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The influence of personality on social participation in learning environments

Avner Caspi *, Eran Chajut, Kelly Saporta, Ruth Beyth-Marom

The Open University of Israel, Chais Research Center for the Integration of Technology in Education, 108 Ravutzki St., P.O.B 808, Raanana 43107, Israel

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Abstract

The impacts of the instructional environment (classroom vs. Web-based instructional environment—WBIE) and personality differences on students' social participation were examined among 214 university students. Students reported their attendance, willingness to participate and actual participation in each instructional environment. Students' personality traits were measured by the Big Five Inventory. It was found that despite of frequent attendance to both educational environments, the classroom seems to enhance students' active participation whereas WBIE appears to inhibit it. Participants in class were more extroverted, open to new experiences and emotionally stable, relative to non-participants. Such differences were not found between WBIE participants and non-participants. Students who actively participated only in WBIE were more introverted and more neurotic than students who participated in both environments, students who did not participate in either instructional environment, or students who participated exclusively in class. These results point to the psychological impact of the two instructional environments, and suggest viewing social participation as a result of educational context while individual differences play secondary role.

Keywords: Personality; Big Five; Participation; Classroom; Web-based instruction

* Corresponding author. Tel.: +972 9 778 1342; fax: +972 9 778 0626.
E-mail address: avnerca@openu.ac.il (A. Caspi).

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1. Introduction

Human behavior has both extrinsic and intrinsic determinants. This paper focuses on academic behavior, and in particular on participation in class, and two of its antecedents: the instructional environment (an extrinsic determinant) and personality traits (an intrinsic determinant). Two instructional environments were compared: a face-to-face classroom environment and a Web-based instructional environment (WBIE). We contend that if a student participates in both environments to the same degree, this can be attributed to personality, because classroom participation may be a manifestation of personality traits (for instance, extroversion). However, if a student participates in one environment but not in the other, this may reflect the impact of the medium, although the role of personality cannot be ruled out. In order to test this hypothesis, we focused on (1) students' willingness to participate in the instructional environments, (2) students' actual participation in the environment, (3) the relations between these two measures within each environment, and (4) the correlation between participation in the two environments. In addition, we examined personality differences among students in order to clarify whether personality traits can explain differences in the above measures.

1.1. Participation in academic activities

Students' participation in academic activities is often divided into "academic engagement"—behavior related directly to the learning process; for example, time on task or participation in organized learning activities; and "social engagement"—the nature of students' interaction with instructors or peers (Finn, Pannozzo, & Achilles, 2003). Both forms of participation show consistent correlations with academic performance (Finn et al., 2003; Finn, Pannozzo, & Voelkl, 1995; Marks, 2000; McDermott & Beitman, 1984). Studies show that attending and responding to the instructor as well as self-initiated participation are related to achievement (Kerr, Zigmond, Schaeffer, & Brown, 1986). Research on college students has shown that the time and energy students devote to educationally purposeful activities is the best predictor of their learning performance (Astin, 1993). Nevertheless, it is unclear whether it is classroom participation per se that helps students to construct meaningful knowledge or whether it is their overall higher ability that is manifested in active participation. Marks (2000) reported that differences between students rather than differences between classes or schools were responsible for the majority of variability in academic engagement, thus emphasizing the role of students' personality over environmental factors. In this paper the terms "classroom participation" and "participation" denote "social engagement" or "social participation".

Instructional theories emphasize the advantageous of active learning, including participation in academic activities. The constructivist view maintains that knowledge is socially and actively acquired (Jonassen, 1991; Vygotsky, 1962). Therefore, in order to construct knowledge, students have to struggle with a variety of opposing understandings (Perkins, 1991); for example, by collaborative problem solving (Cunningham, 1992), argumentation, reflection, or primarily through discussions (Garrison, 1989; Kanuka & Anderson, 1999). In terms of the activity theory of learning, the influence of activity on learning is clear: "As we act we gain knowledge, which affects our actions, which changes our knowledge, and so on" (Jonassen & Rohrer-Murphy, 1999, pp. 64–65).

Very few published research documented students' social participation in class. Hall, Delquadri, Greenwood, and Thurston (1982) found that elementary pupils asked questions or responded to the teacher during only 1% of the school day. Nunn (1996) reported that in college courses only about 6% of the time was devoted to classroom discussion and only about 25% of the students took part in these