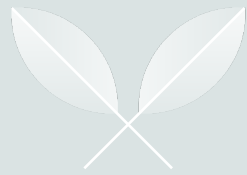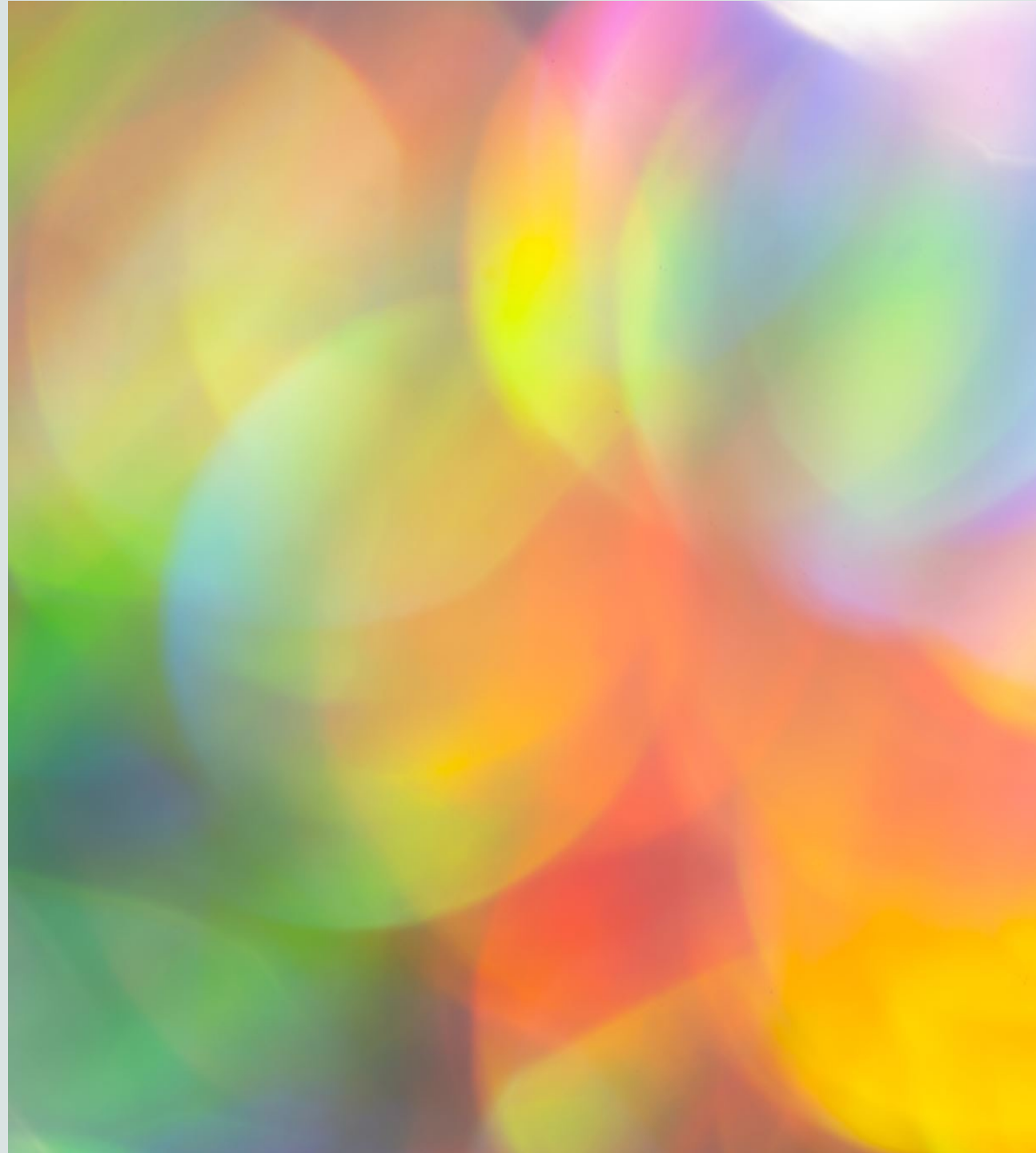# Classroom based Research in PT Education

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SOE SIG September 2023

Announcements!!!

SOE SIG meeting at ELC: Friday October 13, 5:30pm in Conference rooms 411-412 on Level 4 Franklin Hall

Education Research Network networking/ social: Friday October 13, 8:15pm in Level 5 ballroom (Salon location TBA)

JOPTE Journal Club: November 9 at 4pm EST (See AoE website Events for registration link)

Goals of the presentation and discussion

Describe design-based research as a method for engaging in educational research within your teaching context

Identify areas for possible research within your classes

Describe your next reasonable step towards engaging in classroom/ educational based research

What is design-based research (DBR)?

An analytical process for assessing/ examining educational innovations in context

Based in the view that educational design is a complex system of elements including teachers, learners, their tasks, and the environment

Move beyond determining *if* an educational design "worked" or produced the desired learning outcomes to focus on examining *how* and *why* a design works in a specific context

(Applied Research Laboratory, 1996) (Dick, Carey, & Carey, 2001) (Collins, Joseph, & Bielaczyc, 2004) (Dolmans & Tigelaar, 2012)

Research Question Development in DBR

Should go beyond "did it work" to explore "how" the design influenced learning/ thinking/ understanding and explore "why" it had the impact it did

What are your goals? What "intervention" can support those goals? How will you assess if the goals are met or not?

Methodologies are often mixed methods

A qualitative component is often necessary to explore the "how" or "why" did the intervention have the impact it did.

Developing "the design"

- The development of the educational intervention/ design should be grounded in current theory/ literature

  - *The theoretical foundation for the design will inform the types of questions asked and data collected*

  DBR is typically a cyclical process of designing, implementing, assessing, and revising

What is involved in a "design"

a) the learning task: What is to be learned?

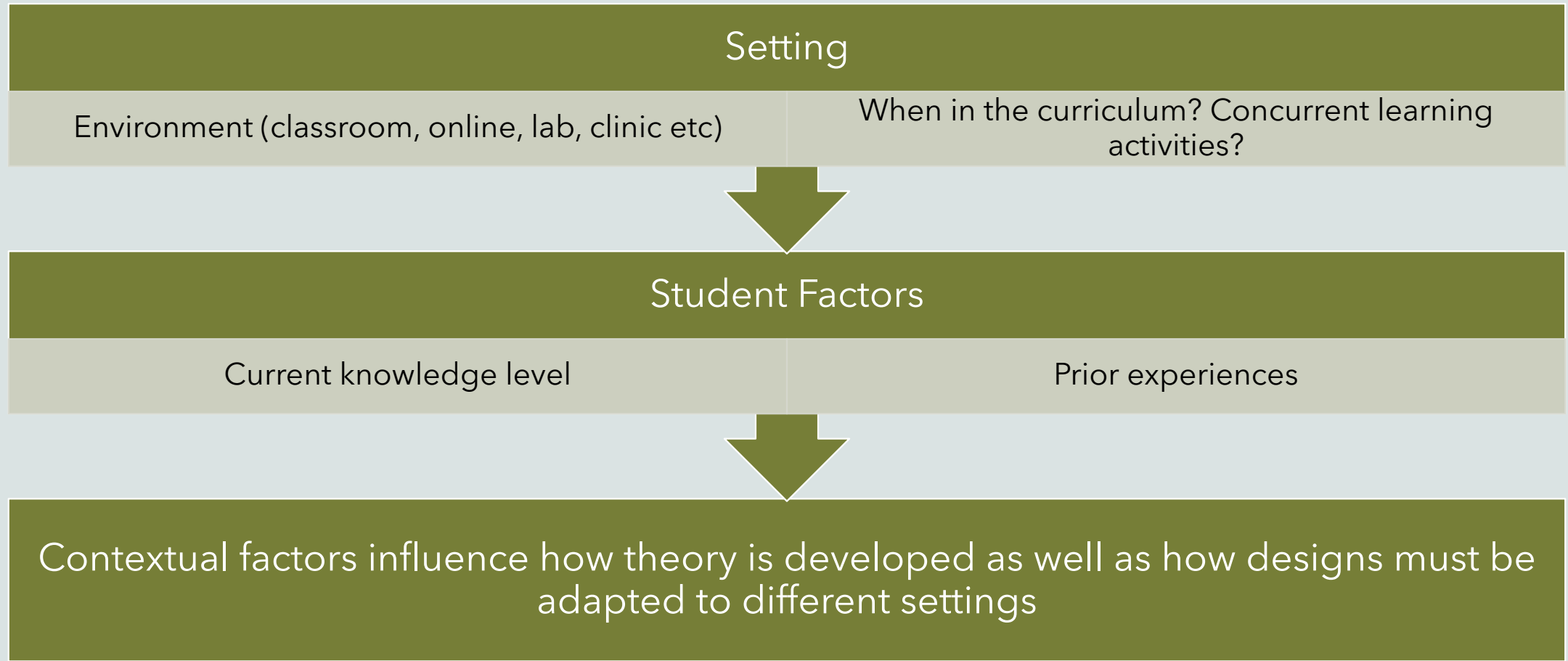b) the learning activities: What will the students do?,

c) the resources used: What is needed for the activities?

d) the types of feedback for learners: How will students know they are making progress?

(Boyle & Ravenscroft, 2012)

What contextual factors must be considered?

Setting	
Environment (classroom, online, lab, clinic etc)	When in the curriculum? Concurrent learning activities?

⬇

Student Factors	
Current knowledge level	Prior experiences

⬇

Contextual factors influence how theory is developed as well as how designs must be adapted to different settings

(Smith, 1994; Thompson, Searle, Gruppen, Hatem, & Nelson, 2011; Eva, Nev, & Norman, 1998; Boyle & Ravenscroft, 2012)

Assessment/ Data Collection

Analysis of learning assessments within the design	Are they aligned with the learning goals?	Are they aligned with the learning theory the innovation is based on?
Do the assessments provide indication of efficacy of the design?	Do they provide insight on the "how" or "why"?	Do you need additional data sources?

(Conole, Dyke, Oliver, & Seale, 2004) (Dick, et al., 2001)

The DBR process can also be used to adapt an innovation then study it

Fig. 1 Overview of the framework

(Gilliland & Wyatt, 2017)

Helpful References

- Dolmans, D. H., & Tigelaar, D. (2012). Building bridges between theory and practice in medical education using a design-based research approach: AMEE Guide No. 60. *Medical Teacher, 34*(1), 1-10. doi: 10.3109/0142159X.2011.595437

    - https://www.tandfonline.com/doi/abs/10.3109/0142159X.2011.595437

Gilliland, S. J., & Wyatt, T. R. (2017). A framework for thinking about transferring teaching innovations into new settings. Medical Science Educator, 27(4), 785-791. doi: 10.1007/s40670-017-0468-3

    - https://link.springer.com/article/10.1007/s40670-017-0468-3

Discussion

What is your experience with classroom / design type research?

What current innovations/ teaching practices do you want to explore through research?

What aspect of the classroom research process is most challenging to you?

What other questions do you have regarding classroom based/ design-based research?

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