

# Pragmatic Research on Educational Practice - PREP

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Ambitious educators try different forms of interventions in their teaching to see what the effects are. However, they often do not have enough time, or data, to meet the requirement of regular educational research. In this manifesto, we describe a program for studying and improving teaching practices that uses the activities that educators often already do when developing and evaluating courses and assessing students' knowledge. We call this Pragmatic Research on Educational Practice, or PREP for short. PREP aims to inspire educators to support each other in the process and share the knowledge they gain to add value to the teaching community and themselves without adding too much to their workload.

## The process

A group of educators, local at one department or involving people at several sites communicating online, is formed. The group members can teach different courses or subjects, but the courses should preferably have approximately the same start- and end dates.

**1. Kickoff** Before the courses start, the participants briefly describe what they want to try out in their teaching and how they plan to study the effects. The following questions can be answered. What am I curious about? What will I try in my teaching? How can I gain insights about the effects using what one can observe in the course? Then, the other group members give feedback and suggestion. Have they done, or read about, something related? The value of the kickoff is both that one articulates what one thinks and that one is given ideas and suggestions from others. The kickoff can be held in-person, online, or asynchronously using text or other media.

**Example 1.** If I was in the group, I might formulate the following for this kickoff: I am looking for ways to involve the students in discussions during my lectures. This time I want to try alternating lectures where I insert peer discussion every 10 minutes using problems on worksheets I construct for the students. I have seen examples of how this is done at UC Berkeley. Will my students find it worthwhile? I am planning to use the usual course evaluation, but I wonder what questions I should add to the questionnaire for this. I have thought about following how their experience changes during the course, but I am afraid it will take up too much of my

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time. Can I find out if this intervention affects their learning? I do not see how I can use the exam result to see this. Any suggestions?

**2. Midterm** On one or more occasions, the participants share brief accounts of what is happening. Inspired by Daily Scrum, the participants can answer the following questions. What have I done? What should I accomplish next? What is stopping me?

**Example 2.** Continuing the example above: I have tested this for four weeks now and find it seems like some students love it while others are more sceptical. I have managed to make worksheets for all lectures with a few exceptions, so I am fairly happy about that. Next I have to formulate questions to add to the course questionnaire as follows. I have the following initial ideas: . . . . What do you think about them? I still have no idea how to use the exam result for this study so that will probably stop me from getting to know the effects on their learning.

**3. Documentation.** After the course is completed, the participants write down an account of their study. A template to fill in with a few selected questions can be used to simplify this. The main thing is to share experiences with colleagues, to help them understand what was done and what came out. Even if the results were negative or unclear, or there was only very little data collected, it can be worthwhile for others to see. They can still replicate the study to see if they get other results. If the study was never completed, it might still be informative for others to see how the study was designed, how far it came and what caused the failure to complete. Despite shortcomings in a PREP study, others can be inspired to do something similar and just learn from mistakes.

**Example 3.** A template for the PREP documentation may look as follows.

1. Name and contact information:
2. Course details, such as subject, size, level:
3. Description of intervention attempted:
4. Type of data collected and how that was done:
5. Results:
6. Other related studies, pragmatic or ordinary:
7. Practical applications:
8. Other lessons learned:

The level of ambition can still vary. Some might write the bare minimum while others' documentation can be as complete as any regular research report. These reports should be filed and made available to interested people. An online system for this should be devised. There should be a reference system so that each pragmatic study can easily be referenced.

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## Characteristics

Participation in a PREP study is characterized by the following.

**Pragmatic** We start from our specific teaching situation and logical thinking rather than theories. We do not try to eliminate all conceivable influencing variables but content ourselves with what can be done on the fly while the course is underway. We do not lock ourselves into what we thought from the beginning but can change focus or approach depending on the circumstances and what happens in the course.

**Research** We try to find out something by being systematic and honest. We also try to take advantage of what others have already done. We share what we see so others can use it. However, we do not strive for the highest possible scientific rigour but make it probable and argue for our point of view rather than prove anything. We put forward what we see so that others can try it and see what results they get.

**Educational practice** These studies are about our educational practices. We examine educational aspects in their natural environment and limit ourselves to what we can see and have time to do during the course.

## Future development

Over time, a peer review system could be considered to help the contributors with their documentation. However, the minimal bar should not be raised, allowing different qualitative levels within the same system. There could also be a system helping form groups that collaborate during PREP studies. Preferably, the whole process should be documented in the online system, from formulations and feedback at the kickoff to the final documentation. Even if an individual PREP study does not give enough evidence for a specific claim, several similar studies can collectively give strong support. Therefore, replication of previous PREP studies is of great value. The online system should be able to aggregate replications.

## Conclusion

PREP aims to develop the quality of teaching. The PREP-researchers use data available in their courses, support each other and make their insights available in a template system, hence adding value with low time consumption. In addition, PREP documentation can come in handy when being asked to submit documentation of teaching.