

The background image shows a male PE teacher in a grey hoodie standing and talking to a group of five secondary school students sitting on the floor in a circle. The students are wearing red t-shirts. One student has their hand raised. The setting is a gymnasium with a basketball hoop visible in the background. There are decorative geometric patterns (blue and red) overlaid on the image.

PE teachers engaging with formative assessment in secondary school PE

What lessons can we learn?

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Assessment in PE

- Primary aim: to support student learning
(Hay & Penney, 2013; MacPhail & Halbert, 2010; Wiliam, 2011)
- Current situation: focus on summative assessment through performance grading and testing
(Moura et al., 2020; Borghouts et al., 2015; Krijgsman, 2021).
 - Does not support learning process (Black & Wiliam, 2009)
 - Often high-stakes, test anxiety, decreased motivation
(Danthony et al., 2019; Krijgsman et al., 2017)
- Focus shift to formative assessment (FA)
 - AIESEP position statement on assessment (AIESEP, 2020)
 - See also: Hay & Penney., 2013; Leirhaug & MacPhail, 2015; Moura et al., 2020



What is formative assessment?

‘when evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better, or better founded, than the decisions they would have taken in the absence of the evidence that was elicited’
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Teacher			
Peer			
Learner			

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Peer	Understanding and sharing learning intentions and criteria for success	4 Activating students as instructional resources for one another	
Learner	Understanding learning intentions and criteria for success	5 Activating students as the owners of their own learning	

Research on formative assessment in PE

- Interventions on FA in PE are scarce (Chng & Lund, 2018; Leirhaug & Annerstedt, 2015)
- Interventions by Ni Chroínín & Cosgrave (2013), Macken et al. (2020) and Tolgfors et al. (2021) learn us that...

FA enhances teaching/learning quality, but...multiple challenges

- focus on summative assessment
- influence of contextual factors (school, teaching philosophy, student population)
- different ability levels vs. individual student development
- lack of time for planning and preparation
- analyzing assessment data
- lack of critical engagement in teachers (knowledge gap)

Purpose of this study

- To gain insight into secondary school in-service PE teachers' learning experiences while designing and enacting FA activities.
- To examine PE teachers' use of FA strategies in the design and enactment of FA activities, adapted to their individual teaching context.

Enhancing FA within PE practice

- PE teachers need **training and guidance** in FA (MacPhail & Murphy, 2017; Ní Chróinín & Cosgrave, 2012; Yan et al., 2021)

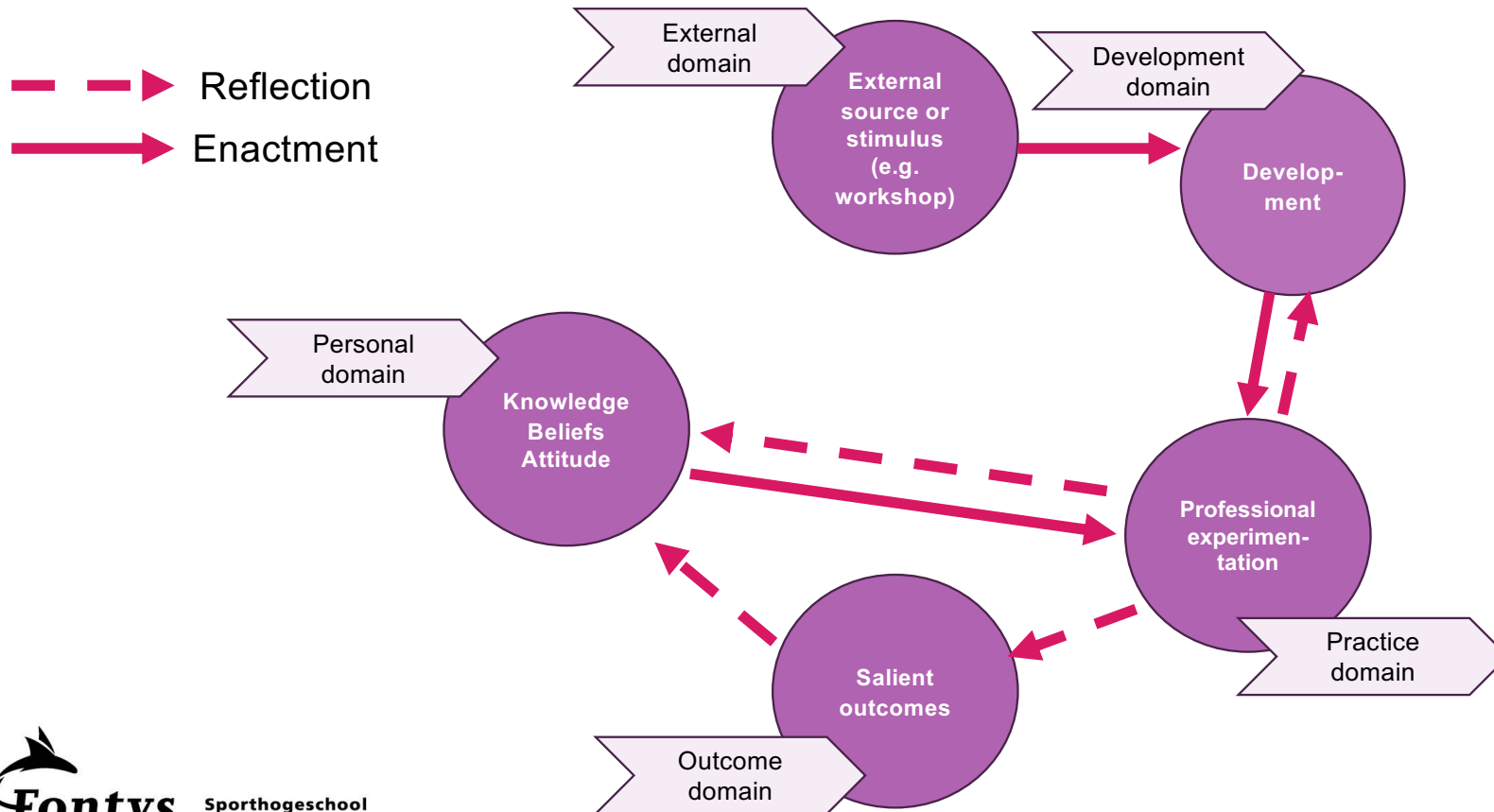
Effective professional development (in PE):

- Meaning-oriented approach (Korthagen, 2017)
 - Facilitator support (Slingerland et al., 2021; Goodyear & Casey, 2013)
 - A 'hands on approach', situated in the workplace
 - Sense of urgency
 - Active roles and collaboration
- (Parker & Patton, 2017; Armour & Yelling, 2007; O'Sullivan & Deglau 2006)



Teacher professional development – theoretical lens

Extended Interconnected Model for Professional Growth (EIMPG)

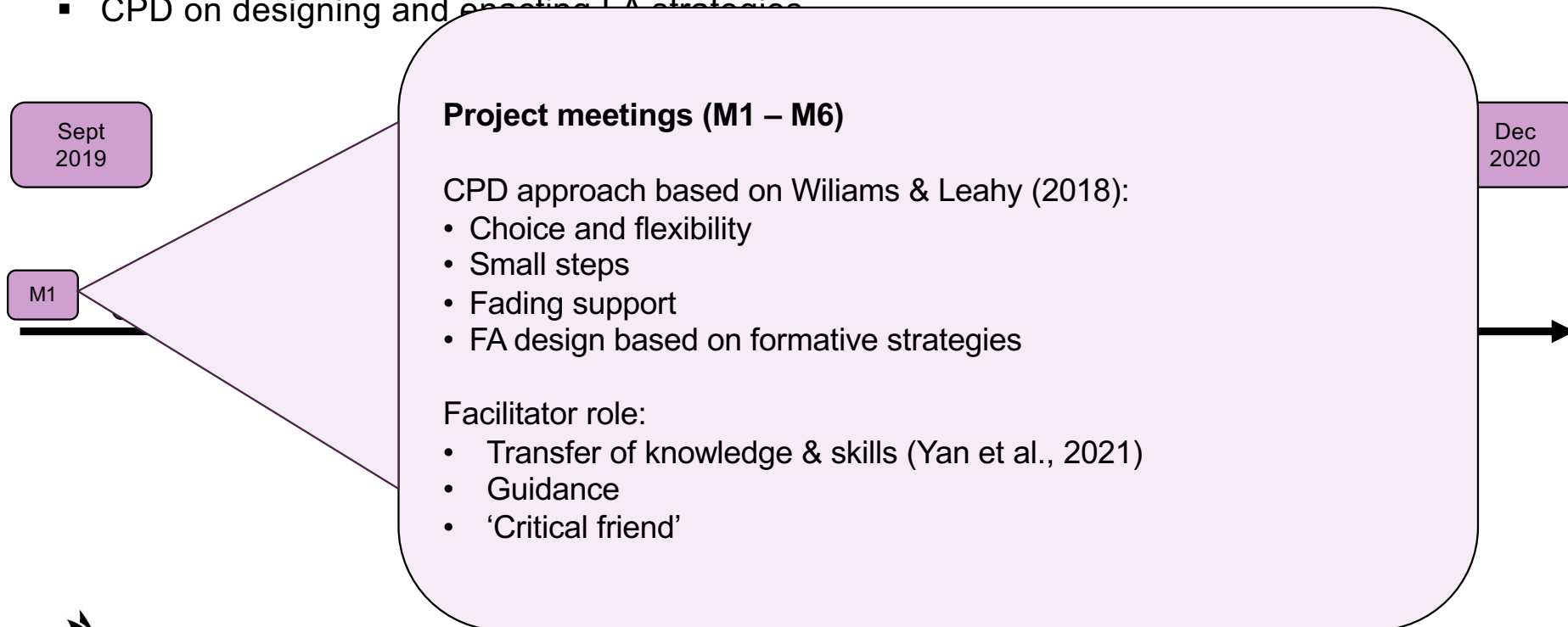


(Clarke & Hollingsworth, 2002)

(Coenders & Terlouw, 2015)

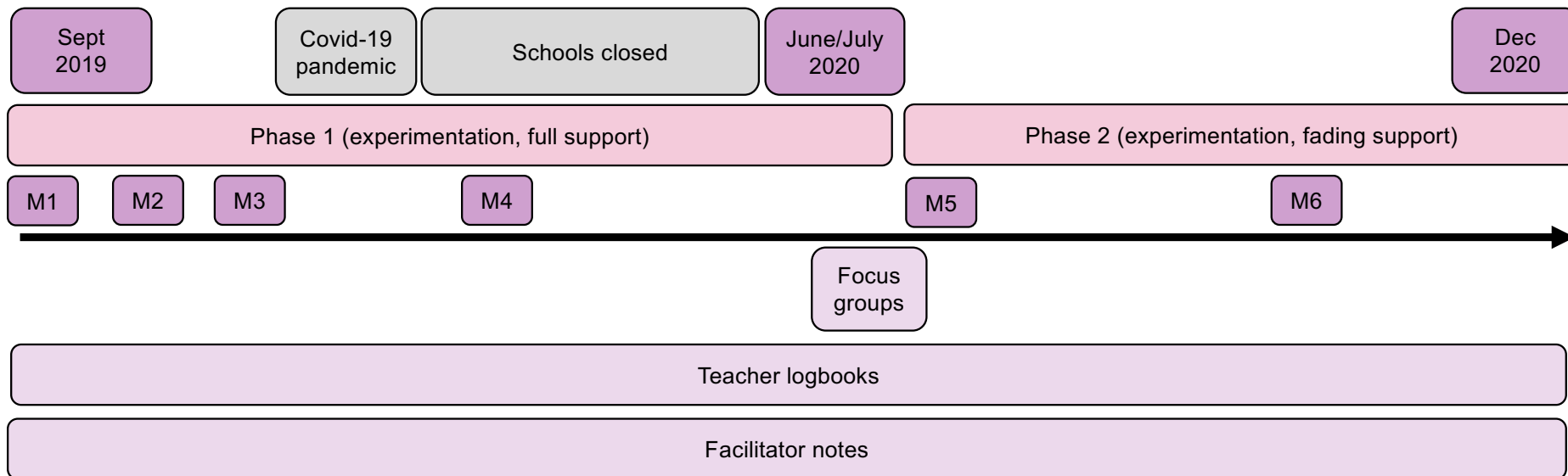
Study design

- Three PE departments, 16 PE teachers (8f, 8m), PE teaching experience 19.2 years (SD=12.8)
- Three facilitators (PETE teachers), elements of lesson study (Dudley, 2015)
- CPD on designing and enacting FA strategies



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- Three facilitators
- 6 guided meetings, in-school:



Data collection & Analysis

Focus groups

- Part 1 - Formative strategies
- Part 2 - Learning process (EIMPG)

Digital teacher logbooks

- Reflection on the FA experiment
- Based on: Bakkenes et al., 2010 & Korthagen, 2017

Facilitator notes

➤ Framework analysis

(Gale et al., 2013; Ritchie & Lewis, 2003)

Pre-lesson questions	Post-lesson questions
Descriptive questions: name, date, school, what class(es), subject to be taught.	How did the experiment go? Explain.
Are any colleagues involved in the preparation of this FA activity? In what way?	Have you reached the predefined outcomes (see Q4). Why (not)?
Describe the experiment, involve the key FA strategies that you would like to employ.	What did you learn? What are you retaining, and what changes will you make?
What outcomes would you like to experience: (1) for yourself (2) for your students.	How did you feel during the experiment and why? (e.g. frustrated, happy, angry, disappointed, insecure, etc.).
Describe the expectations that you have: <ul style="list-style-type: none"> ▪ How will students react? ▪ Which pitfalls do you see? ▪ What feelings do you have about the experiment (e.g. insecure, enthusiastic, etc.). 	What advice would you give to your colleagues based on your experiences?
	If you have involved students in your lesson evaluation, briefly describe (per student) their opinions.

Results & Discussion - Themes

General themes	FA strategies	Teacher learning process
Teacher role	Feed-up	External support
Time	Feedback	Development process
Continuation	Active student role	Outcomes
	Feedback literacy	Experiences
	Student reactions	Perceived competence
	Learning Goals	Feelings
		Difficulties
		Opinions & beliefs

Results & Discussion – Teacher experiences

Teacher role

- ‘Sage on the stage’ vs ‘guide on the side’
- Perception of losing control

“I am much more ‘within’ the group and I have more interaction with students. However this also means sometimes more chaos, I need to let go of that I guess” (FG-T1)

Feelings

- From worry/expected/chaos/losing control (phase 1) to mostly enthusiastic response (phase 2)
- Evidence of increased feelings of competence in phase 2

“Insecure, tense, I don’t really know how it will go.” (LB-T3 phase 1)

“I am really looking forward to this lesson, I am curious how it will turn out” (LB-T3 phase 2)

Results & Discussion – Teacher learning process

External support

- Critical role of the facilitator (Casey & Goodyear, 2013)
 - ‘Stick and carrot’

“Without [name facilitator] we would have been going in circles, and everyone would have done their own thing in the end.” (FG-T4)

“We are somewhat stuck in our own situation, so you need someone who stands above that and pushes us in the right direction” (FG-Z3)

See also: Slingerland et al (2021)

Results & Discussion – Teacher learning process

Development process

- Working in pairs, iterative cycles
- Phase 1: focus on basic lesson-design (instead of FA)
 - Establishing learning outcomes
 - Defining success criteria
 - Providing choice and flexibility in learning content

Formative assessment is **not an add-on**, it is an integral part of the teaching-learning process (AIESEP, 2020; MacPhail et al., 2021).

Results & Discussion – FA strategies

Teachers focused on feed-up (with rubrics)

- Useful but time consuming

“It was really time-consuming [...] but in the end it paid off, especially for students in determining their starting point” (FG-T5)

Active student roles

- Peerfeedback in pairs
- Evidence of self-directed learning and self-regulation

“All-in all, I think students were more self-critical because they were more aware of the criteria and what goals they have” (FG-T5)



Results & Discussion – FA strategies

Feedback literacy

- Self-assessment
- Feedback quality

“Especially the boys didn’t provide useful feedback, they just want to move on and play” (TG FG-T2)

“The feedback didn’t really contribute to what they were doing technically” (FG-T3)

“The do not give each other a lot of feedback [...] and I wouldn’t really know how to change that (FG-T1)

Students need to develop feedback literacy (Carless & Winstone, 2020)

- Sense of quality (successcriteria)
- Appreciating feedback (giving and receiving)
- *“take feedback away from assessment”* (Winstone, 2021)

Results & Discussion

Changed opinions & beliefs

- Teachers first need to experience positive success in their students before embracing FA (Guskey, 1986)

“Well, I am not quite sure. If students would be more active and have more fun through FA, only then I would change my practice.” (FG-M1)

- The project changed teachers’ thinking about assessment

“I am quite happy I now can assess every student on his or her level of ability, instead of just grading tricks” (FG-T2)

“We went from grading a student to valueing student development, I find that beautiful, very rich” (FG-Z2)

- Positive about the central role of the student

Take aways on developing FA in PE

CPD on formative assessment in PE...

- ...should view FA as an integral part of the teaching-learning process
- ...should provide continued support (facilitator, digital, expert-roles, etc.)
- ...should boost teachers' confidence through successful (micro)experiences
- ...take context into account (school culture, class size, student population, etc.)
- ...tap into how to develop student feedback literacy
- ...tap into means of minimizing loss of lesson time (e.g. through digital assessment)



Thank you for your attention



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Recommendations for future developments

Longitudinal designs

- What do students experience/perceive when being assessed formatively?
- Does FA positively impact on students' test anxiety and motivation?

Digital portfolio

- Development of easy and efficient tools for employing FA

Feedback literacy

- How can we increase students' feedback competence?