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Commentary Engagement as an inherent aspect of the learning process

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ABSTRACT

This commentary describes the contribution of each individual paper to our understanding of engagement, as well as evaluating whether together these papers achieve the editor's goal of developing an emerging consensus on the meaning and measurement of this construct. Individually these papers extend our understanding of specific aspects of engagement and contextual effects on engagement in important ways, but together have fallen short of the ambitious goal of bringing the different conceptualizations, measurements, and methods into closer alignment. The commentary concludes with a discussion of three issues that need to be addressed in future research on engagement including: 1) examining the degree of overlap between engagement and self-regulation, 2) more clearly articulating the role of affect in engagement, and 3) describing the crucial role of goals in engagement and learning. © 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Comprehension of the motivational, emotional and cognitive aspects of student engagement and disengagement is undeniably one of the most crucial goals of educational psychology, because it has theoretical as well as far-reaching practical implications. In their seminal review of the literature on engagement, Fredicks, Blumenfeld, and Paris (2004) concluded that engagement is associated with positive academic outcomes, including achievement and persistence in school, and is higher in classrooms with supportive teachers and peers, challenging and authentic tasks, opportunities for choice, and sufficient structure. Fredricks' et al., tripartite engagement framework was well received and instigated a vast number of studies. Now, more than 10 years later, Azevedo (2015) found more than 32,000 articles in PsychInfo about engagement, published in the last 14 years. As such, our understanding of the components of engagement has expanded considerably. Yet, we may rightfully ask what the theoretical status of the engagement concept is today, whether its relations to theories of motivation, metacognition, and self-regulation are clear, and whether it contributed in a significant way to our understanding of the learning process.

During the last decade, several researchers called for more integrative approaches to motivation and engagement and made attempts to disentangle the key components of both constructs. Reeve (2012) characterized engagement as publically observable behavior, in contrast to motivation, which is internal, unobservable, psychological, neural and even biological in nature. There is a strong tendency to view motivation as an internal (affective) force that energizes engagement (i.e., as an essential source of engagement). Presently, there is broad agreement that engagement is a multidimensional construct with at least three interrelated dimensions, but some researchers take a broader perspective, extending the tripartite framework with agentic (Jang et al., this issue), self-regulatory (Järvelä et al., this issue; Pekrun and Linnenbrink-Garcia, 2012) and social-behavioral components (Fredricks et al., this issue; Wang et al., this issue).

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Arguing that the literature on engagement is quite diverse and that different researchers approach the concept of engagement in dissimilar ways, the editors of this special issue invited a group of scholars to present their current work on engagement, focusing explicitly on their working definition(s) of engagement, their theoretical framework and their methods of capturing engagement. In addition, they wanted the contributors to reflect on how their research methods might inform a theory of engagement and its practical implementation. I will use the overall guidelines provided by the editors as a way of organizing my comments: I will explore whether these ambitious goals have been accomplished, identify important questions arising from a close reading of the 6 papers - and where appropriate - I will offer some answers. I will also draw attention to areas of engagement that have been overlooked by the contributors to the special issue.

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2. Is there emerging consensus on the meaning and measurement of engagement

While first reading the respective articles, I looked for the authors' working definition of engagement and jotted down how they proposed to measure the construct. Most of the authors did not provide a working definition. In fact, I was struck by the lack of conceptual clarity and noted inconsistencies in the definitions. I also found little consensus regarding the boundaries of the engagement construct. Inspection of the respective method sections provided some insight into the components of engagement that the researchers actually studied and into the research methods and tools used to capture these components.

Before I start commenting on the individual papers I would like to remark that to-date we do not have access to a theory of engagement. As a result contributors to this special issue borrow constructs from different psychological theories to study engagement in the classroom. It is important to realize, however, that these theories are founded on different metaphors, using different constructs to explain and predict behavior. The constructs that are highlighted in one theory may be avoided or given a lower status in other theories and this may lead to remarkable differences in the definitions, operationalization of the constructs and the measurement instruments used, as well as in the issues studied.

All engagement researchers contributing to the special issue argued that student engagement is malleable, implying that it is not stable across learning situations and school subjects. Three research groups measured engagement in a domain-specific way (Fredricks et al., Wang et al., and Jang et al., this issue). The latter researchers used repeated measurement of domain-specific engagement. Three other research groups used context sensitive measurement to assess engagement in situ, namely Shernoff et al., Salmela-Aro et al., and Järvelä et al. I will now address each of these studies in turn.

Fredrick et al., (this issue) used the 3 interrelated dimensions of engagement that they proposed in their 2004 paper: *behavioral* engagement defined in terms of participation, effort, attention, persistence, positive conduct, and absence of disruptive conduct; *emotional* engagement refers to the extent of positive and negative reactions to teacher and classmates, academics, and school, but also to sense of belonging and identification with school and subject domains. *Cognitive* engagement denotes level of investment in learning, being thoughtful, strategic and willing to exert effort for understanding complex ideas and mastering difficult tasks.

These authors used semi-structured interviews to examine how teachers and students conceptualize math and science (dis) engagement. Teachers' and students' indicators of engagement were identified in the interview transcripts and coded for the three dimensions of engagement. Eight teacher indicators of engagement were identified, namely behavioral engagement (participation, attention, on-task behavior, compliance, effort, persistence), socialbehavioral engagement (interacting with peers, explaining ideas to others, asking teacher or peers for help), emotional engagement (positive and negative emotions, interest, perception of value of topic and learning, attachment (feeling part of the group), feeling overwhelmed, tired), cognitive engagement (trying to understand ideas, use of metacognitive strategies to integrate and apply ideas, being self-reflective, doing extra work), social-cognitive engagement (understanding different perspectives, building off other's ideas), and indicators of body movement (moving around, making eye-contact), and competence (getting good grades). This paper raises a few questions about the fuzzy boundaries of the engagement construct. Why is doing extra work an indicator of cognitive engagement and not of behavioral engagement? Getting good grades is not an aspect of engagement but a consequence of

engagement.

Fredricks et al. (this issue) observed that not many students made allusion to cognitive engagement, using instead behavioral indicators of engagement (participation, attention, and doing what is required) and emotional indicators (interest and frustration). Interestingly, many students did not differentiate engagement from doing well in class. This finding is in line with what Lemos (1999, 2015) reported. She found that students misunderstand teachers' goals (mostly mastery goals) and direct their actions primarily towards work goals (e.g., wanting to finish the task as soon as possible) and evaluation-oriented goals (e.g., avoiding poor grades). Notably, in Fredricks et al.'s study most students, particularly struggling students in math and science, connected engagement to a sense of support and community in the classroom.

I welcome Fredricks et al.'s approach. Their qualitative data are designed to refine the conceptualization of engagement that is currently in use in scientific research. Semi-structured interviews are a rich source of information, but this research tool also has its limitations. They started the interviews with unprompted cues and continued with direct probing questions. The interviewers were knowledgeable about the conceptual model that was already in place and their probing may have elicited the answers they wanted to hear. Likewise the coding of the data was done by members of the research team on the basis of the existing model of engagement, which may have biased the results. Possibly conceptual detail with a focus on process might have been missed or filtered out by using this specific lens.

Wang, Fredricks, Ye, Hofkens, & Schall (this issue) builds on the study by Fredricks et al., discussed above. They defined engagement as the observable and unobservable qualities of students' interactions with learning activities. They developed and validated a questionnaire that can assess domain-specific engagement in math and science classes in relation to 5 different dimensions of engagement, including a behavioral dimension (e.g., asking and answering questions, participating, persistence/giving up easily, doing other things instead of paying attention), an emotional dimension (liking, joy, feeling good, bored, frustrated), a social dimension (e.g., quality of interactions with peers during learning), and cognitive dimension (learning strategies and degree of effort). Wang et al., asked more than 3000 middle and high school students to complete the 30 item questionnaire electronically. Next, they asked 130 teachers to rate the engagement in math and science classes of 5 randomly selected students who participated in the study.

Wang's study provides psychometrically sound evidence that students and teachers have similar views of what engagement is and how it manifests itself in the math and science classroom. Both types of informants made a clear distinction between a social, emotional, behavioral, and cognitive dimension. In the student sample, the latter dimension was further split up into what I would call - a mastery dimension and a work completion dimension. Although I am strongly in favor of a mixed method design to study engagement, I am in doubt whether math and science teachers can supply us with a more accurate and balanced portrait of the engagement of 5 randomly selected students. The teacher questionnaire contained fewer items than the student questionnaire (20 instead of 30), mainly because some teachers had suggested that they have limited insight into the cognitive processes of students in class (8 cognitive items vs. 5 items). I fear that the observations that teachers make of their students are incomplete and biased (except maybe primary school teachers who teach their students during most of the week) and that data collected from teachers are potentially clustered. I have more confidence in video observations by trained researchers, maybe in combination with stimulated recall, than on spontaneously collected information from teachers

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