Are perceived learning environments related to subjective well-being? A visit to university students

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ABSTRACT

This study examined whether university students' subjective well-being is linked to their perception of learning environments grounded in constructivism. Five hundred and twelve students from two universities in China participated in the study. The participants completed questionnaires in class concerning the extent to which they perceived their learning environment to be constructivist-oriented and their subjective well-being (i.e., life satisfaction and positive and negative affect). After controlling for demographic variables (i.e., age, sex, university, and major), students' perceptions of a constructivist learning environment were significantly linked to their life satisfaction and positive and negative affect. More specifically, the environmental dimensions of clear goals and coherence of curricula, student-student cooperation, and learning facilities were positively associated with life satisfaction, and clear goals and coherence of curricula and learning facilities were also positively related to positive affect. However, student autonomy was found to be negatively related to life satisfaction. Despite that these results are correlational in nature, implications for higher education are discussed.

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1. Introduction

In research on school effectiveness, considerable attention is paid to the influence of learning environments on academic outcomes (e.g., academic performance), but less attention is afforded their influence on non-academic outcomes (Rutter & Maughan, 2002). Given that educators are increasingly attaching importance to non-academic outcomes as one of the aims of education (Noddings, 2005), it is necessary to identify the characteristics of learning environments that are linked to students' social and emotional outcomes such as subjective well-being (SWB).

Several researchers have examined the relationships between learning environments grounded in or consistent with constructivism and students' mental health and/or satisfaction with the classroom and school life (Dyrbye et al., 2009; Kangas, 2010; Loyens, Rikers, & Schmidt, 2007; Maton, 1990; Milkie & Warner, 2011; Shernoff, Csikszentmihalyi, Shneider, & Shernoff, 2003; So & Brush, 2008; Tan & Zeng, 2007), but their investigations have not always been comprehensive and systematic. For example, only a few learning environment dimensions have been examined in relation to SWB (see details in Section 1.2). Moreover, the inventories assessing learning environments consistent with constructivism focus primarily on the classroom rather than school (or university/college) level (Li, Hu, Pan, Qin, & Fan, 2014). In addition, in the few existing school-level inventories (e.g., Huang & Fraser, 2009), school environments are assessed from the perspective of teachers rather than students. Therefore, the purpose of the study reported in the present paper was to examine the link between students' perception of a learning environment that describes or reflects the features of constructivism at the university level and their SWB at university by considering a variety of learning environment dimensions inside and outside the classroom.

1.1. Theoretical frameworks of learning environments and subjective well-being

1.1.1. Learning environments

Fraser (1998) described learning environments as "the social, psychological, and pedagogical contexts in which learning occurs and

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which affect student achievement and attitudes" (p. 3). From the constructivist perspective, learning is regarded as a process of active knowledge construction (Brooks & Brooks, 1993; Loyens & Gijbels, 2008; Steffe & Gale, 1995). As a result, effective learning environments consistent with constructivism (i.e., constructivist learning environments, CLE hereafter) should pay attention to the process of knowledge construction (i.e., encouraging high-quality thinking; De Corte, 1995, 2000) and help students to understand the structure and process of such construction (Moreno & Mayer, 1999). In addition, an effective CLE should make students responsible for their own learning (Vermunt, 2003) and support interactions and cooperation with teachers and peers to cultivate initiative and proactivity in the learning process (van Merriënboer & Paas, 2003).

Although the concept of constructivism is relatively popular in the learning environment arena, its influence on student outcomes remains open to debate. Some studies have documented a positive relationship between learning environment (with some constructivist features) and achievement (Harris, Santangelo, & Graham, 2008; Mason, 2004; Weinberger & McCombs, 2001). For example, when self-regulated learning is facilitated, achievement is enhanced (Harris et al., 2008; Mason, 2004). Learner-centered pedagogy in the classroom has also been found beneficial to academic performance (Weinberger & McCombs, 2001). However, other research has failed to detect a positive learning environment-outcome relationship (Dethlefs, 2003; Klein & Schnackenberg, 2000). Albanese and Mitchell (1993), for example, reviewed studies on problem-based learning (PBL, a feature of a constructivist learning environment) in medical programs and found that, in some, PBL graduates had achieved better performance in clinical examinations and faculty evaluations than their peers who had received traditional training, whereas other studies found no such superiority for PBL (for another illustration of this inconsistency, see Dinsmore, Alexander, & Loughlin, 2008).

One likely reason for the divergent findings regarding the effectiveness of CLE in previous research might be the use of different student learning outcomes, ranging from subject grades and GPAs to students' grades in a single course, to evaluate such effectiveness (Fan & Zhang, 2014). Grades and especially GPA are commonly used as the dominant measures of academic performance. However, "their reliability and validity have been questioned because of factors such as grade inflation, which is the tendency to provide higher grades for the same substantive performance at different levels of study or at different periods in time" (Johnson, 1997, cited in Poropat, 2009, p. 323). This problem of the reliability of GPA may affect the measure's temporal stability and its correlations with other variables (Poropat, 2009). In this sense, the extent to which grades could represent students' actual ability may also differ. In contrast, in most cases of non-academic outcomes, such as SWB, the same instruments or inventories are often adopted across multiple studies with information regarding reliability and validity being reported, which renders their results more comparable (e.g., Diener, Tay, & Oishi, 2013; Thompson, 2007). Another problem with the extant literature on CLE effectiveness in relation to academic outcomes is that the learning environments examined are characterized by different aspects of constructivist features in different studies. Accordingly, the differing nature of outcome assessments and different environmental dimensions considered in these studies have led to inconsistent results (Albanese & Mitchell, 1993; Dethlefs, 2003; J. D. Klein & Schnackenberg, 2000; Weinberger & McCombs, 2001). Investigating non-academic outcomes utilizing widely used inventories and considering different CLE dimensions simultaneously may thus help to get a more precise picture of CLE effectiveness. In other words, examining the relationship between CLE and SWB may provide additional insights for the discussion of CLE effectiveness.

1.1.2. Subjective well-being

SWB has been defined from a range of perspectives using different terms (Diener, 1984). However, the most widely accepted definition is: "a person's cognitive and affective evaluations of his or her life as a whole" (Diener, Oishi, & Lucas, 2009, p. 187). Thus, SWB includes both cognitive judgments concerning life (i.e., life satisfaction) and emotional reactions to life events (i.e., positive and negative affect).

Previous research suggests that perceptions of well-being derive from the summation of momentary pleasurable experiences and pleasure experienced in different life domains. In other words, life events and circumstances influence judgments of domain satisfaction and emotional experiences, which in turn influence global judgments of well-being. These results seem to support bottom-up theories of SWB (see Diener, Lucas, Oishi, & Suh, 2002; Paykel, 2003). In line with the purpose of the present study, the literature on learning environment-related factors linked to SWB is discussed in the following section.

1.2. Relationship between learning environments and subjective well-being

At the theoretical level, the notions of positive psychology and constructivism give rise to examination of the link between learning environments and SWB. Positive psychology assumes that engagement and meaning are two important indicators of well-being (Cohen, 2006), which accords with the epistemology of constructivism underpinning CLE. From the perspective of constructivism, students play an active role in their own learning, and knowledge should be constructed within an authentic context (Loyens & Gijbels, 2008). Therefore, learning environments based on constructivism purposefully encourage students to engage themselves in constructing knowledge and to identify meaning through the process of knowledge construction and making connections with real life. As a consequence, the engagement and meaning identification induced by a constructivist-oriented learning environment would be related to students' cognitive and affective experience of well-being.

At the empirical level, the link between CLE and SWB has been examined to a lesser extent than that between SWB and other variables, such as ethnicity, culture, income, familial relationships, marriage, employment, and other life events (e.g., Diener & Biswas-Diener, 2002; Diener & Diener McGavran, 2008; Lucas, 2005; Lucas, Clark, Georgellis, & Diener, 2004; Oishi, 2001; Veenhoven, Ehrhardt, Ho, & de Vries, 1993). A few studies have demonstrated a relationship between learning environments with certain features of constructivism and student problem behavior and mental health (e.g., Dyrbye et al., 2009; Kumar, O'Malley, & Johnston, 2008; Milkie & Warner, 2011; Suldo, McMahan, Chappel, & Loker, 2012). For example, Milkie and Warner (2011) found classrooms with fewer material resources to be associated with children having more learning, externalizing, interpersonal, and internalizing problems. These classrooms had a more negative atmosphere and made it more difficult for teachers and students to use active techniques (e.g., experiments and/or real-world problem solving) to create more knowledge. In the same vein, Dyrbye et al. (2009) conducted a study among medical students, and discovered that such learning environment dimensions as collaborative learning, supervision availability, constructive feedback, and available support from others are significantly related to minimizing student burnout.

Moreover, research has also suggested that learning environments that capture certain features of constructivism are potentially linked to student satisfaction with specific life domains. For example, Tan and Zeng (2007) carried out a survey with high school students to investigate the relationship between certain learning environment dimensions (e.g., the teacher-student relationship, relationships with classmates, and learning burden) and six domains of student satisfaction (i.e., friendship, family, school, academic performance, freedom, and environment). They found the first two dimensions to be positively associated with all of the satisfaction domains, and the third, learning burden, to be negatively related to every satisfaction domain except friendship. Furthermore, researchers have demonstrated perceived teacher support and peer support to be positively related to students' satisfaction with school life (Baker, 1998, 1999; Gest, Welsh, & Domitrovich, 2005). In addition, satisfaction with courses and satisfaction among