

ReDesign of a Teacher Reflection Formative Assessment Tool

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Abstract: This study reports on the third design iteration of a teacher reflection formative assessment tool for coaches, which aims to establish the required support for coaches to formatively assess reflection quality in a consistent manner, and explore score interpretations. This study adds to the knowledge base on how to shape support for developing a high-quality coaching force. An elaborated blueprint will be presented.

Theoretical background

Productive teacher reflection often requires facilitation, and this is especially the case in video-rich coaching settings. Facilitation is challenging (e.g. Gelfuso & Dennis, 2014) and, while there is need for more high-quality coaches, tools for coaches are scarcely available (Tekkumru-Kisa & Stein, 2017). This study presents the most recent iteration in a series of educational design research studies (McKenney & Reeves, 2019), with the aim of reifying tools for productive coaching of teacher reflection. Different epistemological perspectives are present in the literature on teachers' knowledge development, and these can shape reflective practices in varying ways. On the one hand, collective knowledge on teaching that has been verified and tested (Carlson & Daehler 2019) can be used as a *deliberate* frame of reference to review practice. On the other hand, knowledge is constructed through (inter)action with the context and within local systems (Brown et al., 1989; Lave & Wenger, 1991), and being *aware* of those can shape teacher reflection. Uniting these perspectives during reflection could support deeper understanding, better planning, and more responsive teaching (van der Linden & McKenney, 2020). In line with Dewey (1933), reflection is seen as the careful review of what is known, how it is known, and the implications that follow. Reflection on action refers to considerations of past actions (Schön, 1983), whereas reflection for action (van der Linden & McKenney, 2020) is focused on shaping future actions. In both cases, reflection can be divided into three main phases (Reymen et al., 2006). The first phase is the *preparation* of the reflection, where teachers frame the reflection. The second phase is *image forming*, where teachers engage in sensemaking to gain understanding of past actions (in the case of reflection on action) or to compose future teaching scenarios (in the case of reflection for action). The final phase is *conclusion drawing*, which often requires teachers to compare findings to form conclusions and can help them identify growth areas or next steps. See Table 1 for an overview.

Table 1
United Reflection Model Components

Perspectives	Reflection phases		
	Preparation	Image forming	Conclusion drawing
Deliberate	<i>Knowledge-driven framing</i>	<i>Interpreting/ anticipating evidence-based practices</i>	<i>Determining based on evidence-based practices</i>
Aware	<i>Context-driven framing</i>	<i>Interpreting/ anticipating salient moments in practice</i>	<i>Determining based on salient moments in practice</i>
United	<i>Combining both deliberate and aware perspectives within the above phases</i>		

About the study

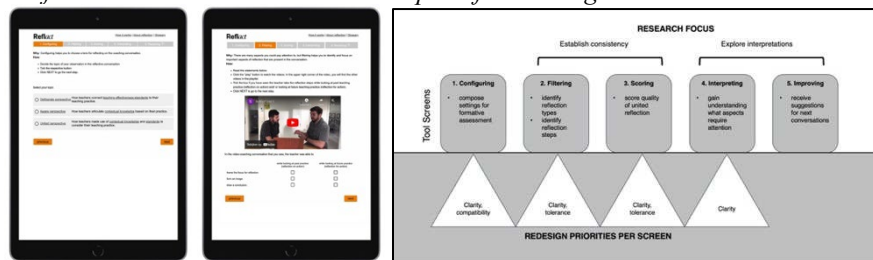
The present study aims to articulate and reify support for coaches facilitating reflection from deliberate, aware or united perspectives. The proposed poster briefly recaps relevant prior work and foregrounds the reporting of field work which is currently underway. Previously, a Delphi-inspired study was conducted with experts on teacher reflection ($N = 27$) to identify priorities for assessing reflection from the united reflection model (focusing on validity aspects) and to operationalize these priorities (focusing on clarity aspects) (van der Linden et al., under review). This study identified the need for a formative assessment tool to portray the qualities of conversations in which coaches support teachers in video-based reflection. It also yielded a set of quality indicators to observe reflective conversations between teachers and coaches that were deemed clear enough to be used. Based on these findings, an online formative assessment tool called ReflAct was developed, and a proof-of-concept study was conducted with teacher educators, coaches and researchers ($N = 17$) to identify tool features that influence perceived viability in terms of added value, clarity, compatibility, and tolerance (van der Linden et al., 2023). The results showed that the tool could be viable, and the data also yielded an initial set of quality criteria which can be used for further development and evaluation. This study also pointed to directions for redesign, especially to

bolster the tool's clarity and tolerance (see Figure 1). The present iteration aims to establish what kind of support is required for coaches to assess teacher reflection consistently. Specifically this study asks: (1) What kind of tool features support consistent assessment of videos of video-rich reflective conversations between coaches and teachers, and why? (2) How do coaches interpret the scores that they have assigned to the videos, and why?

Methods

The present study can be characterized as a formative evaluation of ReflAct version 2.0. In this study, school coaches ($n=3$) and teacher educators ($n=3$) use ReflAct to formatively assess videos of video-coaching conversations. Data collection consists of the products resulting from ReflAct use (i.e. scores assigned to the videos), recorded think-alouds of the coaches assessing the videos, as well as their interpretations of the scores, and interviews after tool use to understand how tool features influenced user (perception of) consistency and interpretations. The data will be triangulated to understand what kind of support can help coaches to formatively assess coaching practices. Intra-class correlations will be computed to establish the level of consistency and thematic analysis will provide insight into interpretations, and how the tool supported each of these.

Figure 1
ReflAct Screens v.1.0 and Initial Blueprint for Redesign and Evaluation



Results iteration 3

The study is currently in progress. The proposed poster will elaborate the software blueprint as shown in Figure 1, report the data from the first wave of its use, and articulate the influence on consistency of assessment and the interpretations of the assigned scores.

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