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Educational Innovation in Higher Education: Role of Innovative Competencies, Learning Environment, Student Readiness and Ideological and Political Education

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<p>Article History</p> <p>Article Submission 07 November 2022</p> <p>Revised Submission 27 December 2022</p> <p>Article Accepted 25 January 2023</p>	<p>Abstract</p> <p>As crucial sites for the development of talent and the production of information, higher education institutions around the world are undergoing significant structural, social, and technological changes as a result of the immense scientific and technological advances. The purpose of the present study was to investigate the effect of innovative competencies, learning environment, and student readiness on educational innovation. This study further explores this relationship by utilizing ideological and political education as a mediator. Data was collected from (270) students of Chinese schools and colleges and universities who have majored in political science subject. Data were analyzed by using SPSS and SMART-PLS techniques. The analysis of the data showed that innovation competencies, learning environment, and student readiness have a significant and positive impact on educational innovation. The findings of the study showed that educational innovation in institutes increases when students have innovative competencies, the environment of the institute is supportive of new learning, and students are ready to accept any change in the institute. The findings of the study also revealed that ideological and political innovation significantly mediates the relationship between innovative competencies, learning environment students readiness, and educational innovation. The study is useful for educational institutes and educational policymakers to enhance educational innovation by focusing on the above mention factors. Future studies can identify other factors which have a significant effect on innovation in any institute.</p> <p>Keywords: Educational Innovation; Students Readiness; Innovative Competencies; Ideological and Political Education</p>
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Introduction

Higher education institutions all over the world are going through a period of rapid structural, social, and technological changes which result in enormous scientific and technological advancements that have been made. These institutions are essential centers for the formation of talent, the creation of knowledge, and the dissemination of that knowledge (Karma et al., 2021). The process of internationalization and the growth as a potential reaction to globalization have resulted in certain alterations to the systems of higher education (Krstikj et al., 2022). These changes include improvements in organizational performance, structure, management, leadership, finance, autonomy, reward system, new methods, new courses and programs, new curricula, and the application of technology in educational institutes (Caliskan & Zhu, 2020). Some of these changes are related to the macro level, which refers to the national or state policies, governance, and structure of higher education. Other changes are related to the micro level, which refers to the teaching and learning processes, as well as educational strategies and methods (Sandra Marcelline et al., 2022). Regarding the latter, its constituent parts are student learning, the implementation of educational technologies, and the promotion of collaborative learning among students (including online learning and computer-supported collaborative learning (Ramírez-Montoya & Lugo-Ocando, 2020). In order for higher education institutions to satisfy their educational, social, and economic needs in the 21st century, they will be required to adjust to the more flexible models of structure and governance, in addition to catering to the ever-evolving educational requirements of their respective pupils (Ovbiagbonhia et al., 2019). However, the incorporation of educational advances into institutions of higher learning constitutes a considerable barrier to progress (Lee & Fanguy, 2022).

It has been determined that everything that takes place within an educational establishment constitutes the learning environment. It is the educational, physical, social, and psychological environment in which students are immersed, and it is believed to play a significant role in the student's professional and moral development (Halász, 2021). It encompasses the entire environment in which students are immersed. Over the past three decades, there has been a shift in focus within the field of education toward the idea of the learning environment (Ovbiagbonhia et al., 2019). This has been accompanied by rapid changes in educational missions around the world. These changes have included the implementation of new programs, curricula, and strategies, and they have typically been undertaken to enhance the overall learning environment for students. Innovation in the educational sector is affected by the learning environment (Dommett et al., 2022). If the environment of an institute is supportive of the new learning of the student, then it is easy to introduce the innovative method of education (Scalera et al., 2020). Therefore, the aim of the study is to identify the effect of the learning environment on educational innovation among students of political science in China.

Moreover, the education systems of countries all over the world are undergoing significant changes as a result of the myriad of new technological advancements that are becoming available (Scalera et al., 2020). These countries are also making significant investments in order to reap the benefits of being among the first to adopt new technologies by incorporating these advancements into their educational systems to produce workers and leaders who are on par with future expectations by bringing innovation to their education system. Innovation cannot be brought into an institute until or unless people are ready to accept it (Riccomini et al., 2019). That's why the readiness of students is an important factor that plays a very important role in the education system. Without the readiness of students, it is very difficult to bring educational innovation (Aboobaker & KA, 2021; Erdoğan & Güneş, 2013).

In addition to this, the ability to come up with creative, applicable, and workable solutions to existing issues is what is meant by the term "innovation competence" (Sarango-Lapo et al., 2021). The ability to innovate is recognized as being crucial in a wide variety of facets of higher education and is seen as an essential skill set for a student in the 21st century (Krstikj et al., 2022). In higher education in general, the development of innovation competency has been designated as an essential educational objective and educational innovation (Phi & Clausen, 2021; Suárez Morales et al., 2022). Therefore this study investigated the impact of innovative competencies on educational innovation.

Courses in ideological and political theory are the primary means by which ideological and political education is taught in Chinese colleges and universities; as a consequence, these courses need to keep up with the times in order to ensure that the political direction of strengthening moral education and cultivating students, etc., is maintained (Xinyuan Zhao & Zhang, 2021). Integration of ideological and political education for college students to train socialist builders and successors for the comprehensive development of moral, intellectual, physical, aesthetic, and labor skills is an essential component of the new era. This education will focus on moral and intellectual development as well as physical and aesthetic development. (He & Dong, 2021). That's why this study investigated that Ideological and political education mediates the relationship between students' readiness, learning environment, innovative competencies, and educational innovation among Chinese students in political science department.

Literature Review

Educational Innovation:

It is vital for higher education institutions to be inventive and responsive to innovation for them to maintain their standing as leaders in the fields of research and innovation, as higher education institutions are the hubs for science and innovation (Caliskan & Zhu, 2020). According to Kozma, (1985), educational institutions at the higher education level have been under a great deal of pressure to alter their pedagogical approaches to interact with a variety of other actors. This is because students come from a wide variety of different backgrounds, as well as the fact that today's society requires individuals who are equipped with the skills, abilities, and dispositions necessary to adapt to new circumstances, as well as team building and problem-solving. In addition, this is because students come from a wide variety of different countries. In addition to this, he underlines the fact that several educational innovations have been invented and put into effect. These innovations range from computer-based systems to collaborative learning systems. Higher education institutions are beginning to see the benefits of utilizing technology's enhanced capabilities, notably in the fields of research and instruction (Cakir, 2021). When it comes to education, innovations can be counted as the integrated use of information and communication technologies (ICTs), which offers more educational access and better preparation for the economic market. Examples of academic capitalism, the triple helix, and the knowledge production model can be found in recently developed areas of research (Suárez Morales et al., 2022).

Innovative Competence:

A core competency for the student in the 21st century is defined as the ability to innovate, which is regarded as being central to several different facets of higher education (Cakir, 2021; Phi & Clausen, 2021; Suárez Morales et al., 2022). Innovation competence has been identified as an important learning goal in higher education in general (Beghetto and Kaufman 2013; Chan and Yuen 2014). Creativity can be defined as the process of coming up with ideas that are original, useful, and novel. On the other hand, innovation is the process of successfully putting creative ideas, products, services, procedures, theories, and strategies into practice (Ovbiagbonhia et al., 2019).

When it comes to education, innovations can be counted as the integrated use of information and communication technologies (ICTs), which allows for wider educational access and better preparation for the economic market. Examples of academic capitalism, triple helix, and the paradigm of knowledge production can be found in recently developed areas of research (Keinänen et al., 2018). Only then will people be able to innovate (Keinänen et al., 2018). To reach any degree of competence, especially innovation competence, it is necessary to combine one's existing knowledge with their existing talents as well as their existing attitudes. People who are innovative have been found to have a high level of creativity and leadership abilities, as well as persistence and task motivation, creative self-efficacy, a tendency to take calculated risks, and a preference for working on ambiguous and complex problems. In addition, innovative people have a preference for working on ambiguous and complex issues (Wilson Kasule et al., 2015).

There are various conceptual explanations of innovation competence, and they are all very

distinct from one another. The literature goes into great length regarding the parts of innovation competence that should be cultivated, and this literature also describes how these characteristics should be developed (Hero, Lindfors, & Taatila, 2017; Marín García, Pérez Peñalver, & Watts Hooze, 2013; Ovbiagbonhia et al., 2019). In a similar vein, a great number of studies have been conducted on various communities or environments for innovation, such as businesses and organizations (Inkinen et al., 2015). These studies were either very general (Dyer et al. 2009; Hunter et al. 2012; Keller 2012; Ragusa 2011) or very specific to designated domains, such as education. (Dyer et al. 2009; Fisher et al. 2011; Keller 2012; Ragusa 2011). They were also very specific to types of education (Hero, Pitkälä, & Matinheikki-Kokko, 2021; Marín García et al., 2013; Wilson Kasule et al., 2015). According to the research that has been done, there are six interconnected aspects of innovation competence that stand out: creative ability, leadership, creative self-efficacy, energy, risk propensity, and the ability to solve ambiguous problems (Ovbiagbonhia et al., 2019).

Learning Environment

A context or particular setting (social and cultural) that is purposely designed to assist learning is frequently referred to as an environment, milieu, or climate. These are all synonyms for the same thing. These are all interchangeable terms for the same concept (Pant, 2012). The psychological aspects, the teaching that takes place in the classroom, and the physical factors present in any area where learning takes place, including non-traditional and virtual places, make up the learning environment. This environment is referred to as the learning environment (Keinänen et al., 2018). The process of building a supportive learning environment begins with the crucial step of recognizing a student's learning goal as something that should be supported in education. This is a key step in the process of developing a supportive learning environment (Camps et al., 2016; Jung et al., 2002). Learning environments that concentrate on the development of innovation competence begin with the acknowledgment of this competence as a fundamental educational aim and a vital talent for the 21st century that should be promoted in schools (Ovbiagbonhia et al., 2019). In a learning environment that fosters the development of innovation competence, learning goals are clearly stated, teaching is geared toward the achievement of these goals at both the school and classroom levels, and students view their education as having a direct bearing on the personal and professional growth they will experience in the future (Beghetto and Kaufman 2014). A setting like this one places a strong focus on the significance of making learning interesting and it enables the student to think out of the box and bring creativity and new ideas which are essential for innovation.

It has been determined that everything that takes place within an educational establishment constitutes the learning environment. It is the educational, physical, social, and psychological environment in which students are immersed, and it is believed to play a significant role in the student's professional and moral development. It encompasses the entire environment in which students are immersed (Keinänen et al., 2018; Pant, 2012). Over the past three decades, there has been a shift in focus within the field of medical education toward the idea of the learning environment. This has been accompanied by rapid changes in the educational missions and directives of health professions around the world. These changes have included the implementation of new programs, curricula, and strategies, and they have typically been undertaken to enhance the overall learning environment for students (Ovbiagbonhia et al., 2019). The students' experiences in learning and the outcomes of that learning are strongly influenced by the learning environment; the environment dictates what, how, and why students learn. A student's degree of enthusiasm and effectiveness in learning are both impacted as a result of this factor (Deppeler et al., 2022).

Student Readiness

Learning readiness has an impact, which is one of the features included in the principles of training. Physical, social, and emotional development, as well as learning methodologies, communication, and general information affect the number of skills required for students to learn (Wynn, 2002). Satisfaction with learning experiences is thought to be directly proportional to preparation (Gunawardena & Duphorne, 2000). The same training that works in face-to-face learning works in online learning, e-Learning, and distance learning. Student readiness is influenced by financial aid, gender, class, and ethnicity (Lau & Shaikh, 2012) and enhances

involvement in the environment of digital learning (Demir Kaymak & Horzum, 2013). The concept of learner readiness was first proposed by Warner, Christie, and Choy (1998). They specified the three important aspects of readiness for online learning environments. These are (1) students' preferences for the form of delivery as opposed to face-to-face classroom instruction; (2) student confidence in using electronic communication for learning and, in particular, competence and confidence in the use of the Internet and computer-mediated communication; and (3) the ability to engage in autonomous learning.

The education systems of countries all over the world are undergoing significant changes as a result of the myriad of new technological advancements that are becoming available. These changes are being made as a result of the countries' intensive efforts to capitalize on the benefits of being early adopters of new technologies by integrating these advancements into their educational systems in order to produce workers and leaders who are on par with future expectations. Allan Collins and Richard Halverson urge everyone to take advantage of the benefits of this ultimate educational technology innovation, which opened a divergent learning model from rote memorization to lifelong flexible learning with 'three encapsulated concepts of customization, interaction, and control' (Collins & Halverson, 2018). The educational process for members of the millennial generation was initially carried out using the aforementioned envisioned flexible frameworks, whereas the educators who taught them worked very hard to adapt themselves to the various educational technology platforms (Agogo, Traci Hess, 2015; Ahlers, 2016).

Ideological and Political Education

When it comes to the meaning of "ideological and political education," various authorities and academics offer their distinct interpretations, which they approach from a variety of vantage points and levels (Xinyuan Zhao & Zhang, 2021). Some commentators believe that "ideological and political education means that the social or social groups exert a purposeful, planned, and organized influence on their members with certain ideas, political opinions, and moral standards, so that they form the ideological and moral qualities required by a certain society and a certain class social practice activities". "Refers specifically to the proletariat's ideological and moral training activities" (He & Dong, 2021). Some commentators think that the subject matter of ideological and political education is determined by certain social requirements as well as the ideological reality of the educated, with the educator choosing the design and delivering information to the educated person in a manner that is sequential (Zhong, 2021).

Some observers believe that the terms "ideological education" and "political education" relate to the ideas and politics that teachers are tasked with instilling in their students during activities that fall under the purview of "ideological education" and "political education." (Liu, Xiantong, & Starkey, 2021). Some commentators believe that "the reality of ideological and political education is always from a specific problem to start and implement, or political view (such as citizens, legal education), or ethics (such as dedication discussion), or the concept of history (such as practice standards discussion)" (Liu, 2021). It is clear that each of these schools of thought interprets ideological and political education from both a static and a dynamic point of view, regardless of whether they place more of an emphasis on the fundamental components of ideological and political education or the process that is imposed on those who are educated.

Hypothesis Development

The capacity for innovation has been singled out as an essential skill for students to acquire across the board in higher education (Beghetto and Kaufman 2013; Chan and Yuen 2014). The process of coming up with ideas that are unique, fresh, and valuable is one definition of creativity. Creativity may also be defined as the result of this process. On the other hand, innovation is the process of successfully putting creative ideas, goods, services, procedures, theories, and strategies into practice (Ovbiagbonhia et al., 2019).

Innovative competencies are the ability of a person to think creatively. Persons who have innovative competencies can think of new and creative ideas that would help to bring innovation to that institute (Hero et al., 2017). Educational innovation is not possible without innovative competencies. If an educational institute has a creative mind and can implement those ideas successfully then it is possible to bring innovation to that institute (Sarango-Lapo et al., 2021).

H1: Innovative competencies have a significant effect on educational innovation

According to Keinänen et al., (2018), the learning environment is made up of the psychological aspects, the teaching that occurs in the classroom, and the physical factors present in any location where learning takes place, including non-traditional and virtual places. It is an important step in the process of creating a learning environment that is supportive to recognize a student's learning goal as something that should be supported in education (Camps, Oltra, Aldás-Manzano, Buenaventura-Vera, & Torres-Carballo, 2016; Jung, Choi, Lim, & Leem, 2002). A student's learning goal is something that should be supported in education (Camps, Oltra, Aldás-Manzano). The students' experiences in learning and the outcomes of that learning are strongly influenced by the learning environment; the environment dictates what, how, and why students learn. A student's degree of enthusiasm and effectiveness in learning are both impacted as a result of this factor (Deppeler et al., 2022)

H2: Learning Environment has a significant effect on educational innovation

The readiness or attitude of an individual toward change, which can be defined as the cognitive precursor behavior of either resistance to or support for an effort to bring about change, is a primary factor in the development of innovations (Dangol & Shrestha, 2019). According to many studies, the degree to which students are prepared for innovative learning affects the rate of educational innovation (Vaishnavi et al., 2019).

In a nutshell, the research on readiness explores the preparedness of learners and educators as well as contexts for successful digital education (Kirmizi, 2015). Students need to have the readiness to accept innovation in education (Yu & Richardson, 2015). Previous research determined that student readiness has a positive impact on students' achievements (Rafferty et al., 2013), satisfaction with learning experiences (Kenny, 2016), and innovation (Hergüner, Buğra, Hergüner Son, & Dönmez, 2020). Thus on the basis of above discussion the study proposed the following hypothesis:

H3: Student readiness has a significant effect on educational innovation

When it comes to the meaning of the phrase "ideological and political education," numerous authorities and academics each give their own unique interpretations, which they approach from a wide variety of perspectives and on a number of different levels (Xinyuan Zhao & Zhang, 2021). Ideological and political education focuses on cultivating college students to establish a correct concept of life and improving their spiritual accomplishment, which to some extent promotes innovation (Liu et al., 2021). Hu & Li, (2018) stated that the readiness of students has a significant impact on ideological and political education. When students are ready, they will gain more knowledge. Similarly, Xinyuan Zhao & Zhang, (2021) stated that if an institute provides a learning environment to study then it is easy to introduce ideological and political education to it. Innovative competencies bring innovation to an organization. If people in an organization have innovative competencies they will think creatively and will be able to do difficult tasks which are essential for innovation (Zhong, 2021).

When students are ready to accept change in the institute, the environment of the institute is supportive towards learning and students have innovative competencies then it is easy to implement ideological and political courses in it and the cultivation of students to develop a correct vision of life and improvement of their spiritual accomplishment is a primary emphasis of ideological and political education, which to some extent contributes to the promotion of innovative thought (He & Dong, 2021; Liu, 2021; LU, 2017).

H4: Ideological and political education has a significant effect on educational Innovation.

H5: Innovative competencies have a significant effect on ideological and political education.

H6: Learning environment has a significant effect on ideological and political education.

H7: Student readiness has a significant effect on ideological and political education.

H8: Ideological and political education mediates the relationship between innovative competencies and educational Innovation.

H9: Ideological and political education mediates the relationship between learning environment and educational Innovation.

H10: Ideological and political education mediates the relationship between student readiness and educational Innovation.

Thus on the basis of the above literature review and discussion, the framework of the study developed which is shown in Figure 1.

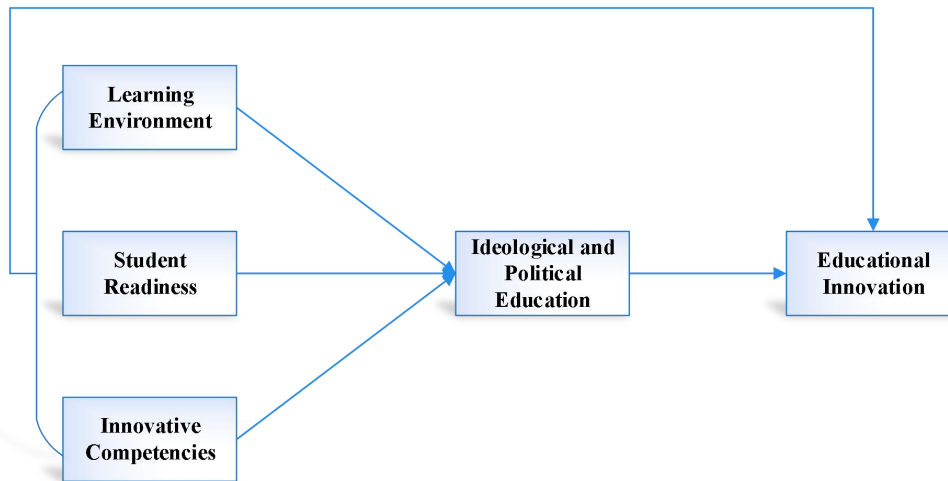


Figure 1. Conceptual framework

Methodology

To attain the objective of the study, data was collected from students of colleges and universities in China. The study considered only those students who have majored in political science. A self-administrated survey was used for this purpose. Data was collected from (280) students by using a convenience sampling technique. Out of (280) questionnaires, (270) was considered for statistical analysis because 10 questionnaires were not filled completely. Analysis of demographic variables was done by using SPSS whereas to evaluate the reliability, validity, and relationship among variables, SmartPLS was used.

Measures

A self-administered questionnaire was created to collect data for the current study. The data-collecting instrument was divided into two portions; the first was designed to collect demographic information about students (e.g., gender, age, level of education, Socio Economic Status). The second part was devoted to assessing the constructs used in the study. The questionnaire contained 54 items. A five-point Likert scale containing the following answer categories (1 indicates complete disagreement while 5 indicates complete agreement), was provided to each respondent, and they were expected to express their level of agreement or disagreement with each question.

a. Educational Innovation

The construct of educational innovation is measured through a 19-item scale adapted from Caliskan & Zhu, (2020). The value of alpha is 0.953.

b. Innovative Competencies

The construct of innovative competencies is measured through a 13-item scale adapted from Ovbiagbonhia et al., (2019). The alpha value is 0.937.

c. Students Readiness

The construct of work efficacy is measured through a 3-item scale adapted from Schwarzer & Jerusalem, (1995). The alpha value is 0.920.

d. Learning Environment

The construct of learning environment is measured through a 3-item scale adapted from

Ovbiagbonhia et al., (2019). The alpha value is 0.879.

e. Ideological and Political Education

The construct of ideological and political education is measured through a 16-item scale adapted from Xinyuan Zhao & Zhang, (2021). The alpha value is 0.879.

Demographic Analysis

The analysis of demographic shows that out of (270), (175) respondents were male and (95) were female. The majority of the respondents were from the age group of 22-24 years i.e. (63%) whereas (23%) respondents were belong to 19-21 year age group and remaining (14%) were from 16-18 years group. Level of education of (54%) students were graduation and (46%) students were from college level. The socioeconomic status of (73%) students was middle class, (3%) of the student were from lower class ann remaining (24%) were from upper class. Table 1 present the result of the demographic analysis.

Table 1. Demographic profile of the respondents

Demographic Item		Frequency	%
Gender	Male	175	64
	Female	95	36
Age	16-18 Years	37	14
	19-21 years	62	23
	22-24 years	171	63
Socio Economic Status	Lower	9	3
	Middle	197	73
	Upper	64	24
Level of Education	College level	125	46
	Graduation level	145	54

Measurement model

The variance-based partial least squares structural equation modeling (PLS-SEM) technique was used in this work rather than other covariance-based techniques such as AMOS. The effectiveness of PLS-SEM for both types of studies (confirmatory and exploratory) is the main consideration that led to its adoption (Hair, Ringle, & Sarstedt, 2011). Covariance-based structural equation modeling (also known as CB-SEM) and partial least squares structural equation modeling (PLS-SEM) are the two distinct subtypes of structural equation modeling (SEM) (Hair, Risher, Sarstedt, & Ringle, 2019). The primary distinction between the two methodologies is that CB-SEM is used for theory acceptance and rejection, whilst PLS-SEM is used for theory advancement and development (Bashir, Ahmad, Bari, & Khan, 2021). PLS-SEM is an effective method for complex and multi-order models that does not require any special data normality assumptions. PLS-SEM is also useful for analyzing small data sets (Hair, Hult, Ringle, & Sarstedt, 2021). The results of the validity, reliability, and factor loading tests for the items that were measured using the PLS measurement model are presented in Table 2 and Figure 2. The current study's framework is based on (53) items from the five variables. The outer loading values of each item of constructs are demonstrated in Figure 1. Items are considered to be reliable if the values of outer loading are greater than 0.4 (Hair, Hult, Ringle, & Sarstedt, 2021). Table 2 and Figure 2 shows the value of outer loading of each variable.

The value of Cronbach's alpha test must be equal to or greater than 0.70 as a rule of thumb because it represents the internal consistency of the items (Fornell & Larcker, 1981). The values of Cronbach's alpha for the constructs of the models (educational innovation, innovative competence, ideological and political education, learning environment and student readiness) are as follows: (0.953), (0.937), (0.952), (0.835) and (0.836), and the values of composite reliability

for the constructs of the models are as follows: (0.958), (0.945), (0.957), (0.901) and (0.902), respectively. Cronbach's alpha and composite reliability scores are all within acceptable limits, indicating that the model is reliable. For the model's convergent validity, average variance extract (AVE) values larger than 0.5 are considered appropriate. The value of AVE for all constructs (0.558, 0.574, 0.596, 0.752, 0.753) are within the acceptable range as demonstrated in Table 2.

After determining that the criteria for the reliability and validity of all variables had been met, we continued our investigation by conducting a structural route analysis. Farrell, (2009) explain discriminant validity “The dimension in which one latent variable different from another. In this study, discriminant validity was assessed using the Average variance extracted method, which was developed by Fornell, (1981). In addition, the diagonal values in the columns and rows are lower than the equivalent values, which indicates that discriminant validity does, in fact, exist within the scope of this study. The findings of the discriminant validity test are presented in Table 3. Moreover, the values of HTMT were lower than one, which substantiates the discriminant validity.(Raz et al., 2015; Zaman et al., 2021). The value of HTMT was laid out in Table 3.

Table 2. Construct Reliability and Validity

	Items	Outer Loading	Cronbach's Alpha	CR	AVE
Educational Innovation	EI2	0.778	0.953	0.958	0.558
	EI3	0.767			
	EI4	0.754			
	EI5	0.728			
	EI6	0.714			
	EI7	0.758			
	EI8	0.682			
	EI9	0.694			
	EI10	0.681			
	EI11	0.727			
	EI12	0.720			
	EI13	0.820			
	EI14	0.759			
	EI15	0.735			
	EI16	0.761			
	EI17	0.766			
	EI18	0.790			
	EI19	0.792			
Innovative Competence	IC1	0.767	0.937	0.945	0.574
	IC2	0.497			
	IC3	0.760			
	IC4	0.770			
	IC5	0.714			
	IC6	0.799			
	IC7	0.796			
	IC8	0.806			
	IC9	0.795			
	IC10	0.786			
	IC11	0.792			
	IC12	0.720			

	Items	Outer Loading	Cronbach's Alpha	CR	AVE
	IC13	0.790			
Ideological Political Education	IPE1	0.794	0.952	0.957	0.596
	IPE2	0.787			
	IPE3	0.755			
	IPE4	0.750			
	IPE5	0.783			
	IPE6	0.793			
	IPE7	0.811			
	IPE8	0.729			
	IPE9	0.714			
	IPE10	0.762			
	IPE11	0.748			
	IPE12	0.787			
	IPE13	0.787			
	IPE14	0.765			
	IPE15	0.804			
Learning Environment	LE1	0.835	0.835	0.901	0.752
	LE2	0.893			
	LE3	0.872			
Students Readiness	SR1	0.879	0.836	0.902	0.753
	SR2	0.873			
	SR3	0.851			

Table 3. Discriminant Validity (HTMT)

	EI	IPE	IC	LE	SR
Educational Innovation					
Ideological Political Education	0.706				
Innovative Competence	0.852	0.689			
Learning Environment	0.838	0.714	0.888		
Students Readiness	0.868	0.723	0.808	0.754	

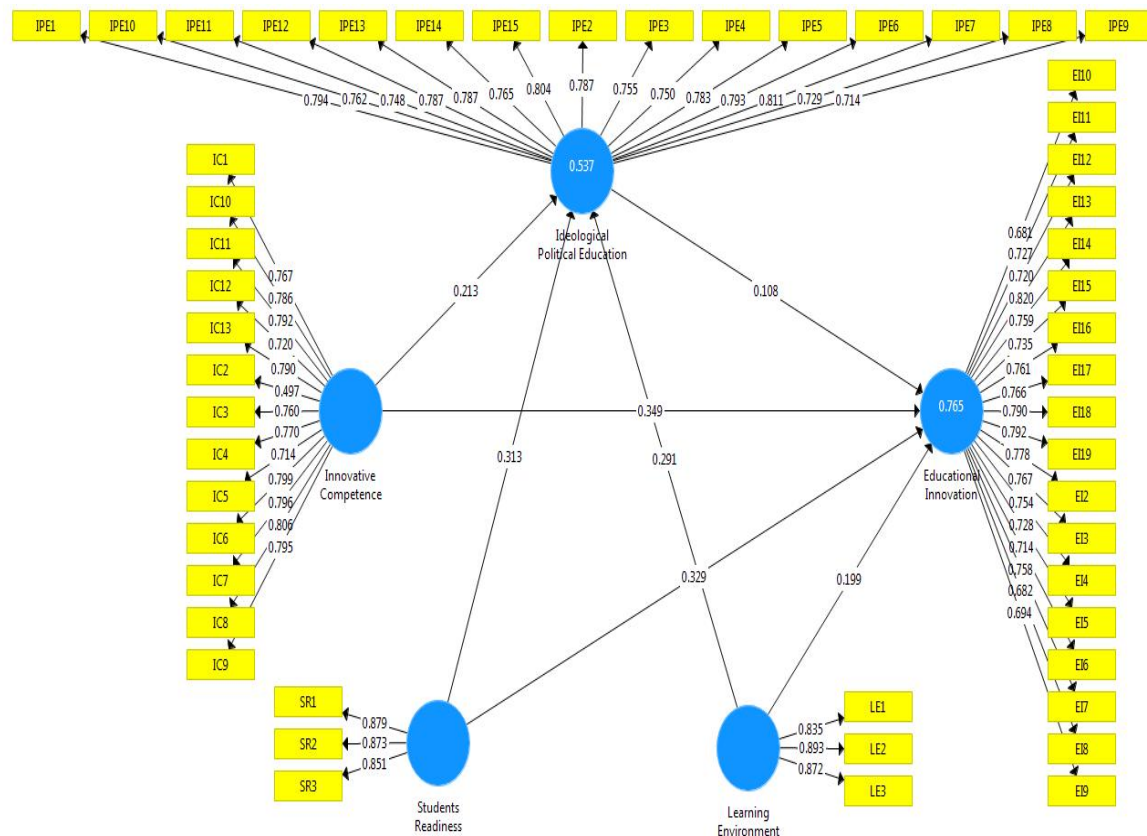


Figure 2. Measurement Model

Structural Equation Model

The current study's empirical inquiry is carried out by employing bootstrapping method of 500 samples (Hair et al., 2016; Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). Figure 3 displays the outcomes of the direct, and indirect paths. “T” values and p-values are considered in the study for the acceptance and rejection of hypotheses. The outcomes of the hypotheses proposed by this study are shown in Table 4 and Figure 3. According to Figure 3, which illustrates the path relationships and testing decision for hypotheses, the PLS-SEM assessment for digital health technologies, empirically proved that it is a significant predictor of psychological well-being. Table 4 also depicts the path relationships and testing decision for hypotheses. According to the findings, there is a statistically significant connection between inventive competencies and educational innovation ($t = 4.249$, $p = 0.022$). Therefore, Hypothesis 1 is permitted.

According to the findings of the PLS-SEM analysis, there is a significant association between innovative educational practices and learning environments ($t = 3.556$, $p = 0.000$). As a result, the second hypothesis of the study was statistically proven to be correct. The significance of the connections that exist between student preparation and educational innovation was the subject of the third hypothesis that was investigated in this research. It was demonstrated by the results of the PLS-SEM study ($t = 5.606$, and $p = 0.007$); hence, the third hypothesis is likewise supported. In a similar vein, the fourth hypothesis, which examined the connection between ideological political education and educational innovation, was also validated ($t = 2.021$, $p = 0.000$). In a similar vein, the fifth hypothesis proposed that there is a substantial connection between inventive competencies and ideological political education. Since the findings of the PLS-SEM analysis support this hypothesis ($t = 2.440$, $p = 0.000$), we can conclude that H5 is similarly valid. In addition, the sixth hypothesis of the investigation claimed that there is an important connection between the educational setting and the ideological and political education received. The findings indicate that there is a substantial connection between the learning environment and ideological political education ($t = 4.034$, $p = 0.000$). Therefore, hypothesis 6 can be validated. According to the seventh hypothesis of the investigation, there is an important connection

between the preparation of pupils and their ideological and political education. According to the findings, there is a statistically significant connection between the level of preparation of the students and their ideological and political education ($t = 4.682$, $p = 0.000$). Therefore, hypothesis 7 is validated. The conclusions reached by the researchers were presented in Table 4.

Table 4. Direct Relation

	Original Sample (O)	T Statistics	P Values	f square	R ²	SRMR
IC -> EI	0.303	4.249	0.022	0.151	0.765	0.075
LE -> EI	0.220	3.556	0.000	0.159		
SR -> EI	0.335	5.606	0.007	0.198		
IPE -> EI	0.121	2.021	0.000	0.023		
IC -> IPE	0.203	2.440	0.000	0.029		
LE -> IPE	0.298	4.034	0.000	0.068		
SR -> IPE	0.312	4.682	0.000	0.100		

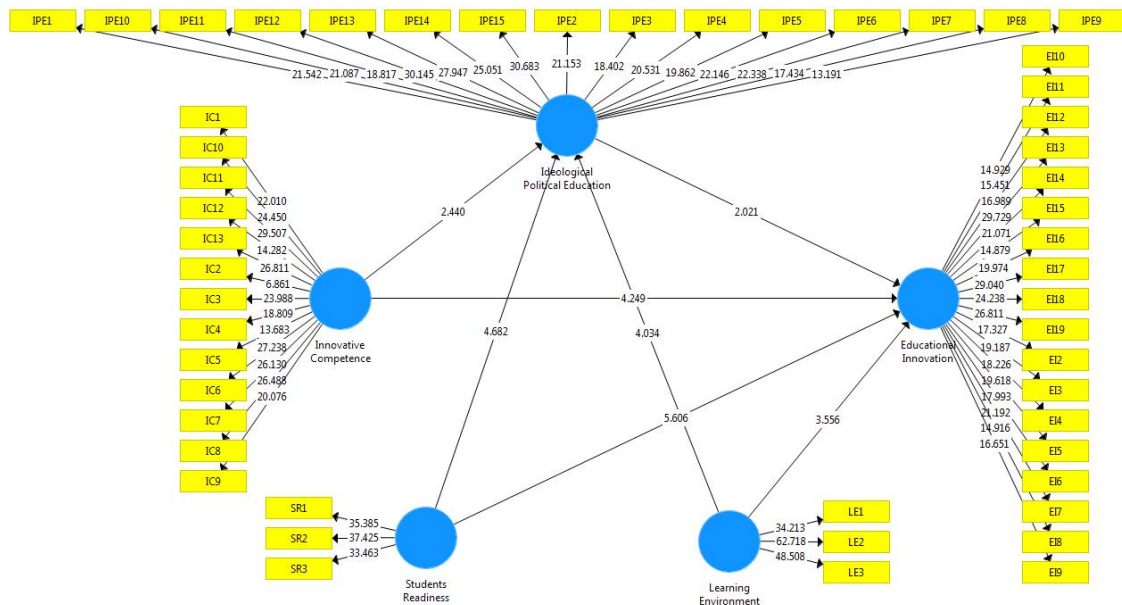


Figure 3. Structural model

Indirect Effect

After introducing ideological political education as mediating variables, the relationship between innovative competences, learning environment, students readiness and educational innovation remained significant. Furthermore, according to Zhao, Lynch, & Chen, (2010), the type of mediation will be partial if the direction of both direct and indirect effects is the same and statistically significant. Following this, the variance accounted for (VAF) was used to measure the mediation power (Helm et al., 2010), and the calculated value ($VAF=0.571$), ($VAF = 0.480$) and ($VAF= 0.370$) confirmed the partial mediating role of ideological political education in the relationship between innovative competences, learning environment, students readiness and educational innovation (Hairet al., 2021). Table 5 shows the result of mediation analysis. As per the findings, ideological political education mediates the association between innovative competences, and educational innovation ($t=8.484$, $p=0.000$), learning environment and educational innovation ($t=1.684$, $p=0.046$) and students readiness and educational innovation ($t=1.791$, $p=0.037$). As a consequence of this, the results of the study revealed that the mediating hypotheses (H8), (H9) and (H9) were all accepted.

Table 5. Indirect Effect

	Original Sample (O)	T Statistics	P Values	VIF	Type of Mediation
IC -> IPE -> EI	0.024	6.854	0.000	0.57	Partial
LE -> IPE -> EI	0.036	1.684	0.046	0.48	Partial
SR-> IPE -> EI	0.038	1.791	0.037	0.37	Partial

Discussion

The first objective of the study stated that there is a significant relationship between innovative competencies and educational innovation. The findings of the study should a significant and positive relationship between innovative competencies and education innovation. It is not possible to bring innovation to any institute unless that education institute has innovative competencies (Krstikj et al., 2022). When students, teachers and higher authority of an education institute have a creative mindset and they are ready to take risks then it is easy to bring innovation to it. Hero et al., (2017) stated that innovative competencies are one of the factors that affect innovation in any organization another study conducted by {Formatting Citation} showed similar findings. Thus, H1 is accepted. The second objective of the study was to investigate the relationship between learning environment and educational innovation. Refining for the study shows that learning environment has a significant and positive impact on educational innovation. If the environment of an institute is sportive towards learning and encourage its student to learn new things and then implement those changes it can bring innovation to that institute (Pant, 2012). The environment of any institute has a significant influence on innovation. It is not possible to bring educational innovation to the institute unless the environment of the education of that institute is towards learning. Deppeler et al., (2022) conducted a study and concluded that the learning environment has a significant effect on innovation in the education sector. He further stated that educational innovation is not possible without learning environment. The above mention studies are in this part of our findings and therefore, H2 is accepted. The third objective of the study was to investigate the relationship between student readiness and educational innovation. The study showed that there is a significant relationship between student readiness and educational innovation. innovation in education increases when students are ready for this change. A study conducted by Aboobaker, (2021) stated that innovation in educational institute increases when their students are ready to accept it and another study conducted by Lau & Shaikh, (2012) show the same result according to the finding of dad study and institute can bring innovation when they are student show readiness towards that change and they accept this change. The finding of our study is aligned with these previous studies. These studies are aligned with the findings of our results thus on the basis of the above discussion H3 is also accepted.

The fourth objective of the study stated that ideological and political education has a significant impact on educational innovation. The findings of the study stated that there is a significant relationship between ideological and political education and educational innovation. Ideological and political education focuses on cultivating college students to establish a correct concept of life and improving their spiritual accomplishment, which to some extent promotes innovation (Liu et al., 2021). This study supported our finding and hence H4 is accepted. The fifth, sixth and seventh objective of the study was to investigate the relationship between student readiness, learning environment, innovative competencies and ideological and political education respectively. The findings of the present study showed a significant and positive relationship between student readiness, learning environment, innovative competencies and ideological and political education respectively. These findings are aligned with the previous studies. Hu & Li, (2018) stated that readiness of students has a significant impact on ideological and political education. When students are ready, they will gain more knowledge. Thus, H5 is accepted. Similarly, Xinyuan Zhao & Zhang, (2021) stated that if an institute provides learning environment to study then it is easy to introduce ideological and political education to it. Thus, H6 is also accepted. Innovative competencies bring innovation to an organization. If people in an organization have innovative competencies they will think creatively and will be able to do difficult and tasks which are essential for innovation (Zhong, 2021). Therefore H7 is accepted.

H8, H9 and H10 are regarding mediation analysis. These hypotheses stated that ideological and political education mediates the relationship between innovative competencies, learning environment, student readiness and educational innovation respectively. The finding of the study stated that ideological and political education is a significant mediator between the relationship of innovative competencies, learning environment, student readiness and educational innovation. When student are ready to accept change in institute, the environment of institute is supportive towards learning and students have innovative competencies then it is easy to implement ideological and political course in it and the cultivation of students to develop a correct vision of life and improvement of their spiritual accomplishment is a primary emphasis of ideological and political education, which to some extent contributes to the promotion of innovative thought (He & Dong, 2021; Liu, 2021; LU, 2017). On the basis of this H8, H9 and H10 are accepted. Table 6 shows the summary of hypothesis.

Table 6. Summary of Hypotheses

Hypotheses	Decision
Innovative competencies has a significant effect on educational Innovation.	Accepted
Learning environment has a significant effect on educational Innovation.	Accepted
Student readiness has a significant effect on educational Innovation.	Accepted
Ideological and political education has a significant effect on educational Innovation.	Accepted
Innovative competencies have a significant effect on ideological and political education.	Accepted
Learning environment has a significant effect on ideological and political education.	Accepted
Student readiness has a significant effect on ideological and political education.	Accepted
ideological and political education mediates the relationship between innovative competencies and educational Innovation.	Accepted
ideological and political education mediates the relationship between learning environment and educational Innovation.	Accepted
ideological and political education mediates the relationship between student readiness and educational Innovation.	Accepted

Conclusion

Higher education institutions all over the world are going through a period of rapid structural, social, and technological change as a result of the enormous scientific and technological advancements that have been made. These institutions are vital centers for the development of talent, the production of knowledge, and the dissemination of that knowledge. The development of globalization and internationalization as a possible response to globalization) has led to some changes in higher education institutions. These changes have been brought about as a result of globalization and internationalization. These changes include advances in organizational performance, structure, management, leadership, finances, autonomy, reward system, new methods, new courses and programs, and new curricula, as well as the application of technology in the educational setting. The aim of this study was to find the impact of innovative competencies, learning environment, and student readiness on educational innovation. The study further explored the mediating effect of ideological and political education between innovative competencies, learning environment, student readiness and educational innovation respectively. Data was collected from those college and university students in China who have major in Political Science. SPSS and SmartPLS were utilized for the analysis of data. The findings of the study showed that relationships between innovative competencies, learning environment, student readiness, and educational innovation are significant and positive and ideological and political education partially mediates these relationships.

This study has certain practical implications. This study will help educational institutes, policy-makers, teachers and students to increase innovation in the education sector. No study is

without limitations. This study also has some limitations. This study used a quantitative method. Future studies can use qualitative or mixed-method strategies. Another limitation is that this study identified only those factors which have a positive effect on educational innovation. Future studies can identify those factors which have a negative effect on educational innovation. This study considers students as a population, future studies can consider teachers and higher authorities in the education sector.

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