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Learning and developing positive psychology via knowledge building

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Abstract: This study explores how 56 college students engaging in knowledge-building to advance their knowledge about positive psychology. Data include online behaviors, course evaluation results, and a survey. The findings showed: 1) students were able to work collaboratively to discuss online about two psychological theories; 2) knowledge-building, esp. knowledge-sharing, was significantly related to final course assessment; 3) surveys showed improved well-being scores among students.

1. Introduction

Well-being, as a predictor of psychopathology (Keyes et al., 2010; Wood & Joseph, 2010), has been deemed as important for mental health (Keyes, 2007). In order to enhance well-being, scholars have used positive psychology interventions (PPIs) (Allen et al., 2021; Fordyce, 1977; Seligman et al., 2005) --defined as psychological interventions (e.g., teaching, training, therapy) aimed at raising people's positive cognitions, feelings, and behaviors with the help of positive psychology (Sin & Lyubomirsky, 2009). Layous et al. (2013) suggested that during participants' practice of PPIs, use of a strategy called "peer testimonials" by which students share their life experiences may enhance their understanding of the nature of PPIs and their mental health. Knowledge-building (KB) is a pedagogical approach that regards ideas as basic units of knowledge construction, and values sustained idea generation and improvement to co-construct knowledge (Scardamalia & Bereiter, 2006). Knowledge Forum (KF) is an e-platform to support knowledge building (Scardamalia & Bereiter, 2006) via students' working collaboratively with ideas for in-depth discussion (e.g., about one's testimonials during PPIs) to advance community knowledge. This study aims to explore the influence of developing PPIs while sharing peer testimonials in KF in a positive psychology course. By encouraging students to discuss how to apply positive psychology theories in life, we expect students to be able to design relevant PPIs while sharing their testimonials in KF to improve learning and promote well-being. Accordingly, the research questions are: (1) Can students interact intensively in KB activities, and if so, how? (2) Is there a relationship between KB and students' course assessments/grades? (3) Can KB, with focus on PPIs and testimonials, enhance students' well-being?

2. Method

Participants were 56 Taiwanese college students taking a positive psychology course. The course asked students to discuss 3 topics: (1) PERMA—i.e., using Positive emotions, Engagement, Relationships, Meaning, and Achievements to build "good memories" in life (Seligman, 2018); (2) VIA-IS—i.e., Virtues-in-Action Inventory Strengths (such as using courage, temperance, etc. to share character strengths); and PPIs—i.e., to design PPIs by applying PERMA and VIA-IS in daily life. In terms of study procedure, building on Fredrickson's (2001, 2009) broaden-and-build conceptualization, students engaged in knowledge building in KF to design their PPIs (Figure 1). During the course, students discussed PERMA and VIA-IS and contributed, read, share, and built-on ideas in the form of notes in KF, to develop their testimonials in their PPIs. Regarding the 3 data sources, the first pre-post survey items were taken from: Taiwan Subjective Bell-Being Scale—Short Form (TSWBS-SF) and Taiwan Depression Scale (TDS), with 5 items coming from the TSWBS-SF (i.e., items about psychological well-being, such as "Some people think that life has no purpose, but I don't", and 6 items coming from the TDS in terms of emotional aspect (such as "I am stressed"). Second, online activity logs were concerned with notes created, modified, read, and replied to by students in KF. Third, the final course assessment was a well-established evaluation method required by the university, which was calculated by combining the results of midterm written reports, final audiovisual presentations, and class participation.

3. Result

First, Table 1 shows how students worked interactively online in KF. Students were found to consistently work with ideas by creating, revising, and reading notes over three topics/stages in a semester. The three activities were also correlated (all r's>.69**), indicating the more notes generated, the more also being read/modified/replied. Overall, students were able to collaborate as a class community. Second, regarding relationship, regression analysis showed that the number of notes read had a significant relationship with academic achievement, $\beta = .36$, $p < .001$. But there was no significant relationship between academic achievement (i.e., course assessment) and

notes created (β = .82, p = .59) or notes modified (β = -.76, p = .62). As the final assessment grades were mainly based on students' knowledge, this indicates that online reading (i.e., idea sharing) plays a crucial role in fostering students' in-depth understanding of the psychological theories learned in this course. Third, the survey results also showed significant differences in the mental-scale (Table 2), indicating KB is related to improved mental health.

Fig. 1 Integrating Fredrickson's broaden-and-build theory into knowledge building activities in KF

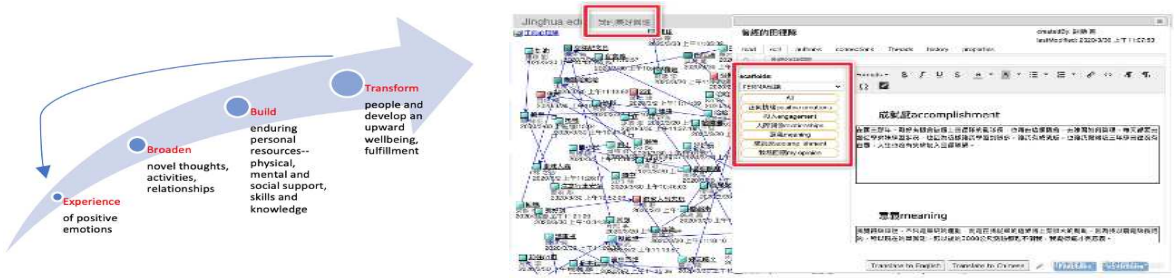

Table 1. Descriptive Analysis of Students' Activities in KF (N = 56).

KF activities	Topic/Stage 1		Stage 2		Stage 3	
Activity frequency	Total	Percentage	Total	Percentage	Total	Percentage
Creation	163	10%	126	16%	307	13%
Modification	423	24%	251	32%	697	28%
Reading	1157	66%	413	52%	1453	59%

Table 2. The Difference Between the Pre-Test and Post-Test of the Mental Scales t-test (N = 56).

Items	M(SD)		df	t-value	p	Effect sizes(d)
	Semester beginning	Semester end				
Psychological well-being	17.13（3.12）	18.07（2.81）	55	-2.12	.038	.32
Depression-emotional	5.82（3.93）	4.86（3.46）	55	-2.37	.022	.26

4. Discussion, summary and conclusion

In contrast to the traditional instructional method that tends to highlight the process of acquiring, understanding, or internalizing theoretical concepts via knowledge-telling in a positive psychology course in Taiwan, this study used knowledge-building theories with the support of KF platform to design a community-based positive psychology course. Students discuss how to apply the PERMA and VIA-IS theories online to developing their testimonials within PPIs, and it was found 1) students were able to work collaboratively to discuss online about two psychological theories; 2) knowledge-building in general, esp. knowledge-sharing (i.e., reading) in particular, was significantly related to final course assessment; 3) surveys showed improved well-being scores among students. In conclusion, the online process of idea-centered discussions to achieve a collective goal of knowledge construction in the field of positive psychology by sharing testimonials via the progressively idea improvement leading to the development of PPIs seems to have served as a way for deeper learning about one's own cognitive understanding and mental well-being. Further data analysis on the actual note content will be performed to triangulate the present findings in this work-in-progress paper.

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