THE INFLUENCING FACTORS OF CLASS PARTICIPATION IN BLENDED TEACHING OF IDEOLOGICAL AND POLITICAL EDUCATION AT SHANDONG UNIVERSITY OF ENGINEERING AND VOCATIONAL TECHNOLOGY

LI YUXIN
6517195831

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION
GRADUATE SCHOOL OF BUSINESS
SIAM UNIVERSITY
2024**

THE INFLUENCING FACTORS OF CLASS PARTICIPATION IN BLENDED TEACHING OF IDEOLOGICAL AND POLITICAL EDUCATION AT SHANDONG UNIVERSITY OF ENGINEERING AND VOCATIONAL TECHNOLOGY

LI YUXIN

This Independent Study has been Approved as a Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

Advisor: ......Ma Yu.............................
(Dr. Ma Yu)

Date: ......17...../......8....../..2024...

....
(Associate Professor Dr. Jomphong Mongkhonvanit)
Acting Dean, Graduate School of Business

Date........4.../......2..../..2025

Title: The Influencing Factors of Class Participation in Blended Teaching of Ideological and Political Education at Shandong University of Engineering and Vocational Technology

By: Li Yuxin

Degree: Master of Business Administration

Major: Education Management

Advisor: ....*Ma Yu*.............................

(Dr. Ma Yu)

Date: ....19...../......8../...2024..............

ABSTRACT

Students' effective participation in ideological and political education is an important measurement index of blended teaching classrooms. Exploring the class participation of university students in ideological and political education and its influencing factors under the blended teaching mode can provide a reference basis and value for the implementation of blended teaching in universities.

The objectives of this study were： 1) To explore the effect of learning activities on students' participation in ideological and political education blended teaching; 2) To explore the effect of self-efficacy on students' participation in ideological and political education blended teaching; and 3) To explore the effect of learning initiative on students' participation in ideological and political education blended teaching.

This study adopted the quantitative method. Students of Shandong University of Engineering and Vocational Technology were the subjects. A total of 400 questionnaires were distributed, and 344 valid questionnaires were collected, with a validity rate of 86.0%. This study found that learning activities, self-efficacy, and learning initiative have a significant positive effect on the participation of students in ideological and political education blended teaching. For recommendations, the participation of students in ideological and political education blended teaching in Shandong University of Engineering and Vocational Technology can be fostered by: 1) Designing diversified learning activities; 2) Enhancing self-efficacy; and 3) Stimulating students' learning initiative.

ACKNOWLEDGEMENT

I would like to express my deepest gratitude to my advisor, for his invaluable guidance, support, and encouragement throughout my master's independent study. His insightful comments and constructive criticism have significantly improved the quality of my work.

Additionally, I am grateful to Associate Professor Dr. Jomphong Mongkhonvanit, the Dean of the Graduate School, for his support and encouragement throughout my studies. His dedication to the graduate program and commitment to excellence have inspired me to strive for academic excellence.

Finally, I would like to extend my appreciation to all the faculty members and staff of Siam University who have contributed to my growth and development as a scholar. Their unwavering support and encouragement have been a source of inspiration and motivation to me.
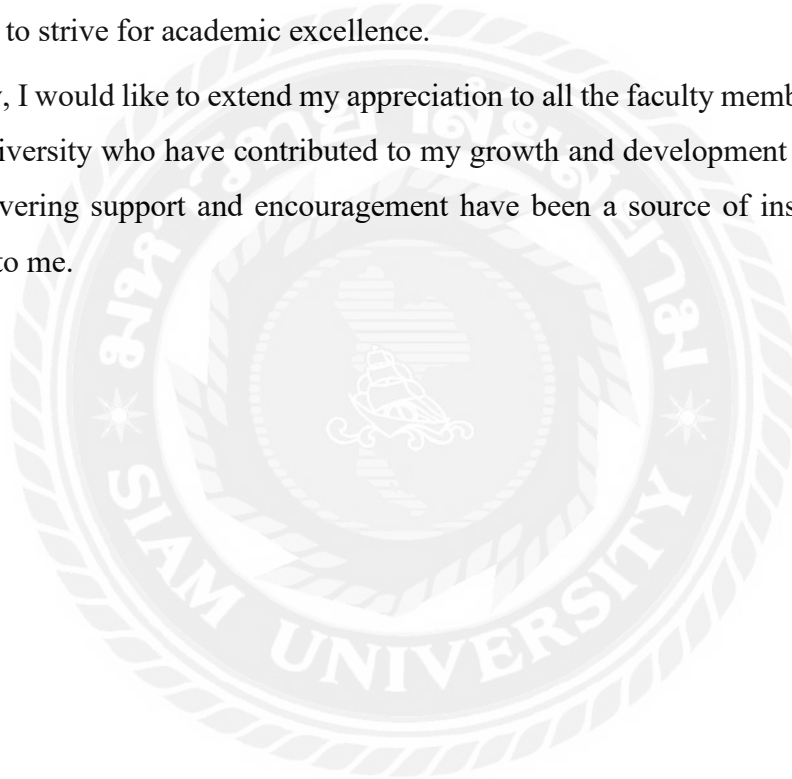
DECLARATION

I, Li Yuxin, hereby certify that the work embodied in this independent study entitled "The Influencing Factors of Class Participation in Blended Teaching of Ideological and Political Education at Shandong University of Engineering and Vocational Technology" as a result of original research and has not been submitted for a higher degree to any other university or institution.

Li Yuxin

(Li Yuxin)
July 1, 2024

CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1 Introduction

1.1 Background of the Study

In this era of rapid information dissemination, the spread of ideologies has garnered worldwide attention. Consequently, strengthening ideological and political education has become an urgent task, with ideological and political theory courses (IPTC) in universities constituting a vital component of contemporary higher education. These courses are mandatory for university students and serve as the primary channel and stronghold for ideological and political education among them (Gao, 2021). As global exchanges intensify, diverse ideologies propagate through various channels such as online media, films, and music, further emphasizing the significance of ideological and political education in universities. Thus, IPTC in universities has become even more crucial. As a result, creating new paradigms and enhancing the effectiveness of IPTC have emerged as pressing issues for universities worldwide.

The application of blended learning in education has yielded remarkable results. Its effectiveness is in the transformation of the learning subject and the enhancement of learning outcomes. By effectively shifting away from the traditional "teacher-centered" approach in education, blended learning reestablishes students as the central focus. Simultaneously, it significantly impacts students' learning outcomes (Wang, 2021). In higher education, this is evident in increased pass rates and classroom satisfaction, lower dropout rates, improved exam scores, strengthened learning motivation and self-efficacy and heightened satisfaction with the learning experience. Within vocational education, blended learning enhanced practical skills and problem-solving abilities. Notably, in education, blended learning is often adopted as a primary method for physician skills training. Compared to traditional training, it significantly boosts students' self-efficacy, sparks interest in learning, and fosters autonomous learning capabilities in clinical practice.

Ideological and political education is based on the fundamental task of establishing moral values, and based on the basic theory of Marxism and the latest achievements of Marxism, the basic connotation of the core qualities of the ideological and political discipline has been determined, to serve the task of cultivating high-quality laborers and technically skilled talents (Gao, 2021). At the same time, with the advancement of the artificial intelligence era, students' demand for teaching resources and content has changed dramatically, in addition to the classroom teaching of theoretical courses, extracurricular ideological and political practice platform accordingly due to the requirements of the overall development of the students is important needs, therefore, the Internet, the new media era of blended teaching mode came into being, and with the application of the ideological and political course of study in the teaching (Li, 2018). Blended teaching through the "online & offline" form to realize the integration of modern technology and traditional classroom, not only fully embodies the "students as the main body, teacher-led" teaching concept, but also allows learners to effectively

participate in the classroom (Li et al., 2021).

The integration of blended teaching fully embodies the teaching concept of "student-led and teacher-led", and allows learners to participate effectively in the classroom, making the classroom "live" and students "move", which can meet the needs of ideological and political education of university students in the background of informatization (Li, 2018; Li et al., 2021). The effect and evaluation of blended teaching have always been the focus of scholars' research, and blended teaching mainly focuses on three aspects: learning effect and cognitive level, interaction and social knowledge construction, and emotional attitude. In the learning effect of blended teaching, exploring the students' Class participation and influencing factors under the blended teaching mode is an important aspect of the research on education informatization in the information age (Liu et al., 2021). Whether students' participation is effective in the ideological and political education of university students is an important measurement index of blended teaching classrooms. In this context, exploring the Class participation level and its influencing factors on university students' ideological and political education under the blended teaching mode can provide a reference basis and value for the wide implementation of blended teaching and the teaching effect. Taking Shandong University of Engineering and Vocational Technology as the research object, it is significant to explore the factors influencing Class participation in the blended teaching of ideological and political education of university students (Wang, 2021).

1.2 Questions of the Study

Blended teaching is a mode that gives full play to the advantages of online teaching and traditional teaching, with numerous resource platforms and rich learning systems. With scholars' in-depth exploration and research on blended teaching, its theory and practice have been enriched, and the integration of blended teaching into the ideological and political education of university students has become more and more common and diversified (Li et al., 2021; Wang, 2021). However, the targeted exploration of blended teaching in ideological and political courses is still relatively rare. Through the research on the current status of blended teaching, we clarify the history and current situation of its development and evolution and draw on the experience of previous scholars to break through and innovate the research on blended teaching in ideological and political classes.

(1) Do learning activities affect class participation of students in blended teaching of ideological and political education?

(2) Does self-efficacy affect class participation of students in blended teaching of ideological and political education?

(3) Does learning initiative affect class participation of students in blended teaching of ideological and political education?

1.3 Objectives of the Study

Blended learning circumvents the shortcomings of traditional teaching methods, which often require fixed time, location, personnel, and a one-size-fits-all approach. It also addresses the lack of interaction and emotional support between teachers and students. In teaching evaluation, blended learning adopts a more diversified approach, effectively integrating diagnostic, formative, and summative assessments. After undergoing diagnostic evaluation, students receive feedback on their learning levels, which subsequently informs the formulation of tailored learning tasks. These tasks encourage students to leverage their comprehensive abilities and academic achievements to complete them.

Blended learning fully empowers students by fostering an environment where they proactively identify and address problems during the learning process. This approach nurtures divergent thinking, stimulates students' interest and motivation, and enhances their learning experience. Therefore, based with the above analysis, the purpose of this study is:

(1) To explore the effect of learning activities on students' class participation in blended teaching of ideological and political education.

(2) To explore the effect of self-efficacy on students' class participation in blended teaching of ideological and political education.

(3) To explore the effect of learning initiative on students' class participation in blended teaching of ideological and political education.

1.4 Scope of the Study

This study focuses on students of Shandong University of Engineering and Vocational Technology, investigating their class participation and its influencing factors in the blended learning mode of ideological and political education. The target population comprises students enrolled at the university who are actively engaged in blended learning. The aim is to understand students' perceptions and feedback towards this teaching mode, providing valuable insights and a reference basis for the widespread implementation of blended learning and the enhancement of teaching outcomes.

Data collection was conducted from March 2024 to June 2024, encompassing classes of ideological and political education. The scope of the research encompasses students who participate in the blended teaching of ideological and political education. These students evaluated their experiences with the blended teaching approach. Through a questionnaire survey, the study systematically analyzed students' learning activities, self-efficacy, and learning initiative within the blended learning environment of ideological and political classes. Additionally, the research integrated teachers'

feedback and classroom observations to comprehensively evaluate the effectiveness of blended learning in ideological and political education and identify areas for improvement.

1.5 Significance of the Study

As a compulsory public course for students, ideological and political education (IPE) serves as one of the primary channels for students to receive systematic ideological and political instruction. To better align teaching with societal and student needs, research is imperative to explore more suitable teaching methodologies. Based on the actual circumstances of both teachers and students, online and offline teaching each present their unique strengths and weaknesses, making blended learning, which combines the advantages of both, a worthwhile endeavor to attempt (Yu, 2022). This paper delves into blended learning methodologies, aiming to provide teachers with a more effective teaching approach and students with a more convenient and efficient learning mode.

Blended learning mode possess distinct advantages, particularly in the context of IPE, offering significant insights into teaching practices. The mode in university IPE classes not only introduces fresh pedagogical perspectives but also enriches and refines existing teaching methodologies. By transcending the temporal and spatial constraints of traditional teaching modes, blended learning optimizes the allocation of educational resources (Li et al., 2021; Liu et al., 2021). Typically encompassing pre-class online learning, in-class offline learning, and combined online practical and assessment sessions, this mode significantly expands the scope and depth of teaching activities through the seamless integration of these components. In implementation, blended learning reinforces the timeliness of teacher-student communication. The utilization of online platforms facilitates instant communication between teachers and students, fostering a harmonious and equitable educational atmosphere. This immediate interaction not only aids in resolving students' doubts during the learning process but also enhances teachers' prompt understanding and feedback on students' learning progress.

Furthermore, blended learning promotes the comprehensive fulfillment of IPE curriculum requirements. Within this framework, IPE teachers must shift from monolithic teaching methods and ideologies, striving to enrich teaching tools and continually refine instructional design. By organizing classroom teaching rationally, teachers can fully exert their guiding role, while students can embody their subjectivity. The seamless integration of online and offline teaching and learning ensures a more systematic and coherent teaching process, contributing to the comprehensive implementation of the new curriculum standards for IPE. Pre-class online learning can involve video lectures, shared online resources, and self-assessment quizzes, allowing students to learn and review at their pace (Li, 2018). In-class offline learning

emphasizes interactive formats such as discussions, case analyses, and field practices, deepening students' understanding and application of theoretical knowledge. Combined online practical sessions, like online discussions, offline research, and collaborative projects, further consolidate learned knowledge and enhance students' comprehensive abilities.

Blended learning presents a flexible and efficient solution for IPE, overcoming the limitations of traditional teaching modes while harnessing the strengths of modern information technology to optimize educational resource allocation and enhance teaching effectiveness. The promotion and application of this mode not only improves the quality of IPE but also provides valuable insights and references for the development of diversified teaching modes in vocational schools' IPE. Through continuous exploration and practice, blended learning is poised to breathe new life and vitality into IPE teaching.

1.6 Conceptual Definition of Terms

Blended learning is a teaching scenario that combines mobile communication devices, online learning environments, and classroom discussions. It integrates the advantages of face-to-face teaching with those of online teaching.

Learning activities refer to planned and purposeful extracurricular or in-class collective activities organized within the school education environment. These activities aim to promote students' all-round development, improve their comprehensive quality, cultivate interests and hobbies, improve practical abilities, and enhance social adaptability. These activities are typically organized spontaneously by students or guided by institutions such as schools, teachers, and student organizations. They are designed to enrich students' campus life, broaden their horizons, and strengthen their teamwork spirit and social responsibility.

Self-efficacy refers to an individual's subjective judgment of whether they can complete a task or behavior. It reflects one's confidence and belief in their abilities, as well as their expectations of the outcomes of their actions.

Learning initiative is the internal driving force and function that prompts students to actively, autonomously, and persistently engage in learning behaviors. It represents the implicit attitude and behavioral tendency of students to participate in learning activities consciously and voluntarily under the domination of their subjective consciousness.

1.7 Limitations of the Study

The limitations of the research subjects are manifested in the selection of samples.

This study focuses solely on the ideological and political education classrooms at Shandong University of Engineering and Vocational Technology, thus limiting the sample in terms of both geography and school type. The limitations in data collection methods also impact the accuracy of the research results. Relying solely on questionnaires for data collection is susceptible to subjective factors from students, such as the authenticity and accuracy of their responses. As this study primarily concerns students' subjective experiences, it neglects objective assessments of teaching effectiveness, such as exam scores and knowledge mastery, leading to a one-sidedness in the research findings.

Furthermore, the effectiveness of blended learning is influenced by multiple factors, including teachers' instructional capabilities, classroom management skills, and institutional support from the school. These factors may not have been fully considered or analyzed in this study. Lastly, the theoretical mode and analytical methods employed in this research also have limitations. The selection and analysis of factors influencing student engagement in blended learning may not be comprehensive or in-depth enough, thereby restricting the persuasiveness and applied value of the research conclusions.
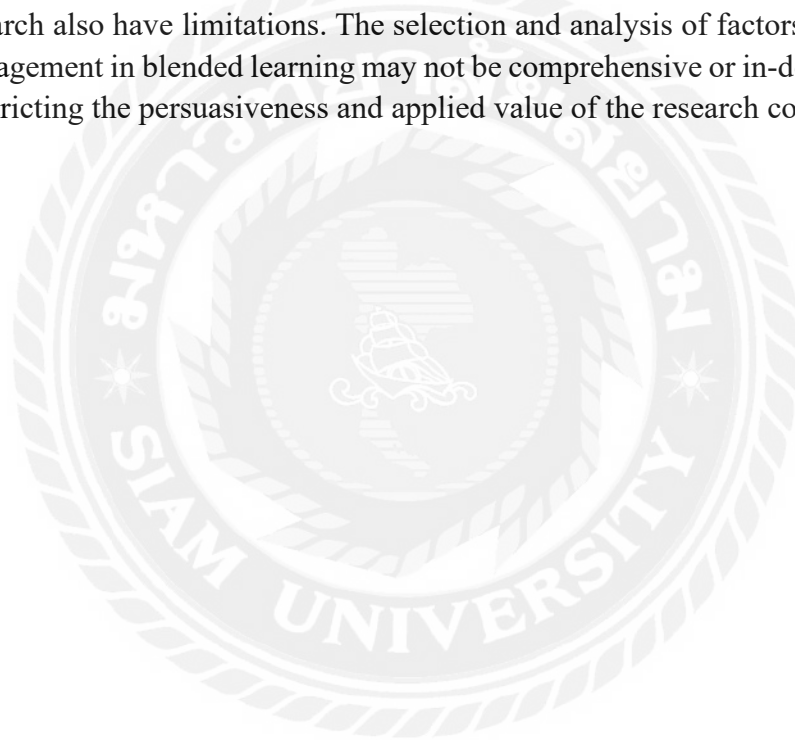
Chapter 2 Literature Review

2.1 Introduction

This chapter summarizes the influencing factors of blended learning in college students' ideological and political education, encompassing three aspects: learning activities, self-efficacy, and learning initiative. Blended learning has been shown to enhance student satisfaction and class participation. Based on the review of the literature, this chapter proposes the interrelationships among various variables.

2.2 Literature Review

2.2.1 Blended Learning

In the 1980s, Professor Eric Mazur (1997) introduced Peer Instruction, revolutionizing teaching methodologies. Peer Instruction is an instructional format where teachers and students collaborate in inquiry, characterized primarily by students' engagement in the teaching process through modern information technology tools such as computers. This introduction marked a shift from traditional classrooms dominated by teacher lectures, establishing a novel teaching mode. Essentially, Peer Instruction served as the early prototype of blended learning.

In 2001, the community of inquiry mode emerged as the most influential theoretical framework in the blended learning domain. Rooted in constructivism, the community of inquiry mode revolves around three pivotal elements: social presence, teaching presence, and cognitive presence. In the "Handbook of Blended Learning," McGrath (2013) defined blended learning as a novel teaching format that integrates face-to-face instruction with multiple technological media. Blended learning fuses the previously distinct modalities of face-to-face teaching and online learning.

Goodyear (2015) emphasizes that "blending" underscores the combination of instructional and tutorial approaches within a "student-centered" learning environment. As blended learning continues to evolve, scholars have sought to standardize its definition by quantifying aspects such as the ratio of face-to-face to online instruction. For instance, the Sloan Consortium considers a course to be blended if it incorporates 30%-79% online content, though some have criticized this threshold as overly restrictive.

Vaughan et al. (2015), using the community of inquiry mode as a framework, designed blended courses and concluded that the key strategy lies in "consciously

integrating synchronous and asynchronous learning" to create meaningful connections throughout the learning journey.

Blended learning is a student-centered teaching mode that integrates online learning with offline classroom instruction, representing a synthesis of traditional classrooms and contemporary online learning platforms. It emphasizes access to materials, focused learning, and nurturing student responsibility and independence. This instructional mode boasts three key characteristics: firstly, learning activities are conducted online, allowing for control over time, place, and approach, including progress monitoring. Secondly, other learning activities take place under the supervision of teachers, rather than at home (Fuentes-Tauber, 2018). Thirdly, it integrates individual learning states within a particular course to foster a comprehensive learning experience. The mode highlights comprehensiveness in teaching, developmental focus in student cultivation, integrity in the teaching process, and duality in assessment. As a teaching approach aligned with the times, blended learning plays a role in tapping students' learning potential and enhancing learning efficiency. Thus, ideology and politics teachers should actively integrate it into daily instruction, designing blended learning cases, assessment criteria, and related aspects, based on students' developmental needs, progress, and curricular standards.

Blended learning represents a thorough and meticulous integration between classroom-based instruction and online learning. As society progresses, blended learning has become increasingly refined in academic circles. A broad interpretation of blended learning could render it an all-encompassing teaching mode, obscuring its essence and practical significance. Blended learning combines the strengths of traditional face-to-face teaching with those of online learning (Bocconi et al., 2013). Compared to traditional face-to-face teaching, blended learning represents a novel instructional paradigm. It refers to a teaching method that utilizes suitable media technologies to provide resources and activities tailored to the learning environment, enabling students to develop competencies and thus achieve optimal teaching outcomes. In contrast, traditional teaching primarily involves teachers imparting knowledge through lectures, with students gathered in classrooms.

The application and design process of blended learning typically encompasses pre-class, in-class, and post-class phases. Before class, students can preview content via WeChat. WeChat's sign-in and survey functions facilitate attendance taking and assessments, especially in practical sessions where instruction follows the teacher's arrangement. After class, students engage in independent learning based on resources available on WeChat official accounts, while teachers provide summative evaluations of learning outcomes (Canhoto & Murphy, 2016). The instructional design is divided into three stages: pre-class, where teachers release learning information and students undertake online self-study; in-class, where teachers address doubts and students engage in collaborative learning; and post-class, where teachers provide feedback and students reflect for improvement. The tools used and the order of instruction vary according to specific disciplines and lesson examples. Blended learning emphasizes

students' autonomous inquiry and actively engages their enthusiasm and initiative, fostering student-led classroom learning.

2.2.2 Constructivism Theory

The key representatives of constructivism include Piaget and Vygotsky. In the 1960s, Piaget emphasized the individual cognitive process, arguing that children gradually develop their cognition of the surrounding world through interaction. This evolving individual cognitive perspective among children is known as individual constructivism. Later, Vygotsky proposed social constructivism, emphasizing that individuals need to collaborate and engage in activities within social groups to achieve development (Kozulin, 1993). Both individual and social constructivism underscore that knowledge is actively constructed by students and places learners at the center. The constructivism theory encompasses perspectives on knowledge, learning, students, and teaching. This study primarily analyzes how the learning, student, and teaching perspectives support the application of blended learning (Li, 2018).

The learning perspective emphasizes the active construction, social interaction, and contextual nature of learning. Blended learning emphasizes embodying student subjectivity through diverse, available means to construct new knowledge, where students engage in assimilation and accommodation based on their existing schemas.

The student perspective highlights students' pre-existing knowledge and experience structures, asserting that new knowledge is built upon this foundation. The teaching perspective emphasizes that knowledge is not passively received but actively constructed by students with cognitive abilities during the teaching process. In this process, teachers primarily serve as facilitators and guides. Blended learning, supported by constructivism, exudes vitality and dynamism. From a teaching perspective, constructivism emphasizes the guiding role of teachers as helpers and promoters in students' construction of new knowledge, leading to a series of instructional designs such as random access instruction, anchored instruction, scaffolding instruction, and top-down instructional design (Zimmerman, 1989). These designs can be flexibly applied in blended learning contexts across different courses. From a learning perspective, constructivism advocates that students build new knowledge based on their existing knowledge and experience. The more pre-existing knowledge and experience students possess, the easier it is for them to establish connections with new knowledge, assimilate it, and further construct new understandings. Conversely, with less pre-existing knowledge and experience, constructing new knowledge becomes more challenging. Therefore, constructivism advocates learning through situations, collaboration, and inquiry, providing a reference for blended learning.

(1) Learning Activities

The student activities in ideological and political education (IPE) classrooms aim to deepen students' understanding and identification with IPE theories through practical

exercises, fostering their correct worldviews, outlooks on life, and values. Student activities in IPE classrooms include thematic speeches and discussions, role-playing and scenario simulations, case studies, and debates. Blended learning, an integration of online and offline teaching methods, utilizes internet technologies and multimedia tools to conduct online IPE courses and activities, such as online lectures, live streaming, and online discussions (Kuh, 2019). The approach breaks through spatial and temporal constraints, enhancing the coverage and interactivity of IPE.

The design and implementation of learning activities directly impact student engagement in a blended learning environment. Diversity and fun in learning activities significantly contribute to enhancing student participation. Research shows that diversified learning activities like project-based learning, case studies, group discussions, and role-playing can stimulate students' interest and initiative. The design of online learning activities is crucial to student engagement in blended learning. online activities should be interactive and collaborative, such as real-time discussions, online quizzes, and virtual experiments (Hagger & Hamilton, 2018), fostering communication and cooperation between students and teachers, as well as among students. Personalized learning activity design is also a vital factor influencing student participation. In a blended learning environment, learning activities can be tailored to students' individual interests and learning progress. Diverse, interactive, and personalized learning activities can notably elevate student engagement and learning outcomes. As educational technology advances and blended learning modes become increasingly prevalent, the design of learning activities will become a crucial means to enhance student participation.

(2) Self-efficacy

MV López-Pérez (2011) found that blended learning reduced student dropout rates, improved exam passes rates and academic performance, enhanced learning motivation and self-efficacy, and increased learning satisfaction. In vocational education, this is particularly evident in improved practical skills and problem-solving abilities, especially in medical education where blended learning is often a primary approach for physician skill training. Compared to traditional training, blended learning has shown remarkable effects in boosting students' self-efficacy, stimulating learning interest, and enhancing autonomous learning capabilities in clinical practice.

Self-efficacy, a pivotal concept in educational psychology, refers to an individual's confidence and belief in their ability to accomplish a specific task. In education, student self-efficacy pertains to their confidence and expectations regarding their ability to complete a learning task or confront a learning challenge (López-Pérez et al., 2011). Originated by psychologist Albert Bandura, this concept reflects an individual's subjective judgment and belief in their capabilities. Self-efficacy is not merely a psychological state but a dynamic and malleable individual trait that encompasses students' perceptions of their learning abilities, assessments of learning tasks, and

expectations of learning outcomes. When students believe they can accomplish a learning task, they are more likely to take proactive actions, invest more effort, and persist until completion. Students lacking self-efficacy may develop a fear of learning tasks, adopting avoidance or passive coping strategies (Ilic et al., 2015). In a blended learning environment, self-efficacy significantly impacts student engagement, with numerous studies indicating that high levels of self-efficacy can notably enhance student participation and academic achievement. Blended learning combines the strengths of face-to-face instruction and online learning, offering students a more flexible and personalized learning experience (Vaughan, 2015). Research has found that students with high self-efficacy demonstrate greater engagement when confronted with the autonomy and challenges of online learning. Self-efficacy enhances students' adaptability to online learning environments. Its influence on student engagement in blended learning is profound and multifaceted (Canhoto & Murphy, 2016). By adopting effective instructional designs and support measures to elevate students' self-efficacy, increase their learning participation, and lay a solid foundation for their long-term academic development. Future research should continue to explore optimizing the cultivation of self-efficacy in blended learning environments to maximize student engagement and success.

(3) Learning Initiative

There is no universally agreed-upon definition of "autonomous learning" as various schools of thought offer distinct interpretations grounded in their theoretical frameworks. For instance, the operationalize school views autonomous learning as an operational behavior encompassing processes such as self-monitoring, self-direction, and self-reinforcement. The humanistic school asserts that autonomous learning is an inevitable outcome of an individual's self-system development (Zimmerman, 1989). Meanwhile, the cognitive constructivism school considers it a form of metacognitive monitoring, encompassing self-monitoring and self-adjustment. Kauffmann (2012) defines autonomous learning as a process where learners actively engage in their learning activities to a certain extent through metacognition, motivation, and behavior. The essence of learning initiative revolves around students' autonomy, self-regulation, self-monitoring, and self-evaluation.

In a blended learning environment, learning initiative plays a pivotal role and has a significant impact on student engagement. Literature suggests that learning initiative—the willingness of students to actively participate in the learning process, actively seek knowledge, and solve problems are critical factor in enhancing student engagement in blended learning. Blended learning combines the strengths of traditional face-to-face instruction and online learning, necessitating a high level of autonomous learning ability and initiative from students (Zimmerman, 1989). The influence of learning initiatives on student engagement in blended learning is also evident in feedback and self-regulation. Highly motivated students seek feedback from teachers and peers, using it to adjust and improve their learning strategies (Vaughan, 2015). They

excel in self-assessment and reflection, continually optimizing their learning methods and paths. Research has shown that this self-regulatory ability is crucial for effective learning, significantly enhancing student engagement and academic achievement. In blended Through active participation and exploration, students in blended learning environments gain more profound learning experiences.

2.3 Research Relevant

The teaching mode of ideological and political theory courses in colleges and universities proceeds from the actual teaching situation, realizing the integration of online learning, offline classrooms, and student practice into three modules. Extensive research and exploration are required for the blended teaching mode of ideological and political theory courses in colleges and universities, encompassing aspects such as instructional design, teaching content, teaching activity processes, teaching assessment, students' online learning, teacher-student interactions, and more (Jiang et al., 2021). This endeavor aims to fundamentally address existing teaching issues, enhance the effectiveness of ideological and political theory courses, and achieve optimal teaching objectives.

The research on the blended teaching mode of ideological and political theory courses in colleges and universities focuses on its exploration and construction. This mode introduces new perspectives for the reform of ideological and political theory courses. By integrating the blended teaching mode with these courses and leveraging digital information and network technology, a digital online teaching space can be established, breaking the constraints of traditional classroom spaces and creating a dedicated practical teaching space tailored to ideological and political theory courses (Ma & Zhang, 2021; Wang, 2020). These multiple spaces fill gaps in teaching modes, enhancing the appeal of ideological and political theory courses and improving teaching effectiveness.

In the era of "Internet+", the blended teaching mode comprehensively reshapes traditional teaching (Jiang et al., 2021). Changes occur in content presentation, learning resource acquisition, teacher-student interaction patterns, teaching spatial order and layout, and course assessment systems. The blended teaching for ideological and political theory courses in colleges and universities must differ from traditional teaching modes. Adjustments should be made based on surveys, with all efforts grounded in reality to explore an efficient and user-friendly teaching mode. Blended teaching realizes the integration of classroom, online, and practical teaching sectors (Wang, 2020).

While ideological and political theory courses in colleges and universities are embracing the positive momentum of the blended teaching mode, further research and exploration are necessary (Chen et al., 2022). Continuous study and improvement are

required to ascertain the extent of changes and substantial improvements brought about by this teaching mode in ideological and political theory courses. Ultimately, the goal is to enhance the effectiveness of these courses, enabling students to internalize the knowledge, externalize it in their actions, and genuinely understand, identify with, and believe in the core values disseminated.

2.4 Conceptual Framework

The factors influencing class participation in the blended teaching of ideological and political education at Shandong Vocational and Technical University of Engineering encompass three primary aspects: learning activities, self-efficacy, and learning initiative. Through a thorough literature review, the intricate relationships among these variables is constructed. Based on this synthesis, the research conceptual framework is depicted in Figure 2.1
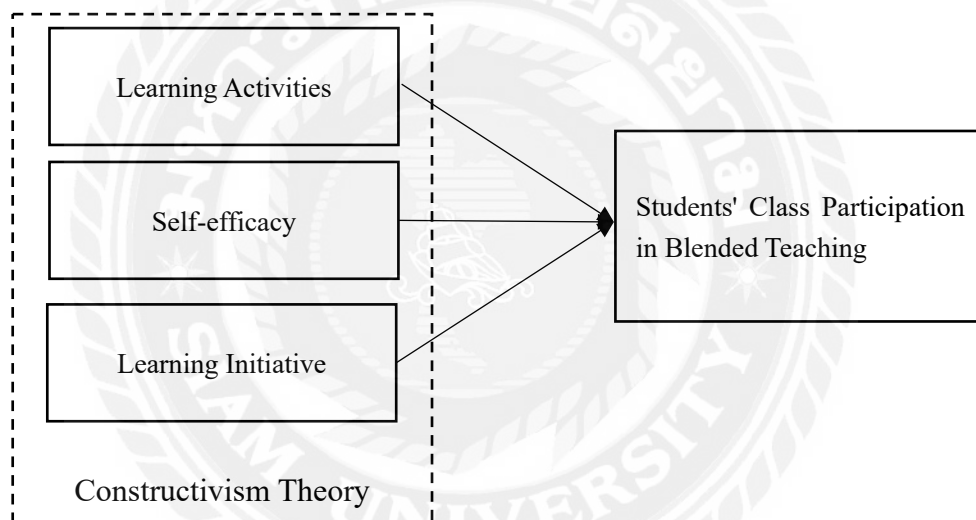

Figure 2.2 Conceptual Framework

Chapter 3 Research Methodology

3.1 Introduction

In this study, conceptual framework is devised to explore the effect of learning activities, self-efficacy, and learning initiative on class participation in the blended teaching of ideological and political education (IPE) at Shandong University of Engineering and Vocational Technology. The independent variables include learning activities, self-efficacy, and learning initiative, while the dependent variable is class participation in the blended IPE teaching. The analysis aims to validate the proposed conceptual framework and offer empirical evidence for enhancing class participation and learning outcomes in blended IPE teaching.

3.2 Research Design

The quantitative method was used in this study, and a questionnaire survey was conducted. In the questionnaire, student activities are assessed through five items, covering aspects of online learning activities, pre-class preparation activities, and practical activities. Self-efficacy is measured by five items, addressing areas of confidence, answering questions, and academic performance. Learning initiative is also evaluated through five items, exploring dimensions of participation in discussions, mastery of knowledge, and the ability to apply theory to practice. For the blended teaching class participation, six items are designed, encompassing teaching methodologies, classroom interaction, classroom atmosphere, course content, feedback, and support, as well as overall experience. In total, the survey questionnaire comprises 21 items. For each variable, measurement items were designed, and the coding of the items is shown in Table 3.1.

Table 3.1 Measurement Items

Measurement Item	NO.
Learning Activities	
1. In online learning activities, I can actively participate in video watching, material reading, discussion and other activities of ideological and political courses.	Q1
2. In blended learning, I am willing to participate in pre-class preview tasks and activities.	Q2
3. I believe that practical activities (such as field trips, volunteer services, etc.) are very helpful for enhancing my ability to apply ideological and political theories.	Q3

4. An appropriate amount of learning activities can enhance my learning enthusiasm and initiative.	Q4
5. Using learning activities as criteria for evaluating grades would affect my enthusiasm for participating in learning activities.	Q5
Self-efficacy	
1. I can fully understand and grasp the core concepts and theories in ideological and political classes.	Q6
2. In ideological and political class discussions, I can confidently express my own views and insights.	Q7
3. In group cooperation or team projects, I am confident that I can contribute valuable ideas to ideological and political classroom tasks.	Q8
4. When faced with challenging questions in ideological and political classes, I usually actively seek solutions and try to answer them..	Q9
5. I believe that through continuous effort and effective learning, I can achieve excellent results in ideological and political courses.	Q10
Learning Initiative	
1. I have conscientiously completed both online and offline learning tasks throughout the course.	Q11
2. In class, I will actively ask questions or participate in discussions to deepen my understanding of ideological and political knowledge.	Q12
3. When I encounter ideological and political knowledge points that I don't understand, I will actively seek help from teachers or classmates.	Q13
4. I will actively relate the content of ideological and political courses to real life to deepen my understanding.	Q14
5. After class, I will actively review the content of ideological and political courses and try to summarize and apply what I have learned.	Q15
Class Participation	
1. I can maintain a high level of concentration in blended learning ideological and political classes	Q16
2. I like the blended learning teaching format (online self-study course videos + offline face-to-face teaching).	Q17
3. The online and offline learning resources have sufficient depth and breadth to meet my learning needs.	Q18
4. I think my participation in ideological and political classes is very high, often bringing vitality to the classroom.	Q19
5. I can keep up with the progress of blended learning ideological and political classes and complete assignments and tests on time.	Q20
6. I think blended learning ideological and political classes have increased my interest and motivation in learning.	Q21

3.3 Hypothesis

The independent variables in this study are learning activities, self-efficacy, and learning initiative, while the dependent variable is class participation in blended teaching. Based on this framework, the following hypotheses are proposed:

H1: Learning activities have a significant positive effect on students' class participation in blended teaching of ideological and political education.

H2: Self-efficacy has a significant positive effect on students' class participation in blended teaching of ideological and political education.

H3: Learning initiative has a significant positive effect on students' class participation in blended teaching of ideological and political education.
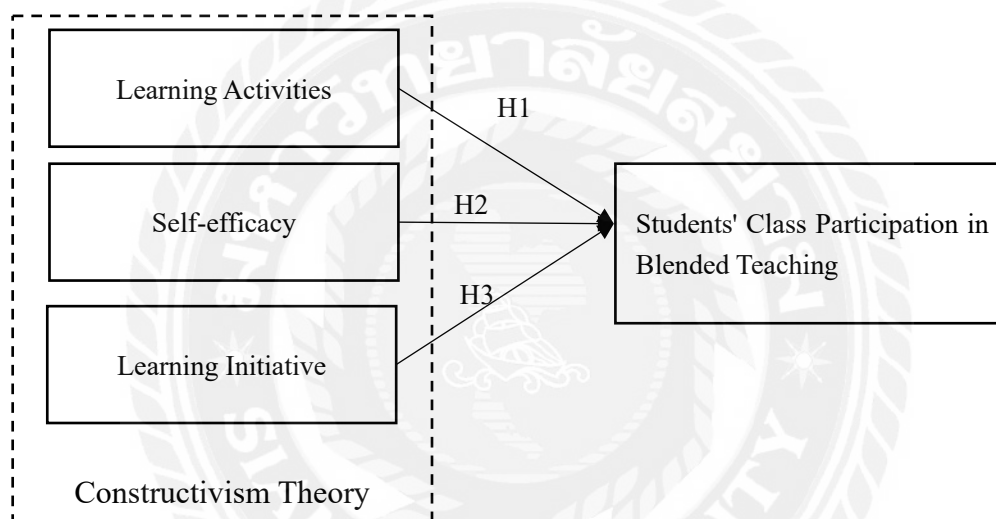
Figure 3.1 Hypotheses

3.4 Population and Sampling

The scope of this study encompassed the classrooms where university students engaged in ideological and political education (IPE) through the blended teaching mode at Shandong University of Engineering and Vocational Technology. The participants in this research primarily consisted of students who received IPE under the blended teaching mode. The study used a random sampling method to ensure that it is representative. During the random sampling process, a certain number of students were selected randomly from all students participating in the blended teaching mode, aiming to reduce sample bias and ensure the generalizability and reliability of the research findings.

According to the statistical data from Shandong University of Engineering and Vocational Technology, a total of 1,358 students participated in IPE through the blended teaching mode in 2024. Considering a confidence level of 99.9% for sample extraction, the sample size is calculated.

$$N = \frac{r^2 * \rho(1-\rho)}{\beta^2}$$

With an allowable error margin, defined as the maximum permissible difference between the sample mean and the population mean, set at 0.05, the calculation yields a sample size of 399.89. Therefore, the final sample size for this survey is determined to be 400 students.

3.5 Data Collection

This study focused on students from Shandong University of Engineering and Vocational Technology, with data collection conducted between March and June 2024, encompassing classrooms where university students engaged in ideological and political education (IPE) through the blended teaching mode. The research team designed a questionnaire that covers various aspects of students' evaluations of the IPE course under the blended teaching mode. With the cooperation of the school's academic administration system and instructors, students participating in the blended teaching mode were randomly selected as survey respondents.

Team members distributed the questionnaires in different classrooms, providing detailed explanations of the purpose and completion requirements to ensure that students fully understood and carefully filled out the questionnaires. Each student was given ample time during class to complete the questionnaire, guaranteeing the quality and authenticity of the data.

During the questionnaire collection process, the research team conducted rigorous checks to eliminate invalid questionnaires, including those that were incomplete or had inconsistent answers. Ultimately, 400 questionnaires were distributed, with 344 valid responses received, representing an effective response rate of 86.0%. This efficient questionnaire recovery process ensured the adequacy and representativeness of the data, providing a solid foundation for subsequent analysis. Through this process, the research team successfully obtained an amount of valuable data, enabling an in-depth analysis of students' evaluations and feedback on the IPE course under the blended teaching mode.

3.6 Data Analysis

3.6.1 Reliability of the Questionnaire

Reliability analysis is a statistical process that reflects the true extent of the measured characteristic based on the consistency or stability of the test scale results. The more uniform the test results, the more representative the data, and the higher the reliability. Through reliability analysis, we can assess the rationality of the questionnaire design and make corrections to avoid misclassification errors. Cronbach's alpha is used to evaluate the internal consistency of test items. The higher the value of

Cronbach's alpha, the higher the degree of consistency among items. When the reliability coefficient of a subscale is above 0.7, the scale or questionnaire is considered to have good reliability; a coefficient between 0.6 and 0.7 is also acceptable; for the overall scale, a reliability coefficient of 0.8 or higher indicates good overall reliability.

In this study, Cronbach's Alpha was adopted as the indicator to measure the reliability of the questionnaire. The Cronbach's Alpha value greater than 0.8 indicates that the scale is reliable. The closer the value of Cronbach's Alpha is to 1, the higher the reliability of the scale and the smaller the error in the measured results. Data analysis revealed that Cronbach's Alpha values for learning activities, self-efficacy, learning initiative, and class participation were 0.894, 0.873, 0.897, and 0.874, respectively. This indicates good internal consistency and high reliability of the questionnaire. As shown in Table 3.2, the questionnaire used in this research demonstrates excellent reliability.

Table 3.2 Variate Reliability Test

Variate	Cronbach's Alpha	N of Items
Learning Activities	0.894	5
Self-efficacy	0.873	5
Learning Initiative	0.897	5
Class Participation	0.874	5

3.6.2 Validity of the Questionnaire

KMO and Bartlett's Test of Sphericity are regarded as indicators of questionnaire validity measurement. When the value of KMO is greater than 0.6, it indicates that factor analysis can be used. The smaller the P value of Bartlett's Test of Sphericity, the higher the validity, and when the P value is less than 0.05, it indicates that it is suitable to do the factor analysis. The value of KMO is 0.942, which is greater than 0.9, and the significance of Bartlett's Test of Sphericity Probability P-value is 0.000, which is less than 0.05, so the null hypothesis is rejected, indicating that the structural validity of the questionnaire is good. See Table 3.3. The analysis of variance for the common factors showed that the standardized factor loadings for each question item were greater than 0.6, the commonality of the variables was greater than 60%, and some of the factor loadings reached 67.520%, which indicated that these variables had a high degree of explanatory validity. A total of three factors were extracted from the rotated factor loading matrix table, which to some extent indicates that it is feasible and reasonable to measure the three variables in this study.

Table 3.3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.942

Bartlett's Test of Sphericity	Approx. Chi-Square	4304.177
	df	210
	Sig.	0.000

Table 3.4 Total Variance Explained

Compo nent	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	% of Varian ce	Cumulativ e %	% of Varian ce	Cumulativ e %
1	9.481	45.148	45.148	45.14	45.148	18.18	18.182
2	2.091	9.955	55.103	9.955	55.103	17.06	35.246
3	1.419	6.756	61.859	6.756	61.859	16.15	51.397
4	1.189	5.661	67.520	5.661	67.520	16.12	67.520
5	.637	3.031	70.551				
6	.584	2.781	73.332				
7	.536	2.550	75.882				
8	.531	2.528	78.410				
9	.490	2.333	80.743				
10	.449	2.136	82.879				
11	.419	1.997	84.876				
12	.405	1.930	86.806				
13	.395	1.880	88.686				
14	.369	1.755	90.441				
15	.351	1.673	92.114				
16	.334	1.591	93.706				
17	.331	1.577	95.283				
18	.294	1.400	96.683				
19	.282	1.344	98.027				
20	.222	1.055	99.082				
21	.193	.918	100.000				

The analysis extracted factors with eigenvalues greater than 1, and the cumulative total variance explained by these factors was 67.520%. Table 3.4 displays the results of the factor analysis after rotation using the varix method. The calculation of the rotated component matrix indicates that the items of each factor exhibit good discriminant validity, as shown in Table 3.5.

Table 3.5 Rotated Component Matrix

	1	2	3	4

Q1	0.780	0.209	0.244	0.201
Q2	0.704	0.216	0.253	0.176
Q3	0.769	0.159	0.177	0.184
Q4	0.727	0.204	0.223	0.161
Q5	0.745	0.256	0.121	0.199
Q6	0.205	0.758	0.171	0.179
Q7	0.195	0.706	0.167	0.229
Q8	0.188	0.711	0.201	0.216
Q9	0.233	0.762	0.137	0.204
Q10	0.188	0.705	0.241	0.201
Q11	0.140	0.179	0.184	0.801
Q12	0.215	0.178	0.197	0.689
Q13	0.230	0.252	0.041	0.692
Q14	0.157	0.169	0.181	0.708
Q15	0.153	0.229	0.183	0.739
Q16	0.209	0.172	0.773	0.077
Q17	0.129	0.162	0.719	0.217
Q18	0.185	0.306	0.665	0.195
Q19	0.226	0.167	0.738	0.148
Q20	0.225	0.145	0.726	0.171
Q21	0.114	0.146	0.780	0.146

The findings indicate that the rotated principal component matrix shows the first factor spanning from Q1 to Q5; the second factor encompassing Q6 to Q10; the third factor including Q16 to Q21; and the fourth factor covering Q11 to Q15. As evident from the results in Table 3.5, a total of four factors were extracted, with each variable exhibiting a significant loading on only one common factor while having smaller loadings on the other common factors. This suggests that each variable possesses good validity but with distinct differences.

3.6.3 Analysis of Questionnaire Date

After data collection, analysis was required, and the specific process was as follows: Firstly, the collected data were cleaned and inspected, including checking for missing data, outliers, and abnormal values. If there were issues, the data were processed or excluded. Secondly, descriptive statistical analysis was performed on the survey sample, including the sample size and proportions. Correlation analysis was conducted on the collected data to determine the interactions between variables. Finally, regression analysis was performed using path coefficient diagrams and coefficient tables to describe the relationships between latent and observed variables, verifying research hypotheses.

Chapter 4 Findings

4.1 Introduction

Through a literature review, this study has combed through the influencing factors of class participation in the blended learning mode of ideological and political education at Shandong University of Engineering and Vocational Technology. Adopting a quantitative research approach, the collected questionnaires were analyzed to ascertain the reliability and validity of the data. Descriptive statistics, correlation analysis, and regression analysis were performed on the data to comprehend the relationships among variables. Through analysis, the hypotheses were verified, and the interactions among the variables in the mode were clarified.

4.2 Demographic Characteristics of Participants

This study primarily collected data through online questionnaire distribution. A total of 400 questionnaires were distributed, with 344 valid responses collected, yielding an effective response rate of 86.0%. The survey data reveals a relatively balanced gender, with males accounting for 52.9% (182) and females comprising 47.1% (162). In terms of age, 63.7% of the students are under 23 years old, indicating that participants are young university students; 32.3% are between 23 and 28 years old, and only 4.1% are over 28 years old. This suggests that most students in the sample are either undergraduate students or early-stage graduate students. Regarding year of study, first-year students constitute 44.5% (153), followed by second-year students at 19.2% (66), third-year students at 11.0% (38), and others accounting for 25.3% (87). This distribution highlights a higher participation rate among first-year students, which may be attributed to their unique needs and experiences during the learning process.

Concerning academic backgrounds, students from science and engineering majors represent 19.2% (66), humanities majors 22.1% (76), economics and management majors 18.0% (62 individuals), art majors 21.8% (75), and students from other majors account for 18.9% (65). This demonstrates that the sample encompasses a diverse range of academic backgrounds, facilitating a comprehensive understanding of students' evaluations of ideological and political education within the blended learning mode across different disciplines. Overall, the sample exhibits representativeness, providing a rich data foundation for analyzing students' feedback on the blended learning mode. This diverse sample distribution enables researchers to assess students' experiences and satisfaction. As shown in Table 4.1, the entire sample meets statistical requirements.

Table4.1 Descriptive Statistical Analysis of Demographics

Item	Characteristics	Frequency	Percent%
Gender	Male	182	52.9
	Female	162	47.1
Age	Under 23	219	63.7
	23-28	111	32.3
	Above 28	14	4.1
Year of Study	Freshman	153	44.5
	Sophomore	66	19.2
	Junior	38	11.0
	Others	87	25.3
Major	Science and Engineering	66	19.2
	Humanities	76	22.1
	Economics and Management	62	18.0
	Arts	75	21.8
	Others	65	18.9
Total		344	100.0

4.3 Results of the Study

The data analysis reveals students' ratings across four dimensions: learning activities, self-efficacy, learning initiative, and class participation. Each dimension comprises multiple questions (Q1 to Q21), with a scoring range from 1 to 5. The minimum, maximum, mean, overall mean and standard deviation for each question are provided. For learning activities (Q1-Q5), students' average ratings range from 3.51 to 3.80, with an overall mean of 3.66 and standard deviations between 0.880 and 1.137. This indicates that students hold a relatively high and consistent evaluation of learning activities, suggesting a similar perception among most students regarding these aspects.

In terms of self-efficacy (Q6-Q10), students' average ratings fall between 3.48 and 3.71, yielding an overall mean of 3.63, and standard deviations range from 1.016 to 1.177. While the ratings are high, the slightly larger standard deviations in self-efficacy may reflect varying of confidence among students in their learning abilities.

Regarding learning initiative (Q11-Q15), students' average ratings span from 3.55 to 3.85, with an overall mean of 3.67 and standard deviations between 1.094 and 1.290. The higher ratings suggest that students demonstrate strong initiative in their learning, though the slightly elevated standard deviations indicate a wider range among students.

For class participation (Q16-Q21), students' average ratings lie between 3.62 and 3.81, yielding an overall mean of 3.72 and standard deviations ranging from 1.056 to 1.151. The high ratings indicate active class participation among students, and the moderate standard deviations suggest a relatively consistent view among most students

regarding this aspect.

The high ratings across all four variables reflect students' positive attitudes toward learning activities, self-efficacy, learning initiative, and class participation. However, the variations in standard deviations highlight the need for researchers to attend to individual differences, particularly in self-efficacy and learning initiative, to devise more targeted instructional strategies and support measures that enhance overall learning outcomes. See Table 4.2 for details.

Table 4.2 Descriptive Statistics of Variables

Various	Items	Min	Max	Mean	Total Mean	Std. Deviation
Learning Activities	Q1	1	5	3.64	3.66	1.023
	Q2	1	5	3.51		0.981
	Q3	1	5	3.80		0.880
	Q4	1	5	3.72		1.137
	Q5	1	5	3.61		1.015
Self-efficacy	Q6	1	5	3.69	3.63	1.103
	Q7	1	5	3.71		1.177
	Q8	1	5	3.71		1.032
	Q9	1	5	3.58		1.049
	Q10	1	5	3.48		1.016
Learning Initiative	Q11	1	5	3.56	3.67	1.123
	Q12	1	5	3.71		1.167
	Q13	1	5	3.55		1.290
	Q14	1	5	3.85		1.211
	Q15	1	5	3.70		1.094
Class Participation	Q16	1	5	3.80	3.72	1.103
	Q17	1	5	3.72		1.082
	Q18	1	5	3.77		1.137
	Q19	1	5	3.69		1.151
	Q20	1	5	3.81		1.100
	Q21	1	5	3.62		1.056

Correlation analysis is the process of examining two or more interrelated elements within variables, aiming to measure the association between two elements within those variables. This analysis necessitates a certain degree of connection or probability between the correlated elements. Correlation analysis has become a premier method in statistical analysis to explore relationships between different groups. Pearson's correlation coefficient is particularly suited for two sets of continuous variables, achieving optimal results when they conform to an approximately normal distribution and exhibit a linear relationship.

Table 4.3 Correlation Between Variables (Pearson Correlation Matrix)

	Learning Activities	Self-efficacy	Learning Initiative	Class Participation
Learning Activities	1			
Self-efficacy	.609**	1		
Learning Initiative	.625**	.660**	1	
Class Participation	.476**	.489**	.521**	1

NOTE：*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

In this study, the correlation between the factors influencing class participation in blended teaching of ideological and political education was tested with the SPSS.

The results of correlation analysis show that the Pearson correlation coefficient between learning activities and university students' ideological and political education blended teaching class participation is 0.476, p=0.000<0.001, which is significant, indicating that there is a significant positive correlation between learning activities and students' class participation.

The Pearson correlation coefficient of self-efficacy and students' class participation is 0.489, p=0.000<0.001, which is significant, indicating a significant positive correlation between self-efficacy and students' class participation.

The Pearson's correlation coefficient between learning initiative and students' class participation is 0.521, p=0.000<0.001, which is significant, indicating that there is a significant positive correlation between learning initiative and students' class participation.

The three variables of learning activity, self-efficacy, and learning initiative were first centered. Then, stratified regression analysis was used. The path coefficient of learning activities (β=0.486, p=0.000<0.001) in mode 1 was significant. Mode 2 with the addition of self-efficacy to mode 1 showed significant path coefficients for learning activities (β=0.288, p=0.000<0.001), self-efficacy (β=0.313, p=0.000<0.001), and R Square significantly from 0.426 improved to 0.489. Mode 3 after adding learning initiative to mode 2, the path coefficients of learning activities (β=0.188, p=0.000<0.001), self-efficacy (β=0.192, p=0.000<0.001), learning initiative (β=0.242, p=0.000<0.001) had significant path coefficients, and the R Square increased significantly from 0.489 to 0.627. The stratified regression illustrates that the effect of each variable on students' class participation is significant.

Table 4.4 Multiple Regression

Mode		Unstandardized Coefficients		t	Sig.	VIF	R Square	Adjusted R Square
		B	Std. Error					
1	(Constant)	1.991	0.182	10.914	0.000		0.426	0.422
	Learning Activities	0.486	0.049	9.996	0.000	1.000		
2	(Constant)	1.575	0.191	8.260	0.000		0.489	0.485
	Learning Activities	0.288	0.059	4.901	0.000	1.591		
	Self-efficacy	0.313	0.057	5.513	0.000	1.591		
3	(Constant)	1.496	0.187	8.010	0.000		0.627	0.621
	Learning Activities	0.188	0.062	3.033	0.000	1.850		
	Self-efficacy	0.192	0.062	3.086	0.000	1.997		
	Learning Initiative	0.242	0.056	4.346	0.000	2.062		
a Dependent Variable: Class participation								

Therefore, based on the data analysis results, it can be concluded that learning activities have a significant positive impact on student participation in the blended teaching classroom. Thus, Hypothesis H1 is supported. Self-efficacy also exerts a significant positive influence on student participation in the blended teaching classroom. Hence, Hypothesis H2 is confirmed. Additionally, learning initiative demonstrates a significant positive effect on student participation in the blended teaching classroom, validating Hypothesis H3.

Chapter 5 Conclusion and Recommendation

5.1 Conclusion

This study adopted the quantitative reasrarch method. A total of 344 valid questionnaires were collected in this study, with an effective rate of 86.0%. This chapter primarily discusses student participation in the blended teaching classroom of ideological and political education, along with its influencing factors, and proposes corresponding strategies. Learning activities, self-efficacy, and learning initiative are found to have significant positive effects on student participation in the blended teaching classroom of ideological and political education.

5.1.1 Learning Activities Have a Significant Positive Effect on Students' Class Participation in Blended Teaching of Ideological and Political Education

Learning activities (β=0.188, p=0.000<0.001) have a significant positive effect on students' class participation in blended teaching of ideological and political education. Teachers can stimulate students' interest and increase their class participation by designing diversified learning activities, such as group discussion, case analysis, and interactive teaching. positive engagement can promote students' deeper understanding and mastery of the content of ideological and political education, thus improving the overall teaching effectiveness. This research finding also reminds educational administrators and policymakers to emphasize the design and implementation of classroom activities (Hagger & Hamilton, 2018; Kuh, 2019). By providing the necessary resources and support, and encouraging teachers to innovate their teaching methods, a richer learning environment can be created for students, which enhances their learning experience and engagement (Chen, 2022; Yildiz Durak, 2018). Learning activities play a key role in the blended teaching of ideological and political education, and their significant positive influence suggests that we should pay more attention to and optimize the design and implementation of learning activities in educational practice to promote the overall development of students.

5.1.2 Self-Efficacy Has a Significant Positive Effect on Students' Class Participation in Blended Teaching of Ideological and Political Education

Self-efficacy (β=0.192, p=0.000<0.001) has a significant positive effect on students' class participation in blended teaching of ideological and political education. The improvement of self-efficacy helps to enhance students' class participation. Teachers enhance students' self-efficacy by providing timely and positive feedback, setting reasonable goals, and providing necessary support during the teaching process.

For example, praising students' efforts and progress and encouraging them to face challenges in the learning process can effectively enhance their self-efficacy. Increased self-efficacy has a positive impact on students' overall learning experience and academic achievement (Hagger & Hamilton, 2018; Wang et al., 2018). Students with a high sense of self-efficacy are more likely to show resilience and perseverance in learning, actively seek solutions to problems, and thus achieve better academic results. In ideological and political education, increased self-efficacy not only helps students better understand and internalize educational content but also motivates them to practice the values and concepts they have learned in real life. Educational administrators and policymakers should pay attention to and promote the development of students' self-efficacy (Chen, 2022; Yu, 2022). In educational policy and instructional design, they should focus on creating a supportive and motivating learning environment, providing abundant learning resources and opportunities, helping students build confidence, and enhancing their motivation and engagement in learning.

5.1.3 Learning Initiative Has a Significant Positive Effect on Students' Class Participation in Blended Teaching of Ideological and Political Education

Learning initiative ($\beta=0.242$, $p=0.000<0.001$) has a significant positive effect on students' class participation in blended teaching of ideological and political education. The improvement of learning initiative plays a key role in class participation. Teachers should focus on stimulating students' learning initiative in the teaching process, and promote students' active in the learning process by setting challenging learning tasks, providing opportunities for independent learning, and guiding students to conduct independent inquiry (Bennett et al., 2016). For example, encouraging students to raise questions, and conduct group cooperation and independent research can effectively improve their learning initiative. Learning initiative not only has a positive impact on the participation in ideological and political education courses but also plays an important role in students' overall academic performance and personal development (Bennett et al., 2016; Bocconi et al., 2013; Canhoto & Murphy, 2016). Students with strong initiative usually have strong self-management ability and learning motivation and can better adapt and cope with various challenges in learning and achieve better academic performance. In ideological and political education, increased learning initiative helps students to understand the values and concepts in the curriculum, and thus show a more positive sense of social responsibility and civic awareness in real life.

Table 5.1 Hypothesis Test Results

NO.	Hypothesis	Result

H1	Learning activities have a significant positive effect on students' class participation in blended teaching of ideological and political education.	Established
H2	Self-efficacy has a significant positive effect on students' class participation in blended teaching of ideological and political education.	Established
H3	Learning initiative has a significant positive effect on students' class participation in blended teaching of ideological and political education.	Established

5.2 Recommendation

5.2.1 Designing Diversified Learning Activities

When studying the influencing factors of student participation in the blended teaching classroom for ideological and political education at Shandong Vocational and Technical University of Engineering, designing diversified learning activities is crucial to enhancing class participation. This can be achieved through integrating online and offline resources, developing engaging and relevant course content, stimulating students' autonomous learning, emphasizing interaction and feedback, leveraging technological tools, and offering personalized tutoring. Shandong Vocational and Technical University of Engineering integrates online and offline resources effectively. Online, they utilize MOOCs, flipped classrooms, and educational platforms (such as MOOC platforms and Learning Tong) to provide a wealth of online courses, video lectures, discussion forums, and quizzes, thereby fostering students' self-directed learning abilities. Offline activities like classroom discussions, group activities, case studies, and role-playing are arranged to enhance students' sense of participation and interaction.

Developing engaging and relevant course content is key to attracting students at Shandong Vocational and Technical University of Engineering. By incorporating current events, social phenomena, and topics of interest to students, the course content becomes more real-world-oriented. Inviting external experts, scholars, or alumni for special lectures can also provide diverse perspectives and practical experience sharing, further stimulating students' interest and participation. Encouraging student autonomy through task-oriented activities such as projects, surveys, and field trips can boost engagement. Allowing students some choice in what and how they learn enhances their motivation.

Focusing on interaction and feedback is central to enhancing class participation. Adopting various interactive forms like questioning, discussions, polling, and debates increases communication between teachers and students, as well as among students.

Collecting students' opinions and suggestions through instant feedback tools (like Mentimeter, and Kahoot) and promptly adjusting teaching strategies can elevate student engagement. Leveraging technological tools is also indispensable. Establishing discussion areas on online platforms (like Moodle, and Blackboard) encourages students' online interaction and idea sharing. Employing multimedia such as videos, animations, and audio enhances the course's vividness and appeal. Personalized tutoring significantly improves student engagement in the classroom. Through the mentor system, mentors regularly communicate with students, offering learning guidance and support. Organizing students into study groups for after-class discussions and collaborative learning better caters to their individual needs, fostering a stronger sense of participation and enhancing learning outcomes.

5.2.2 Enhancing Self-Efficacy

When examining the influencing factors of student engagement in the blended teaching classroom for ideological and political education at Shandong Vocational and Technical University of Engineering, enhancing students' self-efficacy is pivotal. Setting clear goals and expectations at Shandong Vocational and Technical University of Engineering is paramount, as it enables students to understand the standards they need to meet and specific learning tasks, thereby providing direction in their learning process and strengthening their self-efficacy. Providing ongoing feedback and encouragement is also an effective way to boost self-efficacy. Regularly offering specific and constructive feedback to students helps them understand their progress and areas for improvement, while timely affirmation and encouragement reinforce their confidence, making them feel recognized for their efforts.

Designing appropriate learning tasks and challenges is equally crucial. Tasks should be moderately difficult, allowing students to experience a sense of accomplishment upon completion. Gradually increasing task difficulty can progressively enhance students' self-efficacy. Establishing a supportive learning environment is vital. Encouraging peer support and collaboration through group activities and seminars enables students to strengthen their self-efficacy through mutual assistance and exchange.

Leveraging technological tools can amplify participation and self-efficacy. Interactive teaching tools and platforms, such as online discussion forums and instant feedback tools, provide students with immediate feedback and interaction during their participation, thereby enhancing their self-efficacy. Encouraging autonomous learning and self-reflection is essential. By empowering students to set personal learning plans and goals, and engage in self-assessment and reflection, they gain a better understanding of their abilities and progress, further reinforcing their self-efficacy.

5.2.3 Stimulating Students' Learning Initiative

In investigating the factors influencing student engagement in the blended teaching classroom of ideological and political education at Shandong Vocational and Technical University of Engineering, igniting students' learning initiative is crucial to enhancing teaching outcomes. Teachers must meticulously design course content that is intriguing and relevant to reality. For instance, the course content can be intimately linked to students' daily lives, augmenting their interest and engagement. Inviting experts, and scholars to share diverse perspectives and practical experiences can also effectively spark students' curiosity and enthusiasm for learning. For the classroom, utilizing teaching methods encourages student engagement. By employing interactive teaching formats such as discussions, debates, group activities, case studies, and role-playing, students' sense of participation is heightened. Utilizing modern teaching technologies, like flipped classrooms and online learning platforms, offers abundant online resources and instant feedback tools, enabling students to maintain an active role throughout the learning cycle: pre-class preparation, in-class participation, and post-class review.

Setting clear learning objectives and staged tasks is another vital strategy to promote proactive learning. Teachers can decompose course content into smaller tasks, gradually escalating their difficulty, ensuring that students experience a sense of achievement upon completing each phase, thereby bolstering their motivation. Additionally, granting students appropriate autonomy in learning content and assessment methods fosters their independence and sense of responsibility.

Ultimately, nurturing students' self-management skills is pivotal to enhancing learning initiative. Teachers should impart effective learning strategies and techniques, like time management, reading skills, and note-taking methods, empowering students to feel more in control of their learning journey. By encouraging students to establish learning plans, and engage in self-assessment and reflection, they can better recognize their abilities and progress, thereby intensifying their learning initiative through autonomous learning and self-management.

References

Bennett, D., Sunderland, N., Bartleet, B.-L., & Power, A. (2016). Implementing and sustaining higher education service-learning initiatives. *Journal of Experiential Education*, *39*(2), 145–163. https://doi.org/10.1177/1053825916629987

Bocconi, S., Kampylis, P., & Punie, Y. (2013). Framing ICT-enabled innovation for learning: The case of one-to-one learning initiatives in Europe. *European Journal of Education*, *48*(1), 113–130. https://doi.org/10.1111/ejed.12021

Canhoto, A. I., & Murphy, J. (2016). Learning from simulation design to develop better experiential learning initiatives. *Journal of Marketing Education*, *38*(2), 98–106. https://doi.org/10.1177/0273475316643746

Chen, X., Guo, J., & Xu, H. (2022). An empirical study of blended teaching mode based on SPOC in the post pandemic era. *Discrete Dynamics in Nature and Society*, (34), 1–8. https://doi.org/10.1155/2022/7094272

Chen, Y. (2022). The relationship of students' blended learning ability and students' willingness to learn a blended course: The mediating role of teachers' blended teaching competency. *Creative Education*, *13*(9), 2799–2810. https://doi.org/10.4236/ce.2022.139177

Fuentes-Tauber, Y. (2018). An investigation of self-efficacy and its relationship to college-going self-efficacy among middle school students. *SSRN Electronic Journal*, *23*(33). https://doi.org/10.2139/ssrn.3303448

Gao, H. (2021). Innovation and development of ideological and political education in colleges and universities in the network era. *International Journal of Electrical Engineering Education*, *60*(2_suppl), 489–499. https://doi.org/10.1177/00207209211013470

Goodyear, V., & Dudley, D. (2015). "I'm a facilitator of learning!" understanding what teachers and students do within student-centered physical education modes. *Quest*, *67*(3), 274–289. https://doi.org/10.1080/00336297.2015.1051236

Hagger, M. S., & Hamilton, K. (2018). Motivational predictors of students' participation in out-of-school learning activities and academic attainment in science: An application of the trans-contextual mode using Bayesian path analysis. *Learning and Individual Differences*, *67*(12), 232–244. https://doi.org/10.1016/j.lindif.2018.09.002

Han, J. (2019). An empirical study of blended teaching mode in ESP teaching practice. *Sino-US English Teaching*, *16*(9). https://doi.org/10.17265/1539-8072/2019.09.005

Ilic, D., Nordin, R. B., Glasziou, P., Tilson, J. K., & Villanueva, E. (2015). A randomized controlled trial of a blended learning education intervention for teaching evidence-based medicine. *BMC Medical Education*, *15*(1). https://doi.org/10.1186/s12909-015-0321-6

Jiang, Y., Chen, Y., Lu, J., & Wang, Y. (2021). The effect of the online and offline blended teaching mode on English as a foreign language learners' listening performance in a Chinese context. *Frontiers in Psychology*, *12*(23). https://doi.org/10.3389/fpsyg.2021.742742

Kauffmann, S. (2012). *Self-regulated learning and academic achievement: Theory, research, and.* Springer.

Kozulin, A. (1993). Vygotsky for historians, Vygotsky for educators. *Contemporary Psychology: A Journal of Reviews*, *38*(8), 855–857.

Kuh, G. D. (2019). What student affairs professionals need to know about student engagement. *Journal of College Student Development*, *50*(6), 683–706. https://doi.org/10.1353/csd.0.0099

Li, F. (2018). Research method innovation of college students' ideological and political education based on cognitive neuroscience. *Neuro Quantology*, *16*(5). https://doi.org/10.14704/nq.2018.16.5.1269

Li, K., Jing, M., Tao, X., & Duan, Y. (2021). Research on online management system of network ideological and political education of college students. *The International Journal of Electrical Engineering & Education*, *12*(23), 002072092098370. https://doi.org/10.1177/0020720920983704

Liu, X., Xiantong, Z., & Starkey, H. (2021). Ideological and political education in Chinese universities: Structures and practices. *Asia Pacific Journal of Education*, *33*(43), 1–13. https://doi.org/10.1080/02188791.2021.1960484

López-Pérez, M. V., Pérez-López, M. C., & Rodríguez-Ariza, L. (2011). Blended learning in higher education: Students' perceptions and their relation to outcomes. *Computers & Education*, *56*(3), 818–826. https://doi.org/10.1016/j.compedu.2010.10.023

Ma, W., & Zhang, J. (2021). Application of blended teaching mode in comprehensive English course. *Creative Education*, *12*(03), 647–652. https://doi.org/10.4236/ce.2021.123044

Mazur, E., & Somers, M. D. (1999). Peer instruction: A user's manual. *American Journal of Physics*, *67*(4), 359–360. https://doi.org/10.1119/1.19265

McGill, T. J., Klobas, J. E., & Renzi, S. (2014). Critical success factors for the continuation of e-learning initiatives. *The Internet and Higher Education*, *22*(23), 24–36. https://doi.org/10.1016/j.iheduc.2014.04.001

McGrath, V. (2013). The handbook of blended learning: Global perspectives, local designs memorial. *Canadian Journal of University Continuing Education*, *33*(1). https://doi.org/10.21225/d51g6h

Vaughan, N. (2015). Designing for an inquiry based approach to blended and online learning. *Registan Electronica de Edu cacao*, *9*(3), 30–47. https://doi.org/10.14244/198271991382

Wang, C., Harrison, J., Cardullo, V., & Lin, X. (2018). Exploring the relationship among international students' English self-efficacy, using English to learn self-efficacy, and academic self-efficacy. *Journal of International Students*, *8*(1). https://doi.org/10.32674/jis.v8i1.163

Wang, N. (2021). Ideological and political education recommendation system based on AHP and improved collaborative filtering algorithm. *Scientific Programming*, *2021*(45), 1–9. https://doi.org/10.1155/2021/2648352

Wang, Y. (2020). A study on college English high-efficiency class based on blended teaching mode of flipped classroom. *Theory and Practice in Language Studies*, *10*(9), 1066. https://doi.org/10.17507/tpls.1009.08

Yildiz, Durak, H. (2018). Digital story design activities used for teaching programming effect on learning of programming concepts, programming self-efficacy, and participation and analysis of student experiences. *Journal of Computer Assisted Learning*, *34*(6), 740–752. https://doi.org/10.1111/jcal.12281

Yu, Y. (2022). On the ideological and political education of college students in the new media era. *Open Journal of Social Sciences*, *10*(01), 1–14. https://doi.org/10.4236/jss.2022.101001

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, *81*(3), 329–339. https://doi.org/10.1037/0022-0663.81.3.329

Appendix

Dear Sir/Madam,

Thank you for your participation in this questionnaire survey. The survey will be conducted anonymously, and your relevant information will be kept confidential. Thank you again for your cooperation.

Part Ⅰ:

1. Gender？A Male   B Female

2. Age A Under 23   B23-28   C Above 28

3. Grand   1. Freshman   □ 2. Sophomore
            □ 3. Higher than the Master's degree   4. Other

4. Position   1. Operation   □ 2. Manager/senior
            □ 3. Junior   □ 4. Other....................

5. Tenure in current position (year)
            □ 1. Science and Engineering   □ 2. Humanities
            □ 3. Economics and Management   □ 4. Arts
            5. Other.

Part Ⅱ: Please judge to what extent you agree with the following statement, please choose the most appropriate option, and mark the corresponding number "√". The questionnaire used Likert scale, ranging from 1 to 5 in which 1 indicates strongly disagree (or strongly disagree), 2 indicates relatively disagree (or relatively disagree), 3 indicates neutral, 4 indicates relatively agree (or relatively agree), and 5 indicates strongly agree (or strongly agree)

Measuring item	Strongly disagree	Disagree	General	Agree	Strongly agree
Learning Activities					
1. In online learning activities, I can actively participate in video watching,					

Statement					
material reading, discussion and other activities of ideological and political courses.	2				
2. In blended learning, I am willing to participate in pre-class preview tasks and activities.					
3. I believe that practical activities (such as field trips, volunteer services, etc.) are very helpful for enhancing my ability to apply ideological and political theories.					
4. An appropriate amount of learning activities can enhance my learning enthusiasm and initiative.					
5. Using learning activities as criteria for evaluating grades would affect my enthusiasm for participating in learning activities.					
Self-efficacy					
1. I can fully understand and grasp the core concepts and theories in ideological and political classes.					
2. In ideological and political class discussions, I can confidently express my own views and insights.					
3. In group cooperation or team projects, I am confident that I can contribute valuable ideas to ideological and political classroom tasks.					
4. When faced with challenging questions in ideological and political classes, I usually actively seek solutions and try to answer them..					
5. I believe that through continuous effort and effective learning, I can achieve excellent results in ideological and political courses.					
Learning Initiative					
1. I have conscientiously completed both online and offline learning tasks throughout the course.					

2. In class, I will actively ask questions or participate in discussions to deepen my understanding of ideological and political knowledge.				
3. When I encounter ideological and political knowledge points that I don't understand, I will actively seek help from teachers or classmates.				
4. I will actively relate the content of ideological and political courses to real life to deepen my understanding.				
5. After class, I will actively review the content of ideological and political courses and try to summarize and apply what I have learned.				
Class Participation				
1. I can maintain a high level of concentration in blended learning ideological and political classes				
2. I like the blended learning teaching format (online self-study course videos + offline face-to-face teaching).				
3. The online and offline learning resources have sufficient depth and breadth to meet my learning needs.				
4. I think my participation in ideological and political classes is very high, often bringing vitality to the classroom.				
5. I can keep up with the progress of blended learning ideological and political classes and complete assignments and tests on time.				
6. I think blended learning ideological and political classes have increased my interest and motivation in learning.				