

THE INFLUENCE OF TRANSFORMATIONAL LEADERSHIP ON TEACHER INNOVATION CAPABILITY IN COLLEGES OF HAINAN

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ABSTRACT

In today's information age, innovation has become the first power of social development, which is regarded as the basis of the overall competitiveness of a country or a region. As teachers play the key role in educational reform and development, teacher innovation capability is highly demanded. The aim of this research is to understand the relationship between transformational leadership and teacher innovation capability in the context of higher education in Hainan. The study uses mixed research methodology to examine the impact of transformational leadership on teacher innovation capability by collecting data from 345 college teachers in Hainan. The result of this study will be of great significance to the research theories on leadership and teacher development and practices related to leader and teacher training programs in higher education and contribute to the local educational improvement and economic growth.

Keywords: Transformational Leadership, Teacher Innovation Capability, Colleges in Hainan

INTRODUCTION

Research Background

With the rapid development of the new scientific and technological revolution, scientific and technological progress and innovation have become decisive factors in economic and social development, which is regarded as the basis of the overall competitiveness of a country or a region. In today's information age, innovation has become the first power of social development. Innovation is the soul for national progress and an inexhaustible motive force for national prosperity.

As is known to all, transforming ideas of innovation into idealization needs innovation education which counts on innovative teachers. As the backbone of cultivating innovative and applied talents, colleges aim at serving the local economy, to assume the social responsibility of development. The

cultivation of innovative talents can't be separated from the innovation of education, and the core of innovation of higher education lies in college teachers, who should be the backbone of educational innovation. With the strong demand for innovative talents, it is becoming an important task of future education to cultivate students' innovative capability. Apparently, student innovation capability directly depends on teacher innovative capability that is also closely related to the promotion and development of teacher quality. Therefore, training and improving teacher innovation capability has become the core proposition in the field of teacher education. China has released many related policies in the last decade. Early in the year of 2010, Ministry of Education of People's Republic of China unveiled Plan for the National Medium and Long-term Education Reform and Development (2010-2020) (China's Ministry of Education, 2010), which specified that further teaching reform needs furthering and teaching methods need enriching constantly. Innovation on teaching approaches must be greatly enhanced so that the outcome of a large number of innovative talents can be ensured. From then on, focus on cultivating innovative talents reached a high level in China. Colleges as the important base for cultivating innovative talents, the teacher innovation capability college teachers have played a crucial role in it. In the year 2015, a policy on Opinions of the State Council on Policies and Measures for Vigorously Promoting Mass Entrepreneurship and Innovation (State Council of China, 2015) proposed that pushing mass entrepreneurship and innovation is the motivation source of development as well as the strategy for building a strong country, which is of great significance for improving the adjustment of economic structure, creating and enhancing new power for development, taking away with innovation drive. Under the circumstance of entrepreneurship and innovation as well as internet +, innovation is playing a more decisive role in competition among countries. Colleges are shouldering the responsibility of providing human resources for national innovation development, thus improving teacher innovation capability is naturally the main goal for teacher professional development. Afterwards, Chinese government issued another strategy guideline for National Innovation Driven Development stressing that teaching innovation must be facilitated, talent cultivation modes must be reformed, and the whole teaching procedures must be integrated with scientific spirit, innovative thinking social responsibility (China's State Council, 2016). Two years later, a goal of constructing innovative teacher groups with high quality and professional level was put forward by Chinese government (State Council of China, 2018) to further highlight that innovative talent cultivation lies in high quality educational system. From this perspective, china proposed that teacher innovation capability in comprehensive quality and specialization has to be greatly increased by the year 2035 as a goal. Teaches with innovation capability is the key factor for future educational development (State Council of China, 2018). Soon after that, another guideline on Educational Modernization of China (CPC Central Committee, State Council, 2019) was released suggesting that innovative talent cultivation needs to be promoted especially technical talent training and the proportion of practical, compound and skilled talents should be increased. All the policies and guidelines indicate that it is the most pressing task to improve teacher innovation capability. Obviously, teacher innovation capability has received unprecedented national attention.

On the other hand, Hainan, as one of the special economic zone in China, lies in the very south of China and possesses the most favorable climate and tourism resources, which was chosen to be a pilot zone for China's tourism reform and innovation identified as international tourism island in the year of 2009 (State Council of China, 2010). In the year of 2018, the project of building Hainan free trade port was passed and supported by Chinese government (State Council of China, 2018). Another plan was issued and put forward with a guiding principle that implementing the strategy of building a strong country with talented people is the most effective way to continuously improve the economical

innovation and competition in Hainan in order to accelerate the innovation in technology and financial reform (CPC Central Committee, State Council, 2020). Therefore, as an international tourist island and free trade port in China, Hainan is striving to speed up its economy development so as to fully fulfill its role on a world stage, which calls for more innovative talents and college graduates to join it and make contribution to its local construction. Consequently, improving teacher innovation capability is considered the uppermost priority for the construction of teacher teams in higher education in Hainan for cultivating high quality international talents with innovation capability.

Problem Statement

With the rapid development of new scientific and technological revolution, scientific and technological progress and innovation have become a decisive factor in economic and social development and become the basis of a country and region's comprehensive competitiveness. Poor innovation capability will become a barrier for the future competition or even survival to a person, an organization and a country. There have been many scholars that have conducted a lot of research on studying employee innovation capability and its relationship with transformational leadership. Transformational leadership facilitates innovation capability through its four aspects including idealized influence, intellectual stimulation, inspirational motivation and individual consideration (Hui et al., 2018; Le & Lei, 2019; Suhana et al., 2019; Eyamba & APAU, 2020; Al-Husseini et al., 2021; Tan et al., 2021). However, most of the research conducted mainly focuses on context of companies, enterprises, hotels, banks, hospitals, factories and so on. It is seldom investigated in the context of higher education and targeted at college teachers in China. Practically, this model is not yet tested among college teachers in Hainan province of China.

Research Significance

The significance of the research can be listed as follow:

- The study findings will further enrich the theories related to the research on leadership and teacher development in higher education.
- The study results will provide the human resource with more practical suggestions and support on policies making in higher education.
- The model of Transformational Leadership and Teacher Innovation Capability will serve as a practical strategy for improving the leadership and teacher innovation capability so as to promoting the higher education development and contributing to the construction of Hainan international tourism island and Hainan free trade port.

Research Questions

The following questions are addressed in this research:

- What is the current situation of Transformational Leadership and Teacher Innovation Capability among college teachers in Hainan?
- What is the relationship between Transformational Leadership and Teacher Innovation Capability among college teachers in Hainan?

OBJECTIVES

The research objectives are as follows:

- To explore the current situation of Transformational Leadership and Teacher Innovation Capability in colleges of Hainan.
- To explain the relationship between Transformational Leadership and Teacher Innovation Capability in colleges of Hainan.

LITERATURE REVIEW

Teacher Innovation Capability (TIC)

In order to have the correct definition of Teacher Innovation Capability, we need to focus on the connotation of innovation. Innovation or creativity, as these two terms are often used interchangeably in research, originates from technological innovation in the Economics field. However, with the economic and social benefits, it gradually attracts scholars' attention from Sociology, Psychology and Pedagogy. Innovation or creativity is defined as "the emergence in the action of a novel relational product, growing out of the uniqueness of the individual on the one hand, and the materials, events, people, or circumstances of his life on the other" (Rogers, 1954, p.250). Innovation is basically a process of identifying problems, which is followed by generating ideas, supporting ideas and implementing ideas (Kanter, 1988; Scott & Bruce, 1994). The famous American scholar of Communications Everett M. Rogers (2003) pointed out that innovation is new ideas, new practice and new things created by individuals or organizations. Generally speaking, it is the production of novel ideas and thinking out of the box (Ghimire et al., 2021). Innovation capability means the ability of creating or application of novel products, services, creative work processes and effective management procedures to obtain competitive advantages for the development of individuals or organizations (Drucker, 2014).

As for Teacher Innovation Capability, it is the creation and application of new ideas, innovative teaching methods, and novel designing for courses in their professional work (Anderson et al., 2014; Lu, 2019). Teacher creativity/innovation capability is the implementation of applying innovation into teaching practices to create positive effects into the learning process (Budnyk, 2019). College teacher innovation capability is defined as the ability of application of original and unique opinions into teaching and scientific researching to discover effective teaching methods and achieve research results which can promote social development (Zhou & Fan, 2018). It is a complex of creativity which consists of abilities in identifying new issues, raising new questions, and solving new problems as well as implementing teaching, researching and social service creatively (Xu, 2021).

Generating new ideas (acknowledging problems), promoting new ideas (recommending new ideas) and realizing new ideas (applying new ideas) are identified as the three dimensions of innovation capability (Janssen, 2000). De Jong and Den Hartog (2010) characterize innovation capability with the following 4 dimensions: exploring ideas, generating ideas, supporting ideas, and realizing ideas. Teacher innovation capability involves teachers' knowledge stock level, teaching innovation, scientific and research innovation, and transformation of innovative achievements (Zhou & Fan, 2018). In other words, Teacher Innovation Capability (TIC) is taken to be intentionally creative behavior and practice in learning, transformation and innovation in teaching, application of knowledge into practice as well as social service in the local area. To be simpler, it comprises 7 parts: creative awareness, creative thinking,

creative practice, teaching practice, scientific research practice, teamwork, and self-learning ability etc. (Bai, 2021). In Chinese scholar Wu Gaixia's (2021) research, she suggests teacher innovation capability should have 3 dimensions: innovation preparation, innovation readiness and innovation practice. Overall, the most frequent dimensions for innovation capability used by scholars in previous research are creative intention, creative thinking, creative practice, and creative outcome. In this research, the dimensions for Teacher Innovation Capability (TIC) will be teachers' innovation awareness, innovative thinking, innovation application and innovation achievements. Firstly, in the framework of theory of planned behavior (TPB) (Ajzen, 2002), awareness is an antecedent of attitudes and behavioral intentions. The concept of innovation awareness, which can be called innovation consciousness or innovation sense, appeared in innovation diffusion theory (Rogers 1995) and was applied as the primary stage of an innovation diffusion process model. Teachers' innovation awareness means teachers' attitude, readiness, or intentions for innovation. Secondly, innovative thinking in science learning could help people to broaden their horizon and supply answers to science problems (Sumarni & Kadarwati, 2020). Therefore, innovative thinking in this research means teachers' ability to recognize problems and come up with new ideas or novel methods or effective strategies for solving problems and improving performance in their teaching and practice. Thirdly, innovation application means teacher can use novel ideas and methods for creative teaching and problem solving. Last but not least, innovation achievements mean the transformation of their innovative teaching and researching results or performance in social service, such as publications or prizes they accomplish in their teaching and study.

In summary, in the research Teacher Innovation Capability (TIC) refers to a complex ability that college teachers have with the innovation intention to come up with new ideas or approaches to solve the problems at work for the sake of realizing creative teaching and scientific research and achieving better performance for individuals, schools and society. In this research we choose the 4 dimensions for teacher innovation capability.

Innovation Awareness (IAW) refers to teachers' consciousness, willingness and attitude towards innovative changes and professional knowledge and skills they prepare for the new challenging reform.

Innovation Thinking: (ITH) refers to teachers' ability of creative thinking involves identifying new problems, generating new ideas to solve problems, logical reasoning and reasonable planning, and objective evaluation with critical thinking.

Innovation Application: (IAP) refers to teachers' capability of applying new ideas, new approaches, new tools, new skills and effective measures to solve the problems in their work including teaching, scientific research and social practice.

Innovation Achievement (IAC) refers to the creative performance or results teachers accomplish in their work including teaching, scientific research, social practice as well as the transformed achievements from their innovation work.

Transformational Leadership (TL)

According to Burns' (1978) Leadership, transformational leadership means that through making employees realize the significant meaning and responsibility of the commitment they undertake and evoke their high-level demands or expand their needs or wishes, leaders successfully direct them towards achieving better performance for group or organizational interest than the expected individual one. In

Bass and Riggio's (2006) study, transformational leadership is taken as the individual with special personalities or leadership traits, such as appealing power, inspiring intellect, leader enchantment and personal concern that help him or her to achieve exchange relationship with followers and share values, needs and future prospect. Specifically speaking, transformational leadership refers to a leadership style which directs the followers to raise their self-interest higher above through transforming their concept of morality, dreams, benefits, and values, so as to stimulating them to outperform initial expectation (Pieterse et al., 2010). It is a condition in which the followers receive respect, show loyalty, have admiration, and gain inspiration to fulfill the job successfully (Yukl, 2013). Many scholars regard transformational leadership as a competence to encourage and strengthen followers to increase their self-interest for better organizational performance and to affect the followers profoundly. It can push individuals to move towards an expected future by performing individualized behavior and a common vision. (Uddin et al., 2017; Fan et al., 2017; Uddin et al., 2018). Balwant (2017) emphasized that a transformational leader is a target orientated leader who take actions to describe a vision in a positive way and empower his or her followers to pursuit shared goals agreed with the vision through acting as a role model to creatively deal with existing problems, taking into consideration followers' personal requirements, and rewarding them when realizing the share goals. In recent research, transformational leadership is considered a process that arouses stronger motivation and higher commitment in employees who try their utmost to outperform their work (Dwiparaniti & Netra, 2021). The leaders' behavior significantly affects and motivates organization members (followers, subordinates, employees) to accomplish extraordinary achievements (beyond expectations set initially) while improving their own leadership level at the same time in the process of realizing organizational vision and purposes (Rais & Rubini, 2022).

According to Bass (1985), transformational leadership is made up of four essential elements i.e. individualized consideration, intellectual stimulation, inspirational motivation and idealized influence. The influence of transformational leaders takes effect through the process of idealized influence, motivation inspiration, intellectual stimulation and individualized consideration (Bass, 1999). Firstly, Idealized influence mainly refers to behavior of leading subordinates to trust, worship and follow their leaders with his aura or modeling, which can be called as charisma (Herrmann & Felfe, 2012; Judge & Piccolo, 2004). Usually, the transformational leaders are equipped with acknowledged ethical morality and charming personality, which help them to gain their subordinates' respect and support for the decisions or actions they make. Secondly, inspirational motivation takes place when transformational leaders express to their subordinates about a desirable expectation for them and encourage them to join the team becoming part of shared goal as well as uniting them in practice through applying teamwork and emotional appeal to achieve it, which results in better performance than that fighting only for their individual interest (Bass, 1999). It also occurs when transformational leaders describe a desirable future and show how to reach it, thereby demonstrating how necessary and meaningful a planned transformation is (Shamir, House, & Arthur, 1993) and generating a prosperous vision of the change. Thirdly, intellectual stimulation takes place when transformational leaders inspire their subordinates' creativity and to search for new ways to deal with existing problems (Bass, 1999) through challenging and altering practices so as to stimulate innovative behavior (Jung, Chow, & Wu, 2003) and contributes to better changes. Last but not least, through individualized consideration, transformational leaders need to care about every subordinate and show concern for their individual needs, skills requirements and desires as well as listening carefully to them so that they can cultivate their subordinates respectively according to their different individual conditions, acting as instructors or advisor to provide help for their

subordinates' development in the process of coping with their individual challenges (Bass, 1999). In this way, employees are ensured to keep motivation and perseverance and improve self-development in the changing situation (Bommer et al., 2005; Herrmann & Felfe, 2012). From some previous research, transformational leadership style can be determined from these 4 dimensions: ideal influence, encouraging motivation, support through intellectual stimulation, and openness with individual considerations (Bass & Avolio, 2000). Podsakoff et al. (1996) identified the following six dimensions to characterize transformational leaders' fundamental behaviors: vision identification and description, role model setting, shared goal's introduction, high-performance expectations, personal support and intellectual stimulation.

In summary, Transformational Leadership (TL) in this study refers to a leader style that school leaders stimulate the teachers' intellect and creativity, encourage them to cooperate well with teammates and adopt new ways to achieve better performance through modeling, inspiration, support and individual consideration. Four dimensions can be used to characterize transformational leadership, namely: Idealized influence; Individualized consideration; Intellectual stimulation; Inspirational motivation" (Dwiparaniti & Netra, 2021). In this research, the four dimensions are explained as follows.

Idealized Influence (II) means that school leaders win the teachers' trust, admiration, recognition and support by modeling in life at work with moral ethic, capability and personal charisma.

Inspirational Motivation (IM) means that school leaders express to teachers their high expectation on them and encourage them to become team members with the shared goal/vision. In practice, leaders motivate teachers with team spirit to make great effort to achieve higher performance for the sake of school interest rather than self-interest.

Intellectual Stimulation (IS) means that leaders encourage teachers to be creative and challengeable by indoctrinating new ideas and values to them and inspire them to think from a new perspective and use new ideas or methods to solve problems by providing support and suggestions so that they outperform at work.

Individualized Consideration (IC) means that school leaders show concern for every teacher's needs and requirements by listening carefully and patiently to them, provide them with recognition when work is well done and support in self-development like a coach or consultant.

Hypothesis

Some scholars have done research on the relationship between different leadership styles and employee innovation. Most of the research results have enriched literature and supplemented more precious conceptions to this, but the one which attracts the most attention of scholars is the impact of transformational leadership on employee innovation capability. The reason why TL style has enjoyed popularity with researchers is that it has prominent effects on employee innovation.

These are some latest studies that have also proved the positive and notable influence of TL in determining employee innovation (Mittal & Dhar, 2016). According to the study of Shafi et al. (2020), the results indicate the following aspects of transformational leadership, namely inspirational motivation, idealized influence and intellectual stimulation affect employees' innovation positively. The results of Rais & Rubin's (2022) quantitative research reveal that transformational leadership which focuses on idealized influence, intellectual stimulation, inspirational motivation, organizational support, personal consideration, and the influence of ethical values can stimulate teacher creativity and enhance their

innovation ability. Basing on the significant relationship between TL and teacher innovation, teacher innovation capability can be increased through strengthening transformational leadership (Rais & Rubini, 2022). Since innovation is the biggest concern among organizational leaders, they are facing the great challenge of facilitating their followers' innovation capability. Previous research offer evidence that the individual and organizational innovation and prominent performance are positively affected by the transformational leadership style (Lukes & Stephan, 2017; Ng, 2017; Steele et al., 2018; Bin Saeed et al., 2019; Watts et al., 2020). According to the result of the study conducted by Tan et al. (2021) on the relationship of TL and the innovation capability of Singaporean employees, who come from six private and public service organizations in Singapore, it manifests that TL significantly affects innovation capability. Therefore, the following hypothesis is proposed:

H: Transformational Leadership has an effect on Teacher Innovation Capability.

Research Framework

According to the above discussion, the research framework can be shown as follows:

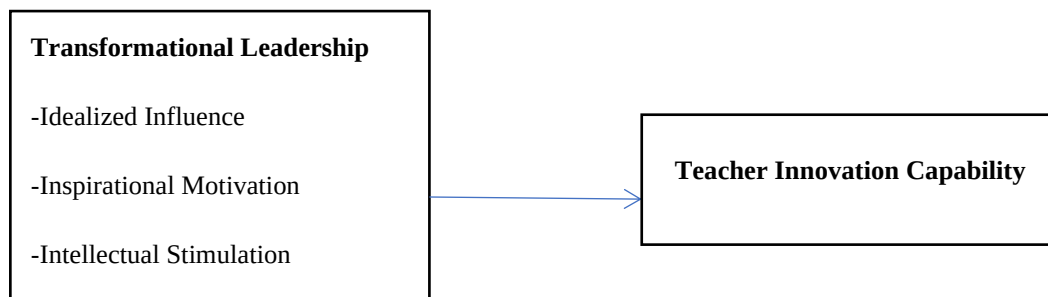


Figure 1: The Research Framework of Transformational Leadership Affecting Teacher Innovation Capability

METHODOLOGY

Research Design

A mixed research method is adopted in this study which includes quantitative research and qualitative research methods to explore the relationship of transformational leadership and teacher innovation capability in colleges of Hainan Province in China. Compared with quantitative or qualitative methods used alone, mixed research methods can provide more comprehensive evidence for research questions as it combined the advantages of both of them (Cresell & Clark, 2017).

Quantitative Research

1. Population of Quantitative Research

In this research, population is the college teachers from 21 colleges in Hainan Province in China with total number of 13937.

2. Sampling Technique of Quantitative Research

In the process of quantitative research, a multistage sampling technique is used to select the samples to collect quantitative data on transformational leadership, and teacher innovation capability among college teachers in Hainan Province of China. The sample size is 345 in quantitative research.

3. Research Tool of Quantitative Research

As for the quantitative research, the questionnaire used for collecting data is made up of two parts. The first part includes characteristics of the sample such as gender, age, degrees, professional title, years of teaching, school types (public or private). The second part includes items related to the variables in this study, adopting Likert's 5-point scoring method, in which 1 means strongly disagree, 2 means disagree, and 3 means general, 4 means agree, and 5 means strongly agree. The questionnaire includes items on transformational leadership and teacher innovation capability. The questionnaire designing is based on the literature review and research purpose. The item design is adapted from the existing validated scales and closely linked to the variable dimensions.

4. Validity and Reliability Analysis of Quantitative Research

After the questionnaire is completely constructed, five experts in this field are invited to review and check it so as to ensure its validity and reliability. The Item Objective Congruence (IOC) is required for calculation, which falls within the range of -1 to 1, serves as an indicator of the quality of questions. If the questions with an IOC value of 0.70 or higher close to 1, it means they have high level of congruence between the item and the underlying construct. On the contrary, if the IOC value is lower than 0.70, it needs deletions, modifications, additions and rewording so as to enhance their alignment with the construct.

On the other hand, Cronbach's alpha coefficient was used to assess the reliability of the scales. This coefficient shows how close the correlation and consistency between the items are. The Cronbach's alpha coefficient is calculated for each dimension. Generally speaking, if alpha coefficient is greater than 0.7, this scale is considered to demonstrate a satisfactory internal consistency reliability (Hair et al, 2011).

Furthermore, a pretest is implemented among a small number of teachers before the formal survey and data is examined through statistical analysis so that problems related to the questionnaire can be solved and adjusted for the sake of high quality of questionnaire.

After the validity and reliability of the questionnaire have been tested, it can be concluded that the questionnaire in the research could be used for data collection online and offline.

5. Research Analysis of Quantitative Research

After the quantitative data is collected, Descriptive Statistic Analysis and PLS – SEM Statistic Analysis techniques are used to analyze it.

Descriptive Statistical Analysis is used to describe the characteristics of the samples and the characteristics of the population they represent. Descriptive Statistical Analysis is used to describe the characteristics of the samples and the characteristics of the population they represent. For inferential analysis, Structural Equation Modeling (SEM) analysis technique is used for understanding the relationship between variables. In order to construct and fit a model incorporating transformational leadership and teacher innovation capability, PLS-SEM structural equation modeling is used in this study. In the fitting process of the model, goodness-of-fit metrics are assessed, and the significant and effective relationships are tested.

Qualitative Research

1. Population of Qualitative Research

The population in this research is college teachers from 21 colleges in Hainan Province, China.

2. Sampling Technique of Qualitative Research

For the in-deep interview qualitative research, in order to gain the most detailed, accurate and valuable data, the samples should be typical, and they are selected according to some certain criteria related to their gender, years of teaching, school types, school location, professional titles etc. First, rich teaching experience is no less than 10 years. Second, samples are from both public and private colleges, which take up 50% respectively. Third, samples are from the two cities including Haikou and Sanya, as college teachers in these two cities take up 95% of the total number. Fourth, samples cover all 4 professional titles equally. Lastly, men teachers and women teachers separately take up half of the total sample number. The sample size of 12 will be suitable.

3. Research Tool of Qualitative Research

The qualitative research will be conducted through face to face online or offline interviews for qualitative data collection. In accordance with the research variables, open-ended questions will be designed with specific research questions and research objectives to guide the interview, such as perceptions of each variable and evaluation of influencing factors, etc. In the process of designing the questionnaire, questions related to the hypothesis will be created so as to find out the answers to the research questions.

4. Validity and Reliability Analysis of Qualitative Research

The questions in the interview for data collection of qualitative research are generated in close compliance with operational definitions used in the study by referring to literature review and mainly based on the hypotheses to be tested aiming to solve the research problems and serve the research objectives.

5. Research Analysis of Qualitative Research

After collecting the interview data of qualitative research including videos or audio material, transcript the recording into text format. Create nodes and labels for the text content for categorization and tagging. Nvivo software is used for data coding. Based on the statistical analysis, content analysis is used for interpretation and explanation to the research questions.

Ethical Considerations

While adhering to the ethical requirements of Suan Sunandha Rajabhat University, the researchers will bear in mind the following points:

1. Ensuring informed consent of participants: Participants will be informed about the research objectives, procedures, and their rights. Subsequently, participants will be requested to provide written consent by signing an informed consent form.

2. Respecting the confidentiality of personal data: Researchers will respect the privacy of participants, refraining from disclosing their personal information to unauthorized individuals or entities. The collected data shall not be used for purposes other than those specified in the research.

3. Ensuring equal treatment of all individuals: Researchers will ensure that all volunteers receive fair and equitable treatment, regardless of their race or other personal characteristics.

4. Adhering to academic ethical standards: Researchers will strictly comply with relevant national laws, regulations, and academic ethical requirements. They will refrain from plagiarism or unauthorized

use of others' academic viewpoints and achievements. They will respect intellectual property rights and take responsibility for their own actions.

RESEARCH CONTRIBUTION AND LIMITATIONS

Research Contribution

Expected outcome of the study may include the following aspects. First, the new model of Transformational Leadership and Teacher Innovation Capability can be applied in higher educational context for future research on leadership and teacher development. Second, the research findings may propose some effective measures for higher educational institutions to improve their employee innovation capability so as to achieve better performance than original expectation and stand the violent competition in this new era. Third, the model of Transformational Leadership and Teacher Innovation Capability helps with the sustainable economy growth and social development in the local area of Hainan and speeds up its construction of international tourism island and free trade port.

Limitations

The present study has a few limitations. Firstly, we use data of only college teachers in Hainan to study the relationship between Transformational Leadership and Teacher Innovation Capability, which is just a small province in China. Future studies may collect data from other colleges in other provinces in China to increase the reliability of findings. Secondly, this research only focuses on the application in teacher development in higher education. Further study needs to be extended and tested for primary and secondary education. Thirdly, this study will explore the model only for education and there is still a lack of policies to support it in other fields.

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