discuss what opportunities and obstacles engineering educators see in studying their teaching practice. The second aim was to introduce and discuss a program called PREP - Pragmatic Research on Educational Practice (Bengmark, 2022). This program is meant to engage engineering educators in studying, documenting, and sharing their initiatives to improve teaching practices. The authors had tried and developed the PREP program for a period and wanted to investigate the relevance of this program for other engineering educators.

2 The sample and the design of the round table discussion

From a research perspective, we view this round table discussion as a focus group discussion, a qualitative research tool involving the participants in structured discussions, allowing an in-depth exploration of participants' perspectives and experiences (Gibbs, 2012). The group consisted of 12 engineering educators active in various disciplines, making up a convenience sample as the participants voluntarily chose between parallel sessions during a collegial conference on teaching and learning at a technical university. Three participants had no prior experience conducting research connected to their teaching, three had presented educational research findings at conferences for teaching practitioners, and the remaining six had initiated studies but had never completed and shared educational research results with others.

A structured interview guide developed by the authors was used, containing multiple-choice and open-ended questions. For example, we asked *What prevents you from studying your own teaching practice scientifically?*, with a few choices to choose between and a line to add your own formulation. The participants were asked to respond to the questions individually, either digitally or on paper, before each part of the discussion. The moderators facilitated the discussion, encouraged participants to share their thoughts and experiences, and probed for further elaboration when needed. In the middle of the session, the PREP program was described by the authors using a PowerPoint presentation. The data from the focus group session consists of written answers and notes taken by the authors during the session.

3 Description of PREP and its relation to other methods

The rationale for devising PREP was to form a program that made it possible and worthwhile for many more higher education teachers to study their own teaching practices and report on the results. This led to the following three characteristics of a PREP study. First, it is pragmatic, using what the educators can see or do within one university course instance within the given limitations regarding time and organization and without compromising the course quality for current students. This normally means there are no control groups, and that it is not possible to eliminate conflating variables. Second, it is research-oriented, i.e. systematic, and shared for others to evaluate. Reporting about the teaching ideas and their effects is the main focus so that others can replicate or modify and share their results. Hence, a single PREP report does not constitute a research paper in the classical sense, but cumulative results from several PREP reports may reach the usual scientific credibility. Finally, PREP studies are all about educational practice and examine educational issues and ideas in their natural environment.

To support the pragmatic research process, PREP groups are formed consisting of a handful of educators teaching during the same period. The members conduct individual studies, possibly in different subjects and at different universities. They support each other

by discussing their PREP studies and reporting on their progress, helping the members commit to their studies, and getting suggestions and ideas from the group. The group meets three times. At the first meeting, the kick-off, each member formulates what they want to do and study in their course and drafts some initial thoughts on how the effect could be measured. Other group members help with ideas, suggestions, or references. At the second meeting, mid-course, the members report on their progress and get help with ideas on how to continue from the other group members. At the third meeting, each member describes the data found and their interpretation of it, and then gets reactions on the analysis of the data from the group.

To facilitate the documentation, reports follow a template filled in online and stored in a searchable and public repository. The documentation of a PREP study emphasizes the description of the teaching activities, as these need to be understood by educators from other regional or organizational traditions for them to be able to reproduce the teaching activities. The threshold for publishing a study in the PREP repository is different from regular scientific journals. For example, unsuccessful or incomplete studies are welcome as there are lessons to be learned from why a study was not completed and also to diminishing problems with publication bias. Also, studies with unclear results are welcome, as the results may become clearer through replications.

There are other regular research methods where the researcher and the practitioner can coincide, such as design-based research (Anderson & Shattuck, 2012), design experiments and design research (Cobb, Confrey, DiSessa, Lehrer & Schauble, 2003), (Edelson, 2002) and action research (Ivankova, 2015; Noffke, 2009). In contrast to PREP, all these methods have the aim to live up to the standards of a regular educational science journal. Pragmatic research, in the PREP context, means taking advantage of what is already being done within the teaching practice even though it does not meet all the requirements expected of a full-fledged scientific study. Another concept of pragmatism in research can be found in the literature but is then related to underlying philosophical assumptions about the choice of method (Biesta & Burbules, 2003).

An approach that has great similarities with PREP is the Scholarship of Teaching and Learning, SoTL. It also aims to activate university teachers in developing their teaching by scientific analyses of practice and then sharing the results with peers Trigwell (2013). However, it has been a hard sell partly as it is seen as difficult to operationalize Boshier (2009). PREP offers a collegial for supporting and helping each other, as well as a forum for sharing results, also accepting reports on a less demanding format and level than what most expect when reporting on SoTL work.

4 The outcome of the round table discussion

The participants were first asked for permission to use their contributions to the round table discussion for scientific study, to which all gave their consent. The participants were then asked: What prevents you from studying your own research practice scientifically? The three main obstacles expressed were lack of time, motivation, and know-how on how to study your teaching practice.

After a short presentation on PREP, the remaining part of the discussion focused on if and how PREP could support the process of studying your teaching practice. That PREP is pragmatic and uses data that one can collect on the fly was highlighted by the participants as a way to reduce the time needed for a study. The collegial parts of PREP were discussed as a way to share know-how and to keep up motivation. The proposed documentation template for PREP studies was also discussed. The participants thought it would simplify documentation and suggested some improvements.

The value of PREP studies was discussed, and a concern was expressed that PREP is less scientific and hence could be perceived as a devaluation of educational research. In response, it was emphasized that individual PREP studies could not be equated with, and should not be seen as providing evidence to the same extent as, regular educational research reports. In educational research, there is always a need for collective efforts, involving several similar studies and replications reporting comparable results, to make scientific claims. As PREP studies are not as rigorous, there is a need for many replications pointing in the same direction, before there is reason to believe that there is where the claims are to be made.

One lesson learned from the seminar is that PREP can be perceived as provocative, and the idea needs to be communicated with care if it is to be accepted. Despite this, several participants, on a direct question at the end of the conversation, felt that it was very likely that they would participate in a PREP group next academic year if given a chance.

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