

A Quantitative Study of the Influences on Classroom Management of Colleges in China

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Abstract

Classroom management is becoming increasingly important as higher education develops, which has a direct impact on the development of colleges, teachers, and students. This research will concentrate on classroom management in Chinese colleges. This study will look at three factors that influence classroom management in Chinese colleges: teachers, students' self-discipline, and educational technologies. This research study employs questionnaires to collect data from three Chinese colleges and then interprets the results using relevant statistics to determine the relationship between teachers, students' self-discipline, educational technologies, and classroom management in Chinese colleges. This study concludes that teachers, students' self-discipline, and educational technologies all have positive relationships with college classroom management in China. Based on the findings, this study makes recommendations for improving the effectiveness of classroom management in Chinese colleges.

Keywords: Classroom management, teachers, students' self-discipline, educational technologies, colleges, China

Introduction

Background of study

In education, classroom management is defined as the structure and process of establishing and consolidating an emotionally healthy, academically productive learning environment (Evertson and Weinstein, 2018). Stamand and Smith (2021) believed that classroom management is to shape students' attitudes and behaviours in ways that support the achievement of various goals. In fact, the main goal of classroom management is to optimize classroom learning and the second goal is to minimize disruptive events (Wolff, Jarodzka and Boshuizen, 2021). Classroom management is not only an important part to college classroom teaching activities, but also a key in college development (Schempp, 2018). For one thing, constructing efficient and orderly classroom management mode is an important way to meet the requirements of cultivating high-quality creative talents in colleges; for another, it is also an inevitable trend of classroom teaching reform (Stamand and Smith, 2021). Classroom management in colleges affects both teaching arrangement and students' learning behaviour (Ginns, 2017).

Problem Statement

With the continuous development of higher education, in particular, after entering the stage of higher education popularization, the number of college students has increased rapidly, and new situations such as a large class with more than 100 students have appeared, which is posing new challenges to classroom management so that classroom management in colleges must be reformed and innovated to adapt to the development of higher education in China (Wang, 2019). Classroom quality is directly related to the learning effectiveness and development of college students, and even directly determines the success or failure of the university, will eventually affect the building of a harmonious campus and a harmonious society (Schempp, 2018). However, in recent years, there is a general disharmony in the classroom teaching in colleges such as lack of active learning atmosphere in class and be absent from lesson (Hu, 2018). Effective classroom management is a key skill for teachers because it can maximize students' academic achievement, enhance their social skills, promote a good classroom atmosphere, and provide a suitable environment for students with special needs (Myers, and Freeman, 2017). When it comes to classroom instructional influences on learning, classroom management has the highest percentage, standing for 65% as Figure 1.1 shown.

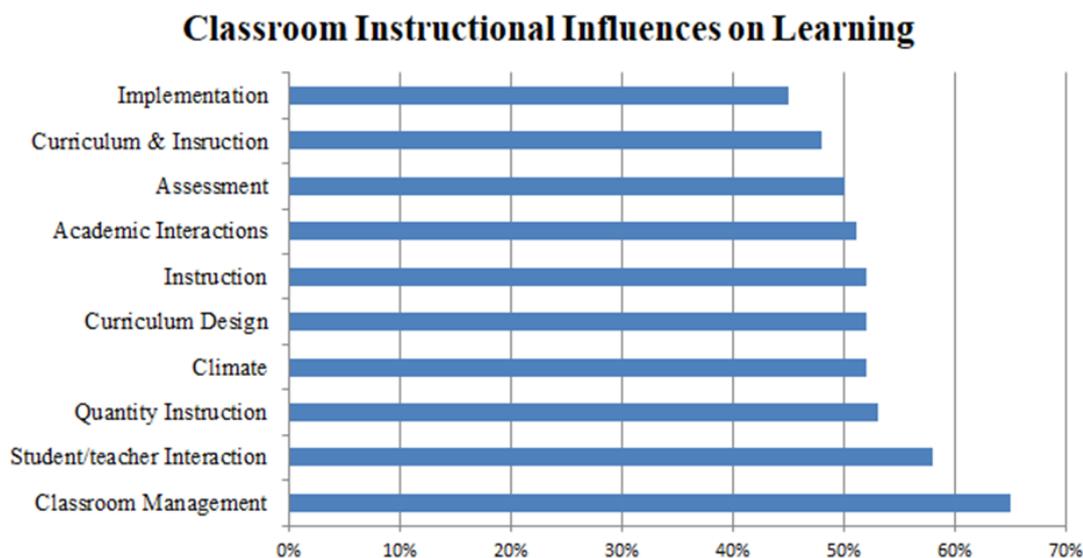


Figure 1.1: *Classroom Instructional Influences on Learning*

The researchers (Shahzan, Gayathri and Vishnu, 2018) conducted a survey on influencing factors of classroom management of college students. The researcher investigated among 102 students from various colleges through survey planet link and obtained the following data: A total of 96.1% of students feel that teacher plays a major role in classroom management, and 84.3% of students prefer teacher to be friendly than being strict or polite for better classroom environment. This shows that teachers play an important role in classroom management of college students and friendly teachers are more beneficial to create a better classroom environment (Shahzan, et.al, 2018).

In the era of knowledge economy, the traditional idea of learning simply and passively in the classroom doesn't meet the requirements of education; on the contrary, the modern teaching theory holds that students should be active in participation, independent thinking, self-study and continuous innovation in the process of classroom teaching under the guidance of teachers (Wang, 2019). Therefore, college students should fully mobilize their own subjective initiative, self-supervision and coordination of the whole learning process in order to achieve the goal of higher education and meet the needs of personal development (Combs, 2018).

In the current context, modern classrooms use technology in the form of networking equipment and digital classroom management software to enhance teaching, learning and communication methods. According to Digital Survey Education Survey (2018), there are 79% of teachers think that using technology can make learning more interesting in class and 52% of teachers use at least one digital device a day as Figure 1.2. shown. Besides, Shahzan, et.al. (2018) stated that a total of 63.7% of students feel that modern technology helps them understand better than conventional method in the survey. Therefore, educational technologies can be integrated with the learning management system to drive the education to the next level.

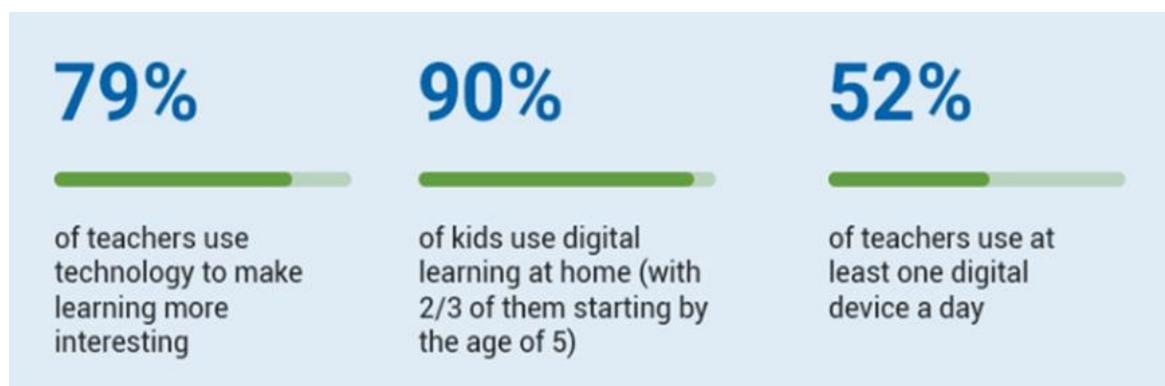


Figure 1.2: *Modern technology and Learning*

Therefore, this research will respond to the questions of whether the teachers, students' self-discipline and educational technologies have a significant influence on classroom managements of colleges.

Research Objectives

RO1: To find out the relationship between teachers and classroom management of colleges in China.

RO2: To find out the relationship between students' self-discipline and classroom management of colleges in China.

RO3: To find out the relationship between educational technologies and classroom management of colleges in China.

Research Questions

RQ1: What is the relationship between teachers and classroom management of colleges in China?

RQ2: What is the relationship between students' self-discipline and classroom management of colleges in China?

RQ3: What is the relationship between educational technologies and classroom management of colleges in China?

Significance of the Study

For academia, first, with the development of Chinese higher education popularization, this research will offer new reformed measures to solve new problems from classroom management (Wang, 2019). Besides, with educational technologies integration into classroom management in the new era, this research will spend time researching new style of classroom management to give good guidance (Confrey and Doerr, 2019).

For industry, firstly, good classroom management will offer good quality of colleges, teachers and students for educational industry (Ginns, 2017). Also, it is a trend that more and more young teachers are employed to teach in the colleges, and they don't have insufficient knowledge of classroom management so that this research can help young teachers provides good suggestions for the development of higher education (Tingstrom, Sterling and Wilczynski, 2017).

Literature Review

Classroom Management

Classroom management refers to any technique that teachers use to facilitate teaching and to ensure that students learn most effectively in a smooth classroom environment (Leustig, 2019). Classroom management is a multi-dimensional concept, including classroom discipline and students' active participation, both of which allow teachers to teach and students to learn (Mitchell and Bradshaw, 2018). Emmer and Sabornie (2018) believe that classroom management is a process in which teachers and schools create and maintain appropriate student behaviour in the classroom environment.

Effective classroom management not only can establish and maintain an orderly environment in the classroom, but also increases meaningful academic learning and promote social and emotional growth (Sugai and Simonsen, 2020). Furthermore, successful classroom management is aimed to help teachers and students decrease negative behaviours and increase time spent academically engaged in class (Emmer and Sabornie, 2018).

Global Perspective

Traditional classroom management concepts are full of culturally embedded norms, assumptions, power structures and other barriers that hinder a healthy classroom environment for all students so that teachers must critically examine these practices and expectations to create a classroom environment that supports the diverse needs and backgrounds of learners (Wolff, et.al., 2021). In other words, traditional models of classroom management are built on principles of control and conformity.

In education, classroom management is commonly understood as the structure and process of establishing and consolidating an emotionally healthy, academically productive learning environment (Evertson, and Weinstein, 2018). Presumably, a successfully managed

classroom is associated with student engagement, which has three main categories: (1) behavioural engagement, which involves overall attention and engagement; (2) emotional or emotional engagement, which captures motivation and enjoyment, and relationships with others in the classroom; (3) cognitive engagement, which refers to the student's attention, interest, and investment in content (Martin, 2021).

China's Perspective

College classroom is the main place for students to study and teachers to teach, and effective classroom management can promote the learning effect of college students and improve the teaching effect of teachers (Hu and Zhao, 2018). With the rapid development of higher education in China, young college teachers are becoming the main force of higher education. However, some teachers are rich in teaching experience, carefully prepared lessons, but teaching results are not very ideal because these teachers only pay attention to the courses they teach, and neglect classroom management (Jie, 2020). Therefore, teacher is the first manager of the classroom, not only imparting knowledge but also acting as a manager.

It is necessary for the educational administrators of colleges to adjust the way of classroom management of college students and improve the methods of teaching management in colleges to cultivate qualified college students in the new period due to new problems in class attendance, listening rate and teaching quality (Xu, 2021).

Factors influencing classroom management

Teachers

Teacher is a person who is entrusted by society to provide special education to the educated and imparts scientific and cultural experience and technology to students (Myers, and Freeman, 2017). Multicomponent treatments in classroom management embrace teacher coaching, interactive teaching and the use of frequent encouragement and praise on students (Tingstrom, Sterling-Turner, Wilczynski, 2017). Teachers who use humour when interacting with students find it easier to create a relaxed atmosphere, so the use of humour has a very positive impact on social interaction in the classroom. (Martin and Ford, 2018). Humour has received attention in classroom management research (Wanzer, Frymier and Irwin, 2020).

Understanding an inherent instability in classroom activities: The goal of teaching may be planned in advance, but the act of teaching to achieve the desired goal manifests itself as a series of events, which can be a determining factor in successful classroom management (Wolff, et al., 2021). Teachers not only need to teach a variety of professional knowledge, but also to have heart and soul exchanges with students which is beneficial to classroom management (Jie, 2020). For example, strengthen classroom communication with students and make full use of the "Primacy effect" in teaching communication, which is a well-designed first class to lay a good foundation for future teaching and communication (Jie 2020).

Student' self-discipline

Students' self-discipline refers to the process of self-supervision and self-coordination of the whole learning process of college students to realize the training goal of higher education and meet the needs of personal development (Combs, 2018). Self-discipline, which is also known as self-control, is the ability to continue to complete a task and suppress interfering responses as you approach a goal (Zhao and Kuo 2018).

Self-discipline is determined by people's perceptions such as feelings, attitudes, beliefs and aspirations, and successful experiences contribute to positive views of self-discipline (Arthur 2019). Self-discipline is not an automatic process, but it needs a conscious

effort involving the control of one's actions, thoughts and emotions (Eysenck, 2017). Finkenauer (2015) believes that self-discipline is part of the mediating relationship between parental rearing behaviour and adolescents' emotional and behavioural problems. The self-discipline is the essential quality for college students so that college students should change traditional classroom learning concept, cultivate self-management consciousness, improve self-management ability, and actively participate in classroom teaching activities (Wang, 2019).

Educational Technologies

The application of emerging technology in education can be more accepted by the new generation of students; Also, it can stimulate students' learning interest, improve teachers' teaching effect and enrich classroom teaching environment (Eisenman, 2018). Educational technologies can promote the relationship between teachers and students (Wang, 2019). When teachers effectively integrate technology into the subject area, they grow into consultants, content experts, and coaches, which helps to create more meaningful and interesting teaching and learning so that it is good for teachers to manage students to focus on the class (Confrey and Doerr, 2019).

The application of modern science and technology to classroom discipline management in colleges such as adopting a way of fingerprint sign-in in class to check attendance record of college students, can reduce the occurrence of signing on behalf of students in class attendance, and improve the class attendance rate of college students (Xu, 2021). Through the implementation of fingerprint class attendance, we found that the required class attendance rate of college students reached 98%, the elective class attendance rate reached 85%, which greatly improves the college students class attendance rate (Xu, 2021).

Gaps in The Literature

Although extensive studies have mentioned the importance of classroom management, there are still some gaps among them which could be filled in. First, this research gap exists in Chinese higher education popularization which is posing new challenges to classroom management, so they need new reformed measures to cope with the current situation (Wang, 2019). Classroom management system is an important guarantee for the realization of teaching objectives and teaching quality. However, the scientific and perfect classroom management system has not been formed and the reform of classroom management is slow such as the system of internal disorder, the lack of human-oriented care concept and old educational goals (Jie, 2020). Secondly, more and more scholars research on classroom management under the background of information technology since they have also given more recognition to the importance of classroom management with information technology, and the research depth also had the very big promotion than ever before (Zhu, 2018). When educational technologies integrate into class in the new era, classroom management is different from traditional style without technology (Confrey and Doerr, 2019). Thirdly, in the new era, the classroom management is no longer to establish the authority of teachers to ensure students learning, but to establish a harmonious relationship between teachers and students which is a new classroom management pattern with democracy and humanist (Hu, 2018). Only in this way, can it be conducive to the realization of teaching objectives and the training of new-type talents. Finally, more and more young teachers teach in the college and become the main force of higher education, but young teachers have insufficient knowledge of classroom management since they pay attention to the courses, they teach but neglect the classroom management. (Tingstrom, et.al, 2017).

Grounded Theory

Assertive Discipline Model

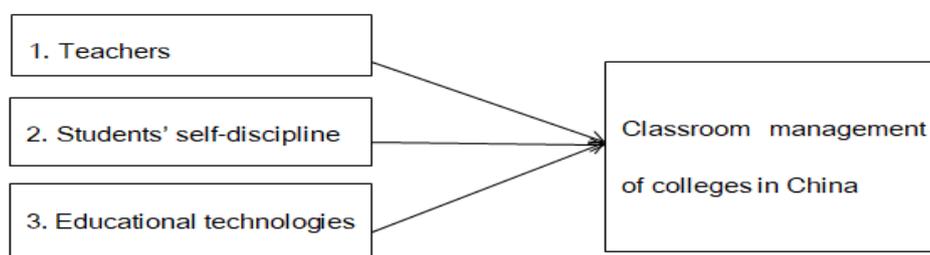
Assertive Discipline model is a classroom management model under the guidance of behaviourism, which is different from behaviourisms that emphasizes behaviour strengthening and it hopes to manage subject discipline by drawing up and implementing classroom order effectively (Mo, 2017) . Assertive Discipline is a behaviourist in-service training package which assists teachers to improving classroom behaviour and reducing the amount of teaching time caused by disruptive and uncooperative behaviour (Canter and Canter, 1992). The core idea of Assertive Discipline contains three major elements: Make your requirements clear that means teachers ensure that all directions given to a class, group, or individual are concise, clear, and easy to understand; Give consistent positive feedback when students succeed in meeting your requirements; Announce a series of mild but tiresome sanctions that will apply to any violation of the rules (Swinson and Cording, 2018). When students receive more positive feedback, their behaviour improves if systematic classroom discipline measures are adopted as recommended by the rigorous discipline curriculum (McNamara, 2020).

Subjective Models

Subjective Models assumes that the organization is created by its own people, whose perceptions come from their background and values, which means that the subjective model focuses on the individual perceptions in the organization (Bush, 2003). Subjective models place a high value on personal perceptions and values, enabling people to gain a sense of love and belonging in the organization. For the organizations with subjective models, people can feel the care from the organization and deeply experience a sense of belongings when their individual perceptions and beliefs are fully given weight (Riley, 2017). Ellman and Pezanis (2018) believed that another advantage of the subjective model is that it encourages people to interact, resulting in the structure of the organization. Therefore, when it comes to making class rules in the classroom management, students prefer to express their thoughts and beliefs to class rules rather than traditional class rules teachers made, which can make students feel that they are an important part of the class, and their behaviour is recognized by the teacher, so that students attain a sense of belonging in the organization.

Conceptual Framework

Independent Variables (IV) Dependent Variable (DV)



Hypotheses

- H1:** Teachers have a positive relationship with classroom management of colleges in China.
- H2:** Students' self-discipline has a positive relationship with classroom management of colleges in China.

H3: Educational technologies have a positive relationship with classroom management of colleges in China.

Through literature review, the following conclusions can be drawn teachers, students' self-discipline, educational technologies have positive relationships with classroom management of college in China. According to Assertive Discipline model, teachers can manage classroom discipline by making and implementing classroom order effectively. Besides, as a one of the education management models, Subjective model emphasizes personal perceptions and values, which makes students acquire the love and belonging in the class.

Methodology

Research Design

A descriptive and quantitative-based correlation design in the investigation is used to determine the respective relationship between teachers, students' self-discipline, educational technologies and classroom management of colleges in China. For one thing, the IVs of the study are teachers, students' self-discipline and educational technologies, respectively. For another, the DV of the study is classroom management of colleges in China.

Purpose of Study	Describe the classroom management of college in China.
Types of Investigation	Descriptive and quantitative-based correlation design.
Extend of Researcher Interference	Minimal interference from the researchers.
Study Setting	Not contrived
5. Time Horizon	One chance and cross sectional.
Unit of Analysis	Colleges Students
7. Target Population	Students from three colleges
Sample Size	383
Sampling Procedure	Non-probability sampling
Data Collection	Questionnaires

Questionnaire Design

The questionnaire includes three sections: section A for demographic profile, Section B for classroom management, section C for teachers, students' self-discipline and educational technologies.

Table 3.2 Questionnaire Design Table

Section	Variable	Items	Source
A	Demographic profile	3	Adapted from Needham and Merow (2018).
B (DV)	Classroom Management Teachers	4	Adapted from Martin (2021), Hu (2018). Adapted from Zhu (2016),
C(IVs)	Students' self-discipline Educational technologies	4	Adapted from Guo (2019), Chen (2020), Adapted from Chen (2017).

Measurement

Factor Analysis (Pilot & Preliminary tests)

Factor Analysis is to narrow down a range of factors from a large number of measurements and variables, as well as to assess if there are enough samples to correctly

measure the effect size. In this research, I will use 38 samples as 10% of sample size 383 in the Pilot Test and a total of 383 sample sizes in the Preliminary test to make factor analysis which needs to focus on the value of KMO and eigenvalues. When the data is more than 0.6, KMO will pass the pilot test (Shrestha, 2021). If less than 0.6, more data are adopted for analysis. And if it is less than 0.6 during the preliminary test, the item must be removed (Sekaran and Bougie, 2016). In Bartlett spherical test, SPSS 23 test results show that $\text{Sig} < 0.05$ ($p < 0.05$), it shows that the variables are correlated, and factor analysis is effective (Jegathesan, 2018). According to Cullen and Brennan (2020), just when eigenvalues greater than 1 are worth statistical evaluation, or it may distort the result. On the other hand, the Eigenvalue test cannot provide the information of the low variance variables in the table. Therefore, different validity tests will be applied while determining which factors have a low variance.

Reliability Test (Pilot & Preliminary Tests)

Reliability test is to find out whether the test data presents internal consistency (Cooper and Schindler, 2018). In this research, I will use 38 samples as 10% of sample size 383 in the Pilot Test and a total of 383 sample size in the Preliminary test to make Reliability Test which needs to focus on the value of Cronbach Alpha. For each variable, classroom management, teachers, students' self-discipline, educational technologies, have to be checked Cronbach alpha value separately in reliability test. Pilot tests and preliminary tests with Cronbach Alpha value 0.6 and 0.7, are acceptable, otherwise, the relevant item should be excluded from future study (Keith, 2019).

Descriptive Analysis

It is to describe the demographic profile of the subjects. Kindly refer to 3.2: Questionnaire Design for details (Needham and Merow, 2018). In this research, the accurate number and percentage about demographic profile for three colleges' students were obtained.

Correlational Analysis

Correlational Analysis is to study the correlation characteristics and compactness of different variables (Patten and Newhartm, 2018). In this research, the correlation between classroom management (DV), teachers, students' self-discipline, and educational technologies (IVs) through Correlational Analysis in the SPSS were obtained. The focus is on the Pearson Correlation Coefficient with regards to these variables. Pearson Correlation Coefficient is a way of measuring the correlation between two variables and its value is between 1 and -1, and 1 indicates a completely positive correlation for the variable, 0 indicates a non-linear correlation, and -1 indicates a completely negative correlation. (Zhou, 2019).

Multiple Regression Analysis (Hypotheses Test)

R-squared

R² is the degree to which the observed values are fitted by the regression line. R² should be in the range of 0-1 which can infer the phenomenon of the study. Otherwise, the construct has no predicting ability which means there are other factors influencing the phenomenon under study. Besides, when the R² is equal to or near 1, it is the best case, because the predicted value is equal to or near the true value (Shmueli and Sarstedt, 2019).

One-Way Analysis of Variance (ANOVA)

ANOVA is to determine the significance level of the relationship between teachers, students' self-discipline and educational technologies and classroom management. In the ANOVA, the p-value should be less than 0.05 (Obelheiro and Silva, 2020).

Beta Coefficient

Beta Coefficient is to identify the factors that have a greater influence on the phenomenon in the research. Theodosiada (2019) believes that when the Beta Coefficient is approximate to 1, the influence is greater on the situation under investigation.

Multicollinearity

Multicollinearity is to determine the degree of data skewness through multiple regression, which can be explained through Tolerance and Variance Inflation Factor (VIF) (Kumar, 2019). The data must be less than 10 for the value of Variance Inflation Factor (Abdulazeez and Qamar, 2021).

Findings

Pilot Test

Factor Analysis

Factor analysis is used for data exclusion to identify a small number of factors that account for the variance of the most obvious variables observed (Wu, 2018). In this research, the dependent variable is classroom management and the independent variables are teachers, students' self-discipline, and educational technologies.

KMO and Bartlett's Test

The KMO test is used to compare simple correlation coefficients and partial correlation coefficients between variables. When the KMO value is more than 0.6, which means there is a stronger correlation between variables, and the more suitable the variables are for factor analysis (Shrestha, 2021). In the Bartlett's Test, if P-value is less than 0.05, there is a correlation between the original variables so that it is good for factor analysis (Jegathesan, 2018).

Table 4.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.823
Bartlett's Test of Sphericity	Approx. Chi-Square	190.099
	df	21
	Sig.	.000

The study data are well suited for extracting information. According to Table 4.1, Kaiser-Meyer-Olkin (KMO) value is 0.823, surpassing the minimum value of 0.6 and more than 0.8, which shows it is good for information extraction. In addition, the results in table 4.1 show the values for the Bartlett sphericity test, where the P value (sig = 0.000) is less than 0.05, it is perceived as statistically significant. Therefore, it can be concluded that the data of KMO and Bartlett's is acceptable for further analysis.

Eigenvalue

The eigenvalues must be more than 1 for every independent variable which means if there are three independent variables then the eigenvalues more than 1 must be 3 (Almaleki, 2021). The results showed three components that emerged from the factor analysis procedure based on the computed Eigenvalue greater than 1.0. The eigenvalues obtained ranged between 1.002 and 3.673. It shows that teachers explained 52.478% of the total variance with eigenvalue of 3.673. Students' self-discipline explained 15.432% of total variance with eigenvalue of 1.080 and educational technologies explained 14.309% of the total variance with eigenvalue of 1.002. Therefore, the items are acceptable and appropriate for subsequent analysis.

Reliability Test

Reliability test is to determine whether the test data is reliable or not according to the internal consistency of the test data (Cooper and Schindler, 2018). If Cronbach Alpha value is greater than 0.7 means the pilot tests and preliminary tests are correct. Otherwise, they are wrong and the relevant item should be excluded from future study (Keith, 2019).

Table 4.3: *Reliability Test result for Dependent and Independent Variables*

Variables	Cronbach's Alpha	Number of Items
Classroom Management(DV)	.776	4
Teachers(IV)	.761	4
Students' self-discipline(IV)	.732	4
Educational Technologies(IV)	.756	4

This study data confirms an acceptable level of consistency and reliability. In the Table 4.3, Cronbach's alpha value for Classroom Management is 0.776. Cronbach's alpha value for Teachers is 0.761. Both value for Student's self-discipline and Educational Technologies are 0.732 and 0.756, respectively. The table clearly shows that all items' values are more than 0.7 which shows an acceptable level of consistency and reliability. Therefore, the items in this research are suitable for the subsequent data collection as the internal consistency.

Descriptive Analysis

Questionnaires have been distributed to students in three colleges through online platform Wenjuanxing. After a week of distribution, about 400 responses were received. However, there are 12 ineffective questionnaires data because they finish it in less than 1 minute. Furthermore, since the sample size is 383, so they were randomly selected from the remaining questionnaires. Before conducting the preliminary tests, a descriptive analysis was conducted to explain the demographic data of the respondents. Statistics on the characteristics of the respondents participating in this study are set out in table 4.4.

Table 4.4: *Descriptive Statistics (Demographic Information)*

	Category	Frequency	Percent
Age Group	14–16	10.0	2.6
	16–18	136.0	35.5
	18 and above	237.0	61.9
Gender	Male	214	55.9
	Female	169	44.1
College	Shenzhen University	135	35.2
	Sun Yat-sen University	103	26.9
	South University of Science and Technology	145	37.9
	Total	383	100.0

Among 383 respondents, there are 237(61.9%) students who are 18 and above , which is followed by age group 16-18,136(35.5%) and age group 14-16 ,10(2.6%) .Besides, a total of 214 (55.9%) students are male and 169 (44.1%) of them are female. The respondents come from three colleges. There are 135 (35.2%) of them who are from Shenzhen University. Similarly, a total of 145(37.9%) of students who are from South University of Science followed by Sun Yat-sen University,103 (26.9%).

Preliminary Test

The preliminary analysis is a method used to analyze the components in the questionnaire to ensure its validity and reliability (Heale & Twycross, 2015). Although pilot testing is ongoing, it does not guarantee that actual testing may be as productive as expected. Therefore, preliminary tests should be conducted to verify the validity and reliability of the research tool.

Factor Analysis

The objective of factor analysis is to identify variables that identify correlations between a set of defined variables. In addition, it is used for data exclusion to identify a small number of factors that explain the observed variance for the most obvious variables (Wu, 2018).

KMO and Bartlett's Test

The KMO test statistic is used to compare simple correlation coefficients and partial correlation coefficients between variables. The closer the KMO value is to 1, the stronger the correlation between variables, and the more suitable the variables are for factor analysis (Shrestha, 2021). In the Bartlett's Test, if P-value < 0.05, there is a correlation between the original variables so that it is suitable for factor analysis (Jegathesan, 2018).

Table 4.5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.754
	Approx. Chi-Square	118.529
Bartlett's Test of Sphericity	df	6
	Sig.	.000

The research data is very suitable for information extraction. According to Table 4.5, Kaiser-Meyer-Olkin (KMO) value is 0.754, exceeding the minimum value of 0.6, which indicates that it is beneficial for information extraction. In addition, the results show Bartlett's test value of a spherical degree of less than 0.05 with P value (Sig = 0.000), which was considered statistically significant. Therefore, the KMO and Bartlett's data can serve as a basis for further analysis.

Eigenvalue

According to Cullen and Brennan (2020), when the Eigenvalue is greater than 1, it is worth making a statistical evaluation that might otherwise distort the results. The results show the three components of the analysis process based on factors with calculated eigenvalues greater than 1.0. The resulting eigenvalues are between 1.001 and 3.516. Therefore, these items are acceptable and suitable for later analysis.

Reliability Test

Reliability Test is to determine whether the pilot test data is reliable based on internal consistency (Cooper and Schindler, 2018). If Cronbach Alpha value is greater than 0.7 means the pilot tests and preliminary tests are correct. Otherwise, they are wrong and the relevant item should be excluded from future study (Keith, 2019).

Table 4.7: Reliability Test result for Dependent and Independent Variables

Variables	Cronbach's Alpha	Number of Items
Classroom Management(DV)	.773	4
Teachers(IV)	.762	4
Students' self-discipline(IV)	.758	4
Educational Technologies(IV)	.764	4

The study data confirm an acceptable level of consistency and reliability. In Table 4.3, Cronbach's Alpha value of classroom management is 0.773. Cronbach's Alpha is 0.762. The value of self-discipline and educational technology were 0.758 and 0.764 respectively. The table clearly shows that all items have values greater than 0.7, which indicates that the consistency and reliability levels are acceptable. Therefore, this research project is suitable for internal consistency as a follow-up data collection.

Correlational Analysis

This research is to find out the correlation between classroom management (DV), teachers, students' self-discipline, and educational technologies (IVs) through Correlational Analysis in the SPSS. Pearson Correlation Coefficient is a way of measuring the correlation between two variables and its value is between 1 and -1, and 1 indicates a completely positive correlation for the variable, 0 indicates a non-linear correlation, and -1 indicates a completely negative correlation. (Zhou, 2019).

Table 4.8 Correlations

Items	Pearson Correlation Coefficient	Sig. (2-tailed)
Classroom Management and Teachers	0.871**	.000
Classroom Management and Students' self-discipline	0.783**	.000
Classroom Management and Educational Technologies	0.808**	.000

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

According to Table 4.8, The correlation between Teachers, Students' self-discipline, Educational Technologies, and Classroom Management are significant positive with Pearson Correlation Coefficient which is used to express the strength of the correlation. The Correlation Coefficient between Classroom Management and Teachers is 0.871, and it shows a significant level of 0.01, which indicates that there is a significant positive correlation between Classroom Management and Teachers. The Correlation Coefficient between Classroom Management and Students' self-discipline is 0.783 and a significant level of 0.01, which indicates that there is a significant positive correlation between Classroom Management and Students' self-discipline. The Correlation Coefficient between Classroom Management and Educational Technologies is 0.808 and a significant level of 0.01, which indicates that there is a significant positive correlation between Classroom Management and Educational Technologies. Therefore, it is concluded that Teachers, Students' self-discipline, Educational Technologies have significant positive correlation with Classroom Management respectively.

Multiple Regression Analysis (Hypothesis Testing)

R-squared

R^2 is the degree to which the observed values are fitted by the regression line. R^2 should

be in the range of 0-1 which can infer the phenomenon of the study. Besides, when the R^2 is equal to or near 1, it is the best case, because the predicted value is equal to or near the true value (Shmueli and Sarstedt, 2019).The result shows that Teachers, Students' self-discipline, and Educational Technologies can explain 79.0% for change of Classroom Management since Adjusted R-squared is 0.790. Therefore, it can be concluded that the model that focus on the Teachers, Students' self-discipline and Educational Technologies fit the regression model.

ANOVA Analysis

ANOVA is to determine the significance level of the relationship between teachers, students' self-discipline and educational technologies and classroom management. The p-value should be less than 0.05 at 95% confidence level (Obelheiro and Silva, 2020).The result shows that the model passes the F test ($F = 480.872$, $p < 0.05$), which indicates that the model construction is meaningful since a significance level of the F-test of less than 0.05 confirms that the overall data is a significant fit to the model.

Beta coefficient

Beta Coefficient is to identify the factors that have a higher impact on the phenomenon under study. If the Beta Coefficient value is approximate to 1, the influence is greater on the situation under investigation (Theodosiada, 2019).

Table 4.11: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.302	.105		2.880	.004		
Teachers	.384	.044	.399	9.225	.000	.268	3.737
1 Students' self-discipline	.260	.047	.260	5.271	.000	.246	4.072
Educational Technologies	.290	.047	.276	6.169	.000	.274	3.653

a. Dependent Variable: Classroom Management

According to table 4.11, it shows that Teachers, Students' self- discipline and Educational Technologies all have significant positive effects on Classroom Management. Firstly, Teachers' Regression Coefficient is 0.384($t = 9.225$, $p = 0.000 < 0.01$), indicating that Teachers have a significant positive influence on Classroom Management. Besides, Students' self- discipline ' Regression Coefficient is 0.260($t = 5.271$, $p = 0.000 < 0.01$), indicating that Students' self- discipline have a significant positive influence on Classroom Management. Finally, a regression coefficient value of 0.290 for Educational Technologies ($t = 6.169$, $p = 0.000 < 0.01$) implies that Educational Technologies would have a significant positive impact on Classroom Management. Therefore, Teachers, Students' self- discipline and Educational Technologies all have significant positive effects on Classroom Management.

Variance Inflation Factor (VIF)

According to table 4.11, all VIF values in the model are less than 10, which means that there is no collinearity problem. In another word, there is no correlation between Teachers, Students' self- discipline and Educational Technologies that concludes that they stand alone as a variable respectively.

Summary of Findings

The findings show that teachers, students' self-discipline, educational technologies have positive relationships with classroom management of college in China. Besides, the hypothesis testing is summarily as follows:

Research Hypotheses	Results of Hypothesis Testing
H1: Teachers have a positive relationship with classroom management of colleges in China.	Teachers have a positive relationship with classroom management of colleges in China. (Regression Coefficient = 0.384, $p = 0.000 < 0.01$) Therefore, H1 is accepted.
H2: Students' self-discipline has a positive relationship with classroom management of colleges in China.	Students' self-discipline has a positive relationship with classroom management of colleges in China. (Regression Coefficient = 0.260, $p = 0.000 < 0.01$) Therefore, H2 is accepted.
H3: Educational technologies have a positive relationship with classroom management of colleges in China.	Educational technologies have a positive relationship with classroom management of colleges in China. (Regression Coefficient = 0.290, $p = 0.000 < 0.01$) Therefore, H3 is accepted.

Discussion, Recommendations and Conclusion

This chapter discusses the research results based on the analysis of the previous chapter. Besides, recommendations are made based on the results. In addition, a further focus is on summarizing the importance of research findings to academia as well as the industry. The chapter also includes limitations of research and future research direction.

Discussion

This study presents the factors that influence classroom management of colleges. The independent variables, teachers, students' self-discipline, and educational technologies have been focused on this research.

Analysis shows the first important factor to influence classroom management of colleges is teachers. The analysis suggests that teachers have positive significant correlation with classroom management. Today's educational environment pays more attention to the improvement of educational quality. Education reform is always teacher-centred, and effective teachers are expected to manage their classes well to achieve their goals (Chunyu and Kaihsin, 2021). The second factor to influence classroom management of colleges is students' self-discipline. The analysis suggests that students' self-discipline has positive significant correlation with classroom management. Self-discipline is a key concept in the analysis of discipline goals and students' self-discipline contributes to the formation of a classroom environment (Aydin and Ziatdinov, 2018). The third factor to influence classroom management of colleges is educational technologies. The analysis suggests that educational technologies have positive significant correlation with classroom management. Providing meaningful technology integration is a substantial prerequisite for effective classroom management (Chai, 2018). Use of technology in education is of great importance for effective learning and teaching processes in class (Bolick and Bartels, 2018).

Recommendations

Firstly, it is important to place high value on the roles of teachers in the classroom management in colleges. According to research findings, teachers have a positive relationship

with classroom management of colleges in China ($p = 0.000 < 0.01$). Teachers are not only the organizers and leaders of classroom teaching, but also the managers of the classroom (Nezu, 2018). Teachers' educational values are one of the important factors that affect classroom management (Marzano, 2020). At present, the classroom management of college teachers is mainly based on the individual authority management and the system management model, which lacks the management of human nature and culture (Gao, 2019). Therefore, teachers should make full use of all kinds of opportunities, strengthen the understanding of students, build a harmonious relationship between teachers and students, facilitate harmonious management, and build a harmonious classroom (Wang, 2020).

Secondly, colleges education should not only teach students the knowledge of self-discipline and but also cultivate students' skills of self-discipline when it comes to classroom management. Based on the findings, students' self-discipline has a positive relationship with classroom management of colleges in China ($p = 0.000 < 0.01$). The process of students' growth is a process from heteronomy to self-discipline, which means that classroom management changes from teacher's classroom management to student's self-management (Hu, 2019). In this process, the main body of classroom management has changed from the main body of teachers to the main body of students (Lu, 2018). Therefore, in classroom management, students' self-discipline can not only lighten the burden of teachers' classroom management, but also help to arouse students' subjective initiative and increase students' enthusiasm in classroom learning (Milner and Tenore, 2020).

Finally, it is suggested that we should use education integration into technologies to improve the efficiency of classroom management in colleges. The research finding is that educational technologies have a positive relationship with classroom management of colleges in China ($p = 0.000 < 0.01$). With the development of information technology and the change of learning environment, people are increasingly demanding to change the traditional classroom management model. Moreover, with the continuous development and application of network and new media technology, it is imperative to use advanced technology to promote new-type classroom management (Bi, 2020). For example, smartphone-aided classroom management is a new type of classroom management, which can effectively maintain classroom discipline. These check-in students' attendance methods are more effective, intuitive and accurate than the traditional manual roll-call information collection. Therefore, the application of information technology in college classroom is not only the innovation of modern educational technology in higher education, but also the beginning of the basic reform of classroom management (Hou and Peng, 2022).

Contributions

For academia, with these findings, researchers can understand the influencing factors of classroom management in colleges and then find out solutions to overcome the problems when it comes to colleges reforms due to educational popularization of colleges. In addition, based on the findings, this research also enriches thoughts about modern management with technologies in this area for researchers particularly in the education and academic sector according to the new trend about technologies integration into education. As for the educational industry, these findings provide colleges, teachers, and students good references about how to make a good classroom management. For example, colleges can understand from these findings that it is necessary to introduce education technologies into class and make training for teachers, especially new teachers. Aside to that, as for teachers, teachers can make

a better understanding that it is important to build a harmonious relationship with students and develop students' self-discipline to manage class.

Limitations of Research

There are some limitations in the results of this study. Firstly, due to time, financial and other factors, only three colleges' students in Shenzhen were selected to conduct a questionnaire survey, but which can't represent for all of colleges in China, so the conclusion is inevitably biased. Secondly, this research used the questionnaire survey to get the data. However, face to face interviews can be also adopted in the survey to know about further thoughts of classroom management. Finally, the analysis of the survey results is not in-depth since I have just 4 years of personal practical experience.

Future Research Direction

In this research, the data collected is based on three colleges which are in the same city in China. However, there are 3013 colleges in China which spread across 34 province-level division according to statistic (2021). Therefore, it is suggested that the data should be covered in each province-level division. In addition, while this study examined the respective relationship between teachers, students' self-discipline, education technologies and classroom management, there are several other factors that may influence classroom management. For example, learning motivation can be regarded as one of factors to have impact on classroom management. Due to time constraint, this research doesn't focus on it. Therefore, it is recommended to research it in the future.

Conclusion

It is concluded that teachers, students' self-discipline, educational technologies have positive relationships with classroom management of college in China. Therefore, these research findings can achieve the research objectives and answer the research questions well. Based on the research finding, it is recommended that attaching importance to the role of teachers in college classroom management is an important part of college classroom management. Besides, colleges education should not only teach students the knowledge of self-discipline and but also cultivate students' skills of self-discipline when it comes to classroom management. Finally, we should use education integration into technologies to improve the efficiency of classroom management in colleges. Admittedly, there are limitations due to numbers of colleges, method of investigation and personal practical experience in this research. However, these finding are still significant in both academia and industry. For academia, researchers can know about the factors of affecting classroom management to solve the problems when facing college's reforms and enrich minds about classroom management when it comes to education integration into technologies. As for industry, these research findings provide a good reference for colleges, teachers, and students to do a good job in classroom management. Furthermore, this research data will be collected in the wide range, and other affecting factors of classroom management in colleges will be researched in the future study.

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