

Deconstructing engagement: rethinking involvement in learning

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The discourse of learner engagement has become prevalent in formal education research and practice in recent years. However, the term has multiple meanings and various constructions, particularly in the context of games and learning, where the coming together of two different disciplinary constructs creates ambiguity and tensions. The notions of 'engagement with education' and 'engagement with games' are not necessarily mutually compatible. This article starts by exploring the use of the term by deconstructing the idea of engagement, and highlighting issues with the way in which people use it in different contexts. Next, it discusses practical and theoretical limitations of the concept, such as the assumed link between engagement and learning and measurement of engagement. The core contribution of the article is a synthesis of the complex literature in this field presented as a model of engagement with learning based on six ways of constructing engagement: participation, attention, captivation, passion, affiliation, and incorporation. The article concludes by discussing the benefits and possible uses of this model, and highlighting necessary further research to forward the field of games and learning in this area.

KEYWORDS: engagement; learning; participation; attention; immersion

Learner engagement is a concept commonly used by researchers, practitioners and policy-makers in education at all levels. Institutions use it as an indicator of performance, student experience, quality of education, and a guide to influence pedagogy, practice and policy. However, it is problematic: as a construct, it is ambiguous, takes on different disciplinary nuances, and is difficult to define and measure. Moreover, while researchers often use engagement as a way of representing that learning has taken place, and there is certainly an intuitive connection between the two concepts, there is little robust evidence for such, and the relationship between engagement and learning is not well understood (Iacovides, Aczel, Scanlon, Taylor, & Woods, 2011).

This article aims first to explore the various conceptions of engagement from different disciplinary perspectives, in particular looking at the contrasting discourses of educational engagement, including school engagement and student engagement (Appleton, Christenson, Kim, & Reschly, 2006; Chapman, 2003; Fredricks, Blumenfeld, & Paris, 2004; Trowler, 2010) and engagement with digital games (Boyle, Connolly, Hainey, & Boyle, 2012; Przybylski, Rigby, & Ryan, 2010; Renshaw, Stevens, & Denton, 2009; Schuurink & Toet, 2010). These alternative ways of constructing the nature of engagement, and their conflicts, are particularly apparent in the field of games and learning, where these discourses intersect. In this article, the authors aim to explore this intersection and synthesise the way in which academics in education and game studies construct engagement, and present a model of engagement that highlights and brings together the different conceptions of the term.

In the following sections, the authors will discuss the multi-disciplinary origins of the term 'engagement', and the resultant problems that arise with its use across different fields. We also

believe that it is important to highlight the assumptions commonly made around engagement, in its various constructions, and its relationship to learning. This enables us to consider what this might mean for educational designers and, in particular, those who design and use educational games. Finally, we present an alternative model of engagement with learning, drawing on, and synthesising, existing literatures from a number of fields, including education, game design, psychology, and the learning sciences. Through presentation of this model, we hope to draw attention to the different constructions of engagement that exist in different disciplinary contexts, and show how they can relate to one another in a coherent framework.

Deconstructing engagement

The notion of engagement is complex, with researchers, academics and practitioners using the word in many different, potentially conflicting, ways. Academic papers that discuss the subject inevitably start with a definition of how the authors use the term in the context of their own researches, which highlights the variability of the construct. Two disciplines that approach the idea of engagement in fundamentally different ways are education and games design. In the field of education, the idea of 'student engagement' generally refers to the "amount of time and effort students put into their studies and other educationally purposeful activities" (as defined by the US National Survey of Student Engagement: NSSE, 2014). Similar definitions are used across much of the educational literature (e.g. Trowler, 2010). In game studies, however, engagement is concerned with the subjective experience of the player during game play, and is associated with ideas of enjoyment, immersion, flow and presence (Boyle et al., 2012). Another difference is the motivational aspect of engagement: engagement with learning may be (although is not always) extrinsically motivated, engagement with games is typically intrinsic, focusing on the fun and enjoyment from the game (though again, not always, and particularly not in the case of educational games). This leads to a tension between 'engagement with education' and 'engagement with games', which is of particular consequence for those theorising and researching in the realm of games and learning.

Researchers use the concept of 'engagement' to mean different things in different disciplinary contexts, which is not necessarily an issue when communicating with disciplinary peers; the problem arises when others, from different backgrounds, misconstrue the term. This manifests, for example, in discussions of whether engagement is something that happens over an extended period of time (e.g. engagement with a course) or over a single instantiation of an activity (e.g. engagement with a game). Parsons and Taylor (2011) highlight this problem with defining engagement, labelling the term as 'ambiguous' and noting that "how we measure and define student engagement remains contentious" (p17). In the sections that follow, we aim first to compare the discourses of engagement in education and in games.

The discourse of engagement with education

Even in the context of educational research alone, there is a variety of ways in which researchers talk about engagement. In a phenomenographic study of secondary school teachers' conceptions of learner engagement, Harris (2008) found six qualitatively different conceptions of engagement, comprising participation in classroom activities, interest and enjoyment in school, motivation and confidence in school, thinking, seeing purpose in learning, and ownership of learning. There is also a difference in how academics construct 'engagement in education', compared with 'student engagement'. The former is focused on behaviours that imply conformity, or compliance; a

willingness to behave in a way that is appropriate for the school or institution. The latter applies more widely, taking into account motivation, autonomy and interest on the part of the learner, as well as cognitive, emotional and social factors. McMahon and Portelli (2004) suggest that the 'traditional' view of student engagement, seen as a continuum with behavioural and psychological dimensions, is problematic because it privileges students with a mainstream, functionalist view of the education system because it "reproduce[s] existing dominant views that promote a deficient and exclusionary mentality" (p61).

In some instances, academics use the term 'engagement' as if there is only one type or way of understanding the term, but in others, different types of engagement are considered. Appleton, Christenson, Kim and Reschly (2006) describe four different models of student engagement: academic, indicated for example by time spent working on a specific task, or academic credits gained; behavioural, shown by attendance or voluntary classroom participation; cognitive, indicated by levels of self-regulation and personal autonomy; and what they call psychological, indicated by feelings of belonging and relationships with teachers and peers (a model also used by Furlong & Christenson, 2008). In similar taxonomies, Anderson and colleagues (2004) present behavioural engagement (i.e. attendance) and 'engagement in school' consisting of academic engagement (e.g. preparation, eagerness to learn, persistence) and social engagement (e.g. following school rules, getting along with others). Similarly, Furlong and colleagues (2003) distinguish between psychological, educational and developmental engagement, and Fredricks and colleagues (2004) describe the differences between behavioural, emotional and cognitive engagement.

More recently, Parsons and Taylor (2011) highlight alternative constructions of engagement that have emerged in the literature: first, engagement can be seen as a willingness to engage in routine school activities, or compliance; second, it can be constructed as cognitive, affective and behavioural indicators of engagement with a specific task. Harmer and Cates (2007) present two hierarchies of engagement, discussing empowerment in the behavioural domain from personal relevance, to appreciating the value of deriving a solution, and investment in the affective domain including interest and emotional and practical investment. From a Higher Education perspective, Bryson and Hand (2007) argue that engagement exists on a continuum from engaged to disengaged, and operates on several levels such as with a particular learning activity, module or study, entire programme, university or sector. They argue that it is possible to be engaged to different degrees on different levels.

In contrast to behavioural engagement, which researchers typically view as being observable through action, cognitive engagement is a deeper level of engagement, at the heart of self-regulation of learning (Corno & Mandinach, 1983), based on "the relationship between motivation, learning processes, and learning strategies for supporting self-regulated learning" (Dickey & Meier, 2005, p. 70). Walker and Logan (2008) take a constructivist view of learner engagement, describing it as "when learners are engaged in shaping and leading their own learning and education" (p2). Other measures of school engagement have also included positive attitudes towards school, academic participation, identification with the school, and academic outcomes (Libbey, 2004). For many researchers, engagement is about much more than behaviour, and implies a specific commitment to an activity. "Engagement stands for active involvement, commitment, and concentrated attention, in contrast to superficial participation, apathy, or lack of interest" (Newman, Wehlage, & Lamborn,

1992, p. 11); it is “the attention, interest, investment, and effort students expend in the work of learning” (Marks, 2000, p. 155). Engagement has, for some, a more affective quality, where “the behavioral intensity and emotional quality of a person’s active involvement ... [is] a broad construct that reflects a person’s enthusiastic participation in a task” (Reeve, Jang, Carrell, Jeon, & Barch, 2004, p. 147).

The US National Survey of Student Engagement (2014) uses what it terms a series of ‘engagement indicators’ based around the four themes (since 2012) of academic challenge, learning with peers, experiences with faculty, and campus environment. These indicators relate primarily to aspects of the learning experience that a student can observe and quantify rather than elements of the subjective learning experience, however aspects such as higher-order and collaborative learning imply that the survey is going deeper than behavioural engagement. In a confirmatory factor analysis of an earlier version of the survey, which focused on five broadly similar themes, LaNasa and colleagues (2009) argue that there are in fact eight different factors that explain the variance in student responses, including aspects such as effort and workload. In the UK, the Higher Education Academy piloted its own study of student engagement, the UK Engagement Survey, in 2013 and 2014, using three similar themes to the NSSE (course challenge, collaborative learning and academic integration) and adding a further area questioning the students’ experience of course content itself: asking them to identify coursework which developed critical thinking skills (Buckley, 2013).

Picking up two of these themes, other theories of learning and engagement take the view that meaningful and situated activity is at the core of learner engagement, which has much in common with a typical constructivist standpoint on learning (Cooper, 1993). For example, engagement theory (Kearsley & Shneiderman, 1999) is a conceptual theory for technology-based learning and teaching that argues that learning happens while students are “meaningfully engaged in learning activities through interaction with others and worthwhile tasks” (p20). Similarly, Hickey (2003) presents what he calls a ‘socio-cultural view of engaged learning’ that involves meaningful participation in the context in which knowledge is situated. He argues, “engagement is a function of the degree to which participants in knowledgeable activity are attuned to the constraints and affordances of social practices and identity” (p411), which differs from views that situate engagement within the environment, or on individuals.

The discourses of engagement with games

Theories of engagement with games differ significantly from engagement with learning because they focus on the experience of an individual as he or she plays the game, although there is a focus on playing time in the addiction literature. Salen and Zimmerman (2004) talk about engagement as seduction into the magic circle of play, and remaining there until the (intrinsic) goals of the game have been met. In gaming engagement there is less importance given to behaviours that can be observed and more to the qualitative and subjective factors of gameplay. This is hardly surprising given that the purpose of videogames is primarily for entertainment. For example, in this field one definition suggests that “engagement is a quality of user experiences with technology that is characterized by challenge, aesthetic and sensory appeal, feedback, novelty, interactivity, perceived control and time, awareness, motivation, interest, and affect” (O’Brien & Toms, 2008, p. 23). Engagement in the context of gaming also typically focuses on the game space and action that takes place during the game, and on the perceptions of the player. Bouvier and colleagues (2013) suggest

four components of engagement with games: environmental (navigating a space), social (interaction with others), self (customising a character) and action (developing skills), while Chen and colleagues (2011) model game engagement as a combination of interest, attention and immersion.

The ideas of immersion and involvement are also strongly related to the idea of engagement with games, although remain similarly ill-defined. Brown and Cairns (2004) highlight the link between engagement and immersion, suggesting that engagement is, in fact, the lowest of three levels of immersion, followed by engrossment and total immersion. Engagement, in this sense, is where a player “needs to invest time, effort, and attention” (p1298), and is similar to behavioural engagement in an educational sense. Douglas and Haragdon (2000) use schema theory to compare immersion and engagement in literature, suggesting that the pleasures of immersion come from complete absorption within a familiar narrative schema, while engagement comes from a more meta-cognitive analysis of the text. Calleja (2007, 2011) presents a detailed conceptual model for digital game involvement in six different categories: tactical (i.e. related to decision-making), performative, affective, shared, narrative, and spatial.

Of course, these disciplinary views of engagement do not diverge completely. Based on self-determination theory, Przybylski and colleagues (2010) present a model of engagement with games that hypothesises that engagement and motivation are influenced by feelings of competence, autonomy and opportunities for action, and social relatedness, which has much in common with cognitive and social engagement from an educational perspective. In relation to the design of engaging multimedia learning experiences, Mallon and Webb (2000) discuss the differences between cognitive, emotive and sensory engagement. Taking the perspective of flow theory (Csikszentmihalyi, 1992), which is frequently used to analyse game engagement, Shernoff and colleagues (2003) present a conceptualisation of student engagement comprising concentration, interest, and enjoyment. Earlier work by the author (Whitton, 2010) uses a construction of engagement that is based on the work of games scholars (Csikszentmihályi, 1997; Malone & Lepper, 1987) to present a five-factor model of engagement with learning activities. This model highlights the importance of perceived challenge, control, immersion, interest and purpose, and supposes that each of these factors contribute to an overall sense of engagement with an activity.

Aside from the issues that arise in relation to the cross-disciplinary nature of engagement, there is a further dialectic between ‘engagement’ that researchers can observe through behaviours, and ‘engagement’ that is subjective and only known by the person who is undertaking the experience. A similar tension arises between engagement as a construct derived in relation to an experience, and engagement considered in relation to the individual undertaking that experience. Flow theory (Csikszentmihalyi, 1992), which is commonly used to explain aspects of engagement, struggles with this tension in the description of the eight elements that create ‘optimal experience’ (and therefore a feeling of flow). Three of these elements (appropriate challenge, clear goals and immediate feedback) are intrinsic to the experience, while the remaining five (complete absorption, sense of control, concentration, loss of self-consciousness, and transformation of time) are subjective properties of the experience. A further problem with engagement is the degree to which the notion takes on the influences of context, time and individual differences: the same activity may differ in levels of engagement between different individuals, and for the same individual at different times and in different contexts. This leads to problems in measuring as well as defining engagement.

The relationship between engagement and learning

In this section, we discuss the alternative discourses on engagement in relation to the learning that happens, both in education and in games. Researchers in the field of games and learning commonly use engagement as an alternative representation for learning as, in many cases, researchers argue that it is easier to measure the subjective experience than actual learning that has taken place (particularly when gaming interventions are small-scale). If an activity engages a learner, it follows that he or she will have learned more from it; but any robust evidence for this is scant. When engagement is constructed in its behavioural sense (i.e. participation and behaviour) there is a strong link between engagement and student achievement (Parsons & Taylor, 2011), and there is evidence that engagement in the sense of 'time on task' and 'participation' has a positive influence on learning (Kuh, Kinzie, Schuh, & Whitt, 2010). Engagement, as described by behavioural and affective identification with school, has also been shown contribute significantly to the academic performance of African American students (Sirin & Rogers-Sirin, 2004).

There is evidence that there is a relationship between scores in the American National Survey of Student Engagement (NSSE, 2014) and learner outcomes (Carini, Kuh, & Klein, 2006; LaNasa, Olson, & Alleman, 2007; Pascarella, Seifert, & Blaich, 2010). However, that instrument was developed by first identifying process variables that influence learning gains, which are already used as indicators of quality in many institutions (Gibbs, 2010) so the relationship is not altogether surprising. Evidence of a relationship between other constructions of engagement and learning is limited. Researchers have also shown a link between intrinsic motivation and learning (Cordova & Lepper, 1996) but at present, there simply is not enough robust evidence to be able to make definite claims for other forms of engagement, although intuitively a relationship makes sense. There is also the potential danger that high levels of engagement may become a distraction, and that high engagement will not necessarily correlate with effective learning.

Although there is sparse evidence that engagement, as used in game studies, affects learning directly, there is convincing evidence that games can create a sense of engagement. A game-based approach to learning can be motivating and enjoyable (Connolly, Boyle, MacArthur, Hainey, & Boyle, 2012) and research supports that game-based learning encourages engagement (Perrotta, Featherstone, Aston, & Houghton, 2013; Vogel et al., 2006). Using games in elementary and secondary education does engage students, as games can trigger enthusiasm, and supports students' on-task concentration (Huizenga, Admiraal, & ten Dam, 2010).

In the context of games and learning, there is a crucial distinction between player engagement with the game itself, and engagement with the intended learning outcomes from playing an educational game. The focus on fun and the game experience may be detrimental to engagement with learning (Henriksen, 2008). Ideally, game outcomes will align with learning outcomes so that engagement with a game is equivalent to engagement with the intended learning activities, but even with the cleverest design, there is never a guarantee that this is the case. Without the opportunity for reflection on what participants have learned, and the chance to discuss it with others, much of the learning value (and in particular the ability to transfer knowledge and skills to other domains) from games may be lost. Debriefing is a vital element in the process of learning with games (Crookall, 2011). A further issue is that high engagement in educational games may not be positive and can

lead to excessive competitiveness, and behaviours such as cheating or playing to win rather than playing to learning (Harviainen, Lainema, & Saarinen, 2012)

Although researchers often use levels of engagement as a representation of learning, the research community cannot simply assume that they are in fact demonstrating the same concept; engagement is only one of many factors in learning, and one of many ways in which to demonstrate that learning has taken place.

Measuring engagement

Measurement of engagement is problematic, not simply because defining engagement is difficult, but because it is, in many constructions, an internal experience, accessible only to the person who is experiencing it. Ways of measurement that are intrusive, by their very nature, interrupt the state of being that they try to measure; put simply, as soon as one asks 'are you engaged?' the process of giving attention to the question halts any existing state of engagement.

The problem with measuring engagement mirrors in the issue of defining it; without a specific definition, reliable measurement is impossible. The way in which engagement is constructed will necessarily affect how researchers measure it, for example, whether we view it as a binary or a continuum, or if we see it as taking place over time or the empirical result of a single experience. This is clear in the way that academics talk about engagement, for example, Gibbs (2010) discusses a "quality and quantity" (p20) of engagement, which implies that engagement has a level of depth and builds up over time.

In educational research, the most common methods employed to measure engagement are the use of questionnaires and learner surveys. Questionnaires have been used to measure engagement with learning (Appleton et al., 2006; Klem & Connell, 2004; NSSE, 2014), with games (Brockmyer et al., 2009) and with learning using games (Fu, Su, & Yu, 2009; Kiili & Lainema, 2008; Whitton, 2010). In the case of behavioural engagement, researchers have also used observable measures such as attendance rates (Chapman, 2003) or computer-based behaviour analysis systems (Bulger, Mayer, Almeroth, & Blau, 2008).

While self-report instruments are common in practice for measuring engagement, they are particularly problematic in the case of games or game-based learning because games are typically large exploratory environments that arguably require many hours of game-play for players to reach high levels of engagement, yet laboratory tests of engagement typically happen after far shorter periods (M. Chen, Kolko, Cuddihy, & Medina, 2011). We may say that of learning too, of course, which draws again attention to the question of whether engagement takes place as a series of actions over time, or is a qualitative aspect of a specific experience. When studying games, researchers have also used physiological techniques such as analysis of facial expressions and body language (Hughey, 2002), measurement of physiological factors such as heart rate and brain activity (Nacke & Lindley, 2008), and tracking of eye movements (Jennett et al., 2008; Renshaw et al., 2009). Objective measures, such as frameworks for evaluation of activities (Sweetser & Wyeth, 2005), observations (Read, MacFarlane, & Casey, 2002), game metrics such as frequency and duration (Ronimus, Kujala, Tolvanen, & Lyytinen, 2014), and voluntary time on task (Ronimus et al., 2014; Virvou, Katsionis, & Manos, 2004) have also been used. In some instances, more qualitative

approaches have been employed, such as interviews and video analysis (M. Chen & Johnson, 2004; Davies, 2002) and qualitative analysis of learners' actions within the game (Bouvier et al., 2013). What is clear is that while many approaches to measurement of engagement exist, they cannot (nor do they claim to) all measure the same concept.

An alternative model of engagement with learning

While engagement may be a compelling concept in theories of learning, particularly those relating to game-based learning, it is problematic for two main reasons. First, the wide variety of ways in which researchers and academics define and use the term across – and within – disciplines. Second, there is a lack of robust evidence that engagement, in its many forms, has a direct relationship with learning. At the heart of both of these issues is the multi-faceted nature of engagement, and the key purpose of the model presented below is to draw out and differentiate different strands of engagement as a means of creating a shared vocabulary and basis for future research.

In this section, the authors draw together and synthesise the existing literature on engagement, and present an alternative model of engagement, which we describe as 'involvement with learning'. To avoid further ambiguity, the model, where possible, avoids terms that researchers commonly use in either the contexts of learning or gaming (see Table 1). In this model, there is a high-level distinction between superficial and deep engagement, where superficial engagement is associated with behaviour and extrinsic motivation, while deep engagement represents more profound psychological interaction with an experience (this distinction mirrors ideas of deep and surface learning (Marton & Säljö, 1976)).

Superficial engagement	Participation	Engagement as doing
	Attention	Engagement as commitment
Deep engagement	Captivation	Engagement as enthrallment
	Passion	Engagement as feeling
	Affiliation	Engagement as belonging
	Incorporation	Engagement as being

Table 1: Types of engagement, taken from an analysis of education and game engagement theories

We intend that this model show the different constructs of engagement that have emerged from the literature, and highlight the different ways in which the term is used. By separating the types of engagement in this way, it also allows researchers to consider independently the relationship between each construct and learning, and ways in which we might meaningfully measure each variant of engagement. In the six sections that follow, we explore each of these types of engagement in more detail.

Participation: engagement as doing

At an initial level, we can view engagement as certain behaviours, things that are observable: such as attendance, logging on to a computer, handing in coursework. It might be, in one sense, simply an indicator of 'going through the motions'; a student who turns up for a lecture may not actually be attending to it in any meaningful way. In another sense, action is central to a learning experience. Without taking that action, the possibility for further engagement does not exist. Participation concerns the 'behavioural' component of engagement (Anderson et al., 2004; Fredricks et al., 2004)

and also contains elements of 'academic' engagement as described by Appleton and colleagues (2006) and Furlong and Christenson (2008), such as time spent on a task. This type of engagement is easiest to measure quantitatively; and there is evidence that participation is related to learning (Kuh et al., 2010).

Attention: engagement as commitment

A second construction of learner engagement is that in which the learner makes a purposeful commitment to take part in an activity. This goes beyond simply undertaking actions, but implies a willingness to pay attention to the activity on a cognitive level, and a positive attitude (Libbey, 2004). It makes no assumptions, however, about an individual's reasons for doing so, which may be extrinsic (e.g. to get good marks) and while a learner may be committed to completing an activity, he or she may have no intrinsic interest in it. For this reason, we consider this type of engagement to be superficial. Attention in the context of this article brings together Shernoff and colleague's (2003) notion of concentration with Whitton's (2010) factor of purpose, and Harmen and Cate's (2007) ideas of investment.

Captivation: engagement as enthrallment

Captivation is similar to attention, but goes beyond it; while attention signifies an intention to engage, captivation signifies a state of psychological absorption with an activity, where a person is deeply involved in what he or she doing at a cognitive level. In this construction of engagement, a learner can become immersed in an activity, in what Calleja (2011) terms 'immersion as absorption', and this is also related to flow (Csíkszentmihályi, 1997), with sensations like loss of a sense of time, and complete concentration. The idea of captivation captures notions of interest (Shernoff et al., 2003; Whitton, 2010) and intrinsic motivation, where a person starts to experience a deeper level of interaction. This also draws on ideas of engrossment (Brown & Cairns, 2004) and aspects of cognitive engagement (Appleton et al., 2006; Furlong & Christenson, 2008). Longevity of this experience is not a certainty, however: a learner may become immersed in a particular temporal activity; yet not continue to be captivated over time.

Passion: engagement as feeling

The construction of learner engagement as passion highlights the emotional or affective level of engagement. It goes beyond the superficial engagement of action and attention, to an experience in which participants develop a strong emotional pull, be that empathy, anger or excitement. The relationship between emotion and engagement has been highlighted by several researchers in education (Fredricks et al., 2004; Parsons & Taylor, 2011; Reeve et al., 2004) and game studies (Mallon & Webb, 2000) and there is also evidence that emotion is linked to learning (LaBar & Cabeza, 2006; O'Regan, 2003). With this additional emotional pull, learner immersion may extend across a series of activities or temporal events.

Affiliation: engagement as belonging

The idea of learner engagement as affiliation encompasses the idea of a person engaging with a group or community and seeing him or herself as being part of that community in a meaningful way. This may involve identification with the group, interaction with peers, and a feeling of belonging to a social structure. In this context, affiliation is connected to ideas of psychological engagement (Appleton et al., 2006), social engagement (Anderson et al., 2004; Przybylski et al., 2010) and ideas

of school engagement that encompass identification with the school community (Libbey, 2004). This is also related to ideas of epistemic engagement (Larreamendy-Joerns & Leinhardt, 2006; Shea & Bidjerano, 2009) related to the development of activities and practices within disciplinary communities, such as communities of practice (Lave & Wenger, 1991).

Incorporation: engagement as being

In this final view of engagement, instead of the learner being seen as distinct from an activity, he or she is constructed as an integral part of that activity through enculturation, a feeling of presence, and total immersion (Brown & Cairns, 2004) at a deep level in which physical action, thoughts, and emotions create a transformation in being. This may have profound effects on a learner's sense of self and personal identity, and is similar to the idea of 'immersion as transportation' (Calleja, 2011) where a learner is taken to another reality, and can lead to alternate ways of viewing the world. This is exemplified in the context of video game play, where Alexander and colleagues (2005) describe situated immersion as the experience of a game player becoming the character they play and seeing the world through the character's eyes – "an *illusion of nonmediation* between the player and the gaming context, so that the player feels directly embedded in the virtual environment" (Przybylski et al., 2010, p. 161). From a motivational perspective, this type of engagement may also be related to ideas of self-actualisation, such as creativity (Maslow, 1943).

It is apparent that engagement at the level of incorporation is very different, and deeper, than engagement at the level of participation. However, we would not – at this stage – like to assume that any hierarchy or dependences exist between these different types of engagement. In this article, we have simply presented six alternative constructions of engagement that are prevalent in the research literature.

Conclusions

This article has highlighted the problems that arise with the use of the term 'engagement' in the context of learning owing to its vague and inter-disciplinary nature. The authors have presented a model of engagement that shows six alternative constructions.

Engagement, as a concept, is now so overused that it is arguable that it has become a meaningless construct in and of itself, however we hope to have added clarity to the term by highlighting these six dimensions. We do not argue that this is a complete taxonomy of engagement, but it is a synthesis of the prevalent discourses of engagement in the fields of learning and game studies. We hope that it will provide a useful starting point for researchers with an interest in understanding the nature of learner engagement and, more importantly, the relationship between engagement and learning. The identification of the different aspects of engagement presented in this model allows these aspects to be isolated and treated as distinct, although related, elements of an experience.

This article has synthesised the literatures on engagement with learning and engagement with games to provide a useful model for further research. Further study would be valuable in this area, in particular looking at ways to test or validate the constructs in the model, and a consideration of the nature of the relationships and dependencies between constructions. In particular, further research into the relationship between engagement and learning is crucial, and researchers need to be wary of assuming a link between the two without first establishing what forms of engagement

they are considering (and what forms of learning) and whether there is compelling evidence that a relationship exists.

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