Enjoyable and Engaging Classroom Experiences: The Promise of Applying Flow Theory in Learning Environment Research

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1. Objectives

The objective of this conceptual/theoretical study was to explore the implications of applying *flow theory* research approaches to the study of learning environments. These approaches show promise for stimulating the development of new conceptions of engaging learning environments and alternative methods for researching learning environments. Three interrelated aspects of *flow theory* research consequential for learning environment research are interrogated:

1. Epistemological assumptions;
2. Ontological assumptions; and
3. The Experience Sampling Method (ESM).

2. Theoretical perspective

Flow theory is integral to the *positive psychology* movement. *Positive psychology* is concerned with happiness, well-being, human strengths, and flourishing (Gable & Haidt, 2005). It focuses on cultivating positive emotion, engagement, positive relationships, meanings, and achievement (Seligman, 2011). The origins of *flow theory* can be traced back to Csikszentmihalyi (1975), who reported a series of studies investigating people who were having peak experiences. The play and real-life experiences of these persons were examined in order to identify similarities in their experiences, motivation and the situations that produce enjoyment. It was observed they were engaged in what were termed *auto-telic* activities, those requiring the expenditure of extensive energy, but not the provision of conventional rewards. Interviews, and later, questionnaires, were used to understand the motivation for undertaking these activities. Csikszentmihalyi observed that when people described optimal highly enjoyable experiences, they often used the term, *flow*. This led to development of a new model of intrinsic rewards described in terms of the flow experience, and why it is important for enjoyment. An important common characteristic of activities that are conducive to experiencing flow is a balance between action opportunities (or *challenges*) and action capabilities (or *skills*). The task is demanding but the enjoyment of the experience also derives from having the skills necessary to complete the task (Massimini, Csikszentmihalyi & Carli, 1987). Csikszentmihalyi (1990, p. 49) noted the universal nature of the balance aspect of flow, and explained it occurs in "…sequences of activities that are goal-directed and bounded by rules… and that could not be done without appropriate skills." He identified other components of *flow*: high concentration, clear goals, immediate feedback, lack of awareness of the trials and tribulations of everyday life, intense and effortless involvement; control over one's actions, disappearance of concern for self, and the transformation of one's sense of time.

3. Methods

The research approach of the current study is conceptual/theoretical. Primary sources of published information on the measurement of flow and engaging classroom learning environments were assayed to identify research design features not commonly found in learning environment research. Research reports were scanned, associations between data were identified, categories were developed, and inferences were made. The process was exploratory and not intended to generate theory or establish generalisable relationships. It was iterative with data informing the development of classification schema and then the schema was used to describe the meaning of the data and to enable cross-case (cross-study) comparisons. A form of analytic induction (LeCompte & Preissle, 1993), was applied; "the primary purpose of the inductive approach is to allow research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed

by structured methodologies" (Thomas, 2006, p. 2). Three aspects of Flow Theory research peculiar to this field of inquiry were distilled. These are discussed in the Results section below.

4. Data sources

The primary sources of data were the two most recently published reports of flow and the classroom learning environment (Authors removed for blind review, 2012, 2013). Both reports are the culmination of earlier studies and publications. Building on a synthetic review of flow and engagement literatures, both studies used *flow theory* approaches to understand student engagement and the learning environments in high school classrooms. Data collection tools included self-report rating scales and observational checklists, data were collected from high school students in their classrooms (*N* = 1760 and *N* = 301), and computerised measurement models were employed to analyse the data. One of the studies (Author) used the Rasch Rating Scale Model (Andrich, 1978a; Andrich, 1978b; Andrich, 1978c), and the other (Authors) used hierarchical linear modelling or HLM (Bryk & Raudenbush, 2002).

5. Results

This section discusses three interrelated aspects of *flow theory* research. The first is theoretical, the substantive orientation which situates the epistemology within the theory of optimal experiences, flow and enjoyment. The second is ontological, concerning the nature and existence of the phenomenon of experience in the classroom. The third is methodological, describing particular methods for collecting data to test theoretical assumptions.

(a) Substantive orientation

The construct map of engagement developed in the first study (Author, 2012) used the capabilities-expectations model which was based on the skills-challenge balance aspect of *flow theory*. *Capabilities* were operationalized as "theories'' of learning (*self-esteem*, *self-concept*, *resilience*, *self-regulation* and *self-efficacy*). *Expectations* were operationalized as the facets of learning for understanding including *explanation*, *interpretation*, *application*, *perspective* and *empathy* (Wiggins & McTighe, 2001). The use of *flow theory* was restricted to specification of a two-construct model of engagement and the sub-constructs in each were derived from learning and curriculum theory. The construct map of the learning environment was initially based on school effectiveness and school improvement research – *educational values*, *learning outcomes*, *peer learning attitudes and behaviours*, *peer support*, *peer discussion*, *classroom planning*, *teacher support and expectations*, and *parental involvement* (see Authors, 2004). The substantive orientation of the Author (2012) study was mainly a range of traditional educational theories about effective learning, teaching, classrooms and schools.

The constructs informing the second study (Authors, 2013) evolved from decades of research into flow and student engagement (see Authors, 2003). In their previous studies, the authors (2013) investigated student *classroom confidence, intrinsic motivation*, *vitality*, *academic intensity* and *negative affect*. These constructs were indicated by experiences of *importance*, *interest*, *challenge*, *enjoyment*, *concentration* and *control*, and feelings of *happiness*, *creativity*, *stress*, *excitement*, *boredom*, *anxiety* and *irritation*. The researchers (2013) also developed a construct map to represent how *flow theory* informed *optimal learning environments*. The components of optimal learning environments were *environmental complexity* (challenge and support); *support for motivation and engagement*, *importance of the activity*; *complex and situated tasks*; *clear goals*; *interactivity and transactional learning*; *feedback*; *activity level*; *assessment*; *teacher's direct role/management*; and *concept and language development*. The substantive orientation of this (2013) study was *flow theory* and *positive psychology,* a focused and cohesive body of knowledge, but one which is not usually considered as mainstream educational theory or studied in learning environment research.

(b) The nature of the phenomenon – a phenomenological approach

Learning environment researchers use a variety of tools to collect data on perceptions, beliefs, values, attitudes, behaviours, skills, abilities, dispositions, expectations and understandings. Students provide information about themselves, their view of others, their view of the teacher, or their view of materials, objects and events. Similar data are also elicited from teachers, parents and other adults. These subject-completed instruments are complemented by researcher-completed instruments such as checklists and observational schedules. This diversity in types of data presents difficulties when defining the object of inquiry, the phenomenon of interest, or indeed the learning environment per se. For example, the data produced when students respond to rating scale items asking about their view of the teacher are perceptual. Is the object of measurement the teacher, students, student perceptions, or student perceptions of the teacher? The first study (author, 2012) examined used a rating scale instrument to elicit data from students, and the resulting representation of engagement and the learning environment, was fabricated from the student responses in conjunction with the theory underlying the construct map. The study directly measured a range of student attributes (e.g. values, attitudes and beliefs), but indirectly measured engagement and the learning environment. The second study (Authors, 2013) asked students about their experiences but the object of measurement was itself experiential. Flow and engagement were defined as experiences – the experience of flow and experience of engagement. Similarly, the learning environment can be conceptualized as an experience or a combination of experiences such as environmental support or challenge, which in turn lead to an enhanced experience of engagement. Information on multiple experiences provides a more direct representation of the object of interest when the object is itself an experience. Hekter, Schmidt and Csikszentmihalyi, (2007) viewed the measurement of experience as a *systematic phenomenology,* with attention to empirical tools (e.g. statistical analyses), as well as to lived subjective experiences, the traditional concern of phenomenology. Adoption of a phenomenological approach to understanding the learning environment brings philosophical matters and processes to bear in deliberations about the ontology of learning environment research. The academic credibility of this field of inquiry is strengthened by the philosophical grounding.

(c) Particular methods

The first study (Authors, 2012) used one-time data collection, and students completed a survey once. Consequently, measuring a student's engagement over time and in different environments was not possible. Alternatively, the second study (Authors, 2013) applied the Experience Sampling Method or ESM (Hekter et al., 2007), and re-administered surveys of subjective experience several times. Students were prompted by a pre-programmed wristwatch when to complete the survey. Repeated-measures data were collected on different occasions during the same lesson, as well as through a succession of lessons. While the structure of the data are made complex by an individual student contributing information more than once, the range of experiences sampled can be extensive, resulting in highly informative data. Another advantage of the ESM is the immediacy of the response; by responding spontaneously, students are not reliant on their memory of past experiences. Also, the unit of analysis can be the individual student, or on instructional episodes experienced by a group of students at different times. This enables mapping of growth and developmental trajectories student by student.

6. Scholarly significance

The classroom learning environment is the crucible for the understanding of a complex suite of student, teacher, school and school system influences on motivating, enduring and meaningful

student experiences. The application of theory and methods from diverse fields of research has the potential to enrich and extend learning environment research. In particular, the current study has identified three relevant aspects of *flow theory* and recent research into enjoyable and engaging classroom experiences:

First, *flow theory* encompasses positive psychology constructs concerning well-being, happiness and human strengths, and the notion these can lead to optimal experiences. The expression and manifestation of these qualities are rarely investigated in learning environment research.

Second, a classroom learning environment can be viewed as the setting for enjoyable and engaging experiences, but more importantly as an experience that can be optimised. This is a phenomenological representation centred on subjective lived experiences and is amenable to philosophical interpretation, a desirable attribute of a construct.

Third, the *flow theory* instrument, the ESM, captures the immediacy of experiences repeatedly and on multiple occasions. It is sensitive to changes in the experiences of an individual over time and in different situations, and generates rich detailed data on individuals and groups.

The study did not examine reports of investigations using interpretive methods. While this material is limited, it is available and needs to be studied. Similarly, increased use of *flow theory* in learning environment research will provide more material and potentially novel applications that should also be studied.

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