

The Predictive Role of Innovation Culture on Teachers' Work Engagement

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Abstract: This study determined the predictive role of innovation culture on teachers' work engagement in selected higher education institutions in Guangdong, China. The study involved 344 teacher respondents who were chosen randomly from a total population of 3201 teachers. Innovation culture was measured in leadership and management, approaches to innovation, involvement in innovation and skills for innovation, barriers to innovation, personnel resources, problem-solving, and risk, approach to innovation in teaching and learning, and innovation in practice. On the other hand, work engagement was assessed in terms of cognitive engagement, emotional engagement, and social engagement. The finding showed that approaches to innovation in teaching and learning, problem-solving and risk, and innovation in practice have a predictive influence on teachers' work engagement.

Keywords: Innovation Culture; Teachers' Work Engagement.

1. Introduction

Educational institutions aim to equip students with global competencies that will prepare them for the challenges of the twenty-first century [1]. The realization of the said goal can be done through innovation. According to the OECD [2], innovation is the key to improving the quality of outcomes in all educational institutions. To achieve educational change, cultivating an innovative culture must be necessary [3]. Vincent-Lancrin et al. [4] claim that the dependence of students' development on the design and implementation of innovation is becoming an international trend. This implies that innovation in schools should now be a standard process. Innovation is at the heart of China's quest for a high global ranking in education. Chinese researchers so far have not assessed innovation as a school culture. Existing literature on school-related innovations focuses only on administrators, teachers, and students' behavior, skills, and practices. Likewise, researchers have not analyzed the influence of innovation culture on teachers' work engagement. It should be noted that school innovation culture and teachers' work engagement are essential in attaining quality education. Studies dealing with these topics are urgent because there is considerable public concern in China about the quality of higher education [5].

Studies have shown that innovation is a broad concept often associated with management and business organization perspectives. According to Leron and Bacongus [6], there is still a need to establish the applicability of innovation culture in educational institutions. On the other hand, work engagement has been primarily studied, and some studies have even linked work engagement to innovative behavior. These studies, however, are often conducted in the context of business organizations and not in higher education institutions. Furthermore, some studies relating to work engagement and innovativeness are ambiguous [7]; hence, there is a need for further research.

Innovation is commonly seen as introducing something new and valuable or incorporating new elements into an existing one. It is deliberate, systematized, and planned [8].

Many teachers associate innovation with modern technology. Innovation, however, does not only involve modern technology; its essence is updating and improving methodologies used in the classroom so that learning is inclusive and more relevant to current demands. Hence, teachers must adapt and update their processes and materials [9].

Innovation culture has multiple dimensions. According to Xie et al. [10], it is both an environment and a culture. It is also characterized by participation, growth, and enhancement in performance [11]. Due to the broad extent of innovation culture and its lack of operationalization [12], measuring it needs clear parameters. Some parameters are standard across different definitions of innovation culture. The most common aspects of innovation culture are risk-taking [13], [14], collaboration and teamwork [15], [16], communication [17], [18], school structure [19], [20], school strategy [18], [21], and innovative behavior [22], [23]. Most of these aspects are reflected in the OECD scale for measuring innovation in education [2].

For OECD [2], innovation culture in educational institutions comprises the following domains: leadership and management, approaches to innovation process, involvement in innovation, skills for innovation, barriers to innovation, personnel resources and knowledge inputs, approaches to innovation in teaching and learning, and innovation in practice. According to Vincent-Lancrin [4], the OECD innovation culture scale is suitable for any type of school. Its universal nature means it can also capture the Chinese context of innovation culture. Using these domains, the OECD conducted a global survey in 2014, which showed that, on average, innovation culture in education is at a fair level globally.

Innovation can be imposed from above the organization or by outside forces like the government. On the other hand, it can arise from the initiative of individual teachers [24]. When innovation is imposed from above, teachers are usually isolated, and the process is short-lived. For innovation to become a culture, it requires the collaboration of teachers in which they can also question their beliefs and habits. Teachers

should be involved in the research about their pedagogies to allow them to analyze their teaching methods [8]. The collaborative nature of innovation culture hints at its possible association with work engagement. There is a big possibility that an innovative culture at school can cultivate teachers' work engagement, generally described as a mental, emotional, and physical investment at work.

Work engagement refers to the mental and physical energy people invest in their work [25]. It encompasses the perseverance, sense of significance, enthusiasm, effort, and pride of people in the workplace [26]. Good work engagement in any organization is highlighted because it indicates its performance [27] and employee job satisfaction [28]. Having a high level of engagement in the workplace keeps employees mentally and physically focused with pride in their jobs. Since the work of teachers demands a higher level and long-term social engagement devoted to establishing relationships with students and colleagues that is not common in other professions, Klassen, Yerdelen, and Durksen developed and validated the ETS or Engaged Teacher Scale [29]. Four factors make up ETS. These are cognitive engagement, emotional engagement, social engagement (students), and social engagement (colleagues).

Based on the description of cognitive engagement by Huang et al. [30], cognitively engaged teachers are highly focused and engrossed in their jobs. When emotionally involved with students, teachers are dedicated, committed, and attentive to students' needs. The caring nature of the teaching profession that requires emotional work [31] manifests in social engagement with the student. Meanwhile, the teachers' social engagement with colleagues, manifests in their professional interactions [32]. It is about valuing relationships built with their colleagues.

This study is anchored on the Work Engagement Theory developed by Kahn in the 1990s. According to this theory, work engagement is the degree to which an individual shows self-preference in tasks to promote connections between self and job [30]. It is the medium through which a person can increase role performance through cognitive, emotional, and physical investment. This theory, however, is most relevant to employees in the business sector. Recognizing the different contexts of teachers' work, Klassen et al. [31] added the social domain. They reasoned that a teacher's work involves a lot of social engagement, particularly with students. The result of their study, however, showed three relevant domains only for teachers' work engagement. These are cognitive, emotional, and social. The physical domain turned out to be irrelevant for their teacher respondents. On the other hand, the social domain was further divided into teacher-student and teacher-teacher engagements. Klassen et al. [31] work engagement scale proved to be a more specific measure for teacher engagement; thus, it will be used in the study.

2. Methodology

The study followed the quantitative method. It generated a predictor model that describes the influence of innovation culture on teachers' work engagement. The study involved teachers from three selected universities in Guangdong, China. Of the 3201 teachers in the three universities, 344 were selected randomly as respondents. The study used a survey to gather data. The survey questionnaire was based on the Innovation Culture Questionnaire for Teaching Staff [4] and the Engaged Teacher Scale [31]. Experts validated the survey questionnaire and pilot-tested. It showed good reliability. To

test the hypothesis, the study used multiple linear regression analysis.

3. Results and Discussion

Table 1. Innovation Culture

Domains	Mean	SD	Interpretation
Leadership and Management	3.13	0.49	Strong Innovation Culture
Approaches to Innovation	3.03	0.53	Strong Innovation Culture
Involvement in Innovation and Skills for Innovation	2.96	0.51	Strong Innovation Culture
Barriers to Innovation	3.03	0.49	Strong Innovation Culture
Personnel Resources	3.03	0.50	Strong Innovation Culture
Problem-solving and Risk	3.14	0.44	Strong Innovation Culture
Approaches to Innovation in Teaching and Learning	3.18	0.43	Strong Innovation Culture
Innovation in Practice	3.06	0.48	Strong Innovation Culture
Overall	3.07	0.43	Strong Innovation Culture

Table 1 shows that the overall innovation culture is strong. It has an overall mean of 3.07. All the domains have means that point to a strong innovation culture as well. The school leadership and management are receptive and supportive of innovation. There is a well-established approach to the innovation process regarding material and behavioral support and the flow of ideas. The respondents believe that they are involved in school innovations and that their innovative skills are being recognized and developed. The schools can identify and overcome innovation barriers. There are personal resources for innovations in the schools that facilitate innovative activities.

Regarding problem-solving and risk, the respondents are generally creative in solving problems and espouse a positive attitude to the related risks. The respondents also use innovations in teaching and learning. Their innovative practices are evident in trying new ways of doing things, especially in problem-solving.

Table 2. Teachers' Work Engagement

Domain	Mean	SD	Interpretation
Cognitive Engagement	3.22	0.46	High Work Engagement
Emotional Engagement	3.17	0.52	High Work Engagement
Social Engagement (Students)	3.30	0.42	High Work Engagement
Social Engagement (Colleagues)	3.25	0.48	High Work Engagement
Overall	2.35	0.76	High Work Engagement

The finding about innovation culture conforms with the study of Li [34], which showed a high rating in the assessment of teaching innovations in Chinese schools. Cai and Tang [35] attribute the promotion of innovation culture to school leaders who can shore up organizational support for teachers. In Chinese higher educational institutions, the approach of

student partnership for change is tied up to innovative technology and entrepreneurship. The innovation culture manifests in funding students' creative thinking and entrepreneurial ideas and providing an incubatory platform [36]. Rewards and recognition are also used to strengthen innovation culture. According to Chen et al. [37], reward and recognition motivate Chinese teachers to innovate curricula in higher vocational education institutions. Chinese teachers generate innovative ideas [38] and build strong collaborative relationships [39] which are necessary for innovation.

Table 2 shows the high work engagement of the respondents. It has an overall mean of 3.24. The high cognitive engagement indicates the respondent pay a lot of attention to their work when teaching. The respondents are highly engaged emotionally with their teaching jobs. They love teaching, and they are happy with their work. The respondents also have a high social engagement with students. It manifests in the empathy of the respondents toward their students. The respondents also connect well with their colleagues. They value their relationships and commit to helping their colleagues.

The finding about work engagement conforms with the study of Jun [40] He found out that Chinese teachers have a fair level of cognitive engagement. The respondents' emotional engagement is similar to the findings of Gozon & Yango [41]. They found that Filipino teachers have very high emotional engagement. They enjoy teaching, look forward to it, and are fulfilled by it. The finding on social engagement with students conforms with the result of Wang et al.'s [42] study. It showed that Chinese teachers are socially engaged with students.

Table 3. Predictor Model

Domain	R ²	Beta	Sig
Problem Solving and Risk	0.667	0.211	.000
Approaches to Innovation in		0/326	.000
Teaching and Learning		0.317	.000

Table 3 shows the multiple regression model, which shows the predictive role of innovation culture on work engagement. The model is comprised of the following innovation culture domains: problem-solving and risk (Beta= 0.221, Sig =.000), approaches to innovation in teaching and learning (Beta =0.326, Sig =.000), and innovation practice (Beta =0.317, Sig =.000). The model explains 66.7% (R² =0.667) of the variance in work engagement.

Problem-solving and risk account for 0.211-factor change in work engagement. If the teachers' creative ability to solve problems is enhanced, it is most likely to improve their emotional engagement. They can eliminate many stressors in their work, enabling them to have fun teaching and be happy and excited. With a more positive outlook on risks, the teachers will not be pressured to avoid failures. In a way, competent teachers can quickly tell whether their new teaching and learning strategies are working. By actively monitoring the students' learning, the teachers can manage the risks of trying new things in the classroom.

Innovation in practice predicts a 0.317 change in work engagement. A significant part of this innovation culture domain is rooted in collaboration. By improving innovation practices, work engagement will be impacted positively. The impact is most likely on colleagues' social engagement

because collaboration connects them to other teachers. On the other hand, approaches to innovation in teaching and learning can cause a 0.326-factor change in work engagement for every unit increase. The impact of approaches to innovation in teaching and learning is more likely on cognitive and emotional engagements. Since innovative teaching methods illicit active learning, the teacher will have more fun teaching. They can enjoy teaching because students are learning. Once the teachers see that their efforts in the classroom translate to meaningful learning, their cognitive engagement will be higher. The teachers will become more committed to their work.

4. Conclusion

The study highlighted another positive impact of innovation culture on teachers. It showed that a strong innovation culture in the school influences teachers' work engagement. Enhancing the following domains of innovation culture: problem-solving and risk, approaches to innovation in teaching and learning, and innovation practice can also improve teachers' work engagement. Promoting school innovation culture makes the school environment conducive to teachers' cognitive, emotional, and social engagements.

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