The Impact of Principal Curriculum Leadership on Students’ Modernity: Moderated Chain Mediation Effect

Yan Li, Deyun Zeng, Bote Qi and Yuantao Sun

Abstract: Although a principal’s leadership of the curriculum can have a substantial influence on student outcomes and school performance, limited research exists about the impact of a principal curriculum leadership on the development of students’ thoughts, attitudes, values, and behavioral patterns, so that they can participate effectively in modern society. Based on the theory of human development ecology, this study aimed to explore the impact mechanisms of principal curriculum leadership on students’ modernity, examine the chain mediating effects of teacher leadership and class management effectiveness, and examine the moderating effects of class collective effectiveness. The results reveal that principal curriculum leadership was unable to significantly predict students’ modernity; teacher leadership played an independent mediating role, whereas teacher leadership and class management effectiveness played a chain mediating role; and class collective effectiveness significantly positively moderated the effect of teacher leadership on class management effectiveness and the effect of class management effectiveness on students’ modernity. In order to improve principal curriculum leadership and enhance students’ modernity, the former needs to consider students’ sustainable development, and further attention should be paid to the value of “significant others”, such as principals and teachers, in the development of students, as well to the mechanisms by which the school ecosystem influences the sustainable development of students.

Keywords: principal curriculum leadership; students’ modernity; teacher leadership; class management effectiveness; class collective effectiveness

1. Introduction

In the process of modernization, social and individual modernization are complementary and affect each other [1]. The core of modernization is human modernization [2], and its essence is the growth of modernity—that is, cultivating future citizens with a “modern spirit” [3]. In the literature, the ideas about modernity vary. Smith and Inkeles [4] postulated that individual modernity is a collection of attitudes, values, perceptions, and ways of acting which are the qualities required to actively participate in modern social life. According to Inkeles [5], modernity is a “mental state”, a mode of thinking and behavior that is different from traditional modes. In this study, modernity is defined as the thoughts, attitudes, values, and behavioral patterns that enable students to engage fully in modern society, and the structure of students’ modernity involves eight dimensions, including equality, participation, efficacy, communication, innovation, responsibility, aggressiveness, and reflection. School education is undoubtedly a fulcrum for leveraging human modernity; however, the current global basic school education in China excessively focuses on the practical function of education and overlooks preparing students for life in a modern society.

The principal is the “nerve center” of the school, and the leadership of the principal has a significant impact on the development of the school. Research on principal leadership...
reveals the leadership paradigm from different perspectives, such as changes in role positioning, changes in management style, and organizational restructuring, and proposes more than 20 types of effective leadership. Among them, principal curricular leadership, principal instructional leadership, and principal transformational leadership are identified as the most influential leadership factors on student achievement. Transformational leadership focuses on changing the original values, interpersonal relationships, organizational culture, and other factors of the school organization, and is more concerned with the development of the entire school organization [6]. Although both instructional leadership and curriculum leadership focus on the curriculum and instructional work, instructional leadership primarily employs a top-down directive leadership paradigm that emphasizes both collaboration during the leading and direction of instructional activities during the teaching and learning process as well as the managerial control of teachers [7]. Curriculum leadership emphasizes cooperation with the teachers in the teaching and learning process, empowerment of the teachers, joint participation in leadership, and joint sharing of power [8], and therefore curriculum leadership fits the vision of this study better. Against the background of China’s basic education curriculum reform, the importance of curriculum leadership has garnered more and more attention. How schools can build a scientific curriculum system, how to make course selection and classroom travel orderly and efficient, and how to establish an effective school governance structure so as to truly promote the sustainable development of students are questions which rely on principals’ firm, solid, and scientific curriculum leadership. Establishing how to utilize the functions of principal curriculum leadership and its concrete results have been attracting attention from all walks of life. Principal curriculum leadership is defined as a principal’s awareness and ability regarding strategic planning and innovative school curriculum reform, which includes five aspects: creating a vision of the curriculum, integrating curriculum resources, modeling a curriculum, providing a supportive environment for the curriculum, and testing the curriculum; the aim is to promote the “most effective development” of each student [9].

Debate continues over the best models for measuring and interpreting the impact of principal curriculum leadership on student development, which is still viewed as a “black box” full of complex connections. Therefore, the aim of this study was to improve student outcomes and expand our understanding of leadership roles and effects by exploring the influence of principal curriculum leadership on the development of students’ modernity. This study aims to answer the following two research questions:

Research Question 1: What impact does principal curriculum leadership have on students’ modernity?

Research Question 2: What is the impact mechanism of principal curriculum leadership on students’ modernity?

2. Theoretical Basis and Hypothesis Development

2.1. Theoretical Framework

Modernity is a positive personality factor in the development of students. It is the result of the multi-dimensional joint construction of innate potential, behavior, and the social and cultural environment. In short, it is the internalization of the social environment on an innate basis [10]. Among these factors, environmental experience plays a decisive role. Bronfenbrenner [11] developed a theoretical system model integrating microsystems, mesosystems, exosystems, macrosystems, and long-term systems into human development ecology to analyze the influence of the environment on human development. More specifically, the microsystem, intermediate system, external system, and macro system constitute a concentric circle relationship and are interrelated. Among them, the microcosmic system is the level that directly interacts with and acts on children, such as the family, school, community, etc. Meanwhile, the intermediate system represents the impact of the association between various microcosmic systems on children, including the family and school, family and community, family and peers, school and community, etc. The external system refers to entities that, despite children not having direct with them, have an indirect but important
impact on them, such as parents’ schools, mass media, administrative departments, social charities, parents’ workplace, etc. Lastly, the macro system refers to social awareness, attitudes, policies, and laws, and the above-mentioned three systems are all connected to this system. At the same time, these four systems are not static but rather dynamic, subject to changes over time with the development of new models and conditions.

2.2. The Ecological Chain Model

Distinct from previous concerns about the environment, Bronfenbrenner emphasizes moving beyond individual fields and discovering the internal connections between fields and their effects on development. Under the theoretical scheme of human development ecology, there are different levels of the school ecological environment due to the universality of the school field, ranging from high to low, and the influence of the subject from near to far. Moreover, the school ecosystem should include students in the system, emphasizing the dynamic relationship between students and the school environment in which they are embedded and whose nature is constantly changing. When explaining the influence of the environment on individual growth, the theory of human development ecology emphasizes the interaction between the individual and the environment. The individual is affected by the environment while interacting with it, and the development of the modernity of students is also based on the individual and the school–environment interaction. The development of students’ modernity is a systematic study, not only for individual students but also for students’ classes and schools, as well as the wider environment in which they live. Thus, the comprehensive social problems of the environment and the theory of human development ecology provide an appropriate theoretical framework for this, which can organically unify the environmental factors of students in multiple environments and at different levels to form a hierarchical and logical system.

Based on the theory of human development ecology, a “distal–proximal” ecological chain model (Figure 1) is proposed, in which principal curriculum leadership acts on the development of students’ modernity—that is, leadership acts on the classes in the middle layer, and the innermost layer is the students themselves. Students themselves develop via interactions with individuals, objects, and symbols in their near-end environment. This long-term interaction in the near-end environment is known as the proximal process (proximal process) [9]—that is, the mechanism by which the genetic potential of human effective psychological function is realized, but the realization of its function is not completely independent but will be affected by the surrounding environment. The corresponding remote procedure (distal process) refers to the long-term interaction between students and the mesoscopic and even appearance and macroscopic environment. According to the theory of human development ecology, the interactions between students and classes and between peers and teachers belong to the students’ microcosmic systems, and classes are regarded as students’ proximal environment. The intermediate system is outside the microcosmic system, guiding and regulating students’ modernity; the members of this system consist of the school leadership group, headed by the principal [12]. The external system is outside the middle level and predominantly includes the educational administrative department. The macro system comprises environmental factors at the cultural or subcultural level and is outside the above three systems. According to the aforementioned system, principal curriculum leadership and teacher leadership include leadership tasks such as shaping the vision of the curriculum at the principal and teacher levels, integrating curriculum resources, acting as curriculum demonstrators, providing a supportive environment, and conducting curriculum inspections, belonging to the middle level of the school ecosystem. Teacher class management effectiveness refers to the ability of teachers to manage a class, which is measured based the aspects of student learning, class routine management, class atmosphere creation, class environment planning, etc. Member effectiveness and other features belong to the microsystem in the school ecosystem. Therefore, it is appropriate to use the theory of human development ecology to analyze the development of students’ modernity. In this study, principal curriculum leadership, teacher leadership, class manage-
ment effectiveness, class collective effectiveness, and students’ modernity were included in the same analytical framework. The “chain of leadership” of principals and teachers in the curriculum and teaching, through the management and administration of teachers at the classroom level, progressively contributed to the development of students’ modernity.

Figure 1. The “distal-proximal” ecological chain model of the mechanism of school leadership.

2.3. Research Hypotheses

2.3.1. Principal Curriculum Leadership and the Development of Students’ Modernity

An important consideration in school leadership research is the effect of principals on student development. Leadership is considered an influencing process [13], similar to a “black box” full of complex mechanisms and connections. To date, research on the impact of principal curriculum leadership on student development in modernity is limited, but the empirical evidence linking principal curriculum leadership and student development is abundant and controversial. Some studies directly explored the relationship between principal curriculum leadership and students’ academic and non-academic achievements and observed that the direct impact is contentious [14]. Other studies described that principal curriculum leadership had a positive and substantial impact on students’ academic and non-academic performance. For instance, Firestone et al. [15] theorized that principal curriculum leadership has a direct and significant impact on student performance and can affect students. At the same time, Pitner et al. [16] found that the correlation coefficient between each dimension of principal curriculum leadership and non-academic factors, such as students’ attitudes towards the school, was greater than 0.22. In other words, the stronger principal curriculum leadership is, the higher the sense of belonging among the students in the school is. Other studies evinced that principal curriculum leadership has a negligible direct effect [14]. In terms of indirect research, researchers focused on the mediating effects of factors such as school climate [17], teacher professional development [18], teacher self-efficacy [19], teacher leadership [20], teacher job satisfaction [21], and the moderating effect of school context [22]. Existing studies are mired in “chaotic hierarchy” and “impossibility to transfer”, which has weakened the influence of the research on principal curriculum leadership. Indeed, there are more studies on the impact of principal curriculum leadership on students’ academic achievement than on the impact on students’ non-academic quality and sustainability.

Based on the above analysis, this paper proposes the first research hypothesis:

Hypothesis 1 (H1). Principal curriculum leadership has a significant positive impact on the development of students’ modernity.
2.3.2. The Mediating Role of Teacher Leadership

At present, the academic community recognizes the indirect relationship between principal curriculum leadership and student development, while teacher leadership is one of the fundamental intermediary variables. Firstly, teacher leadership may be an outcome variable of principal curriculum leadership. The school restructuring movement, which began in the 1990s, emphasized democratic participation in school affairs, and teachers were given more opportunities to participate in the school curriculum and instructional decisions, as well as to share responsibility for the quality and performance of school education [23]. Based on constructive leadership, middle leadership, and distributed leadership theories, principal curriculum leadership can positively influence teacher leadership [24,25]. Social learning theory also suggests that principals’ leadership can have a positive impact on teacher leadership [26]. Secondly, student modernity may be an outcome variable of teacher leadership. In numerous prior studies, teacher leadership has been shown to be associated with student motivation as well as achievements, particularly in the area of academic performance [27], and these positive outcomes are in turn linked to student modernity. Therefore, evidence regarding principals and teachers as independent and cohesive leadership chains is lacking, and there are still considerable knowledge gaps in the research on the mutual influence, interaction, and collaborative work between these two types of leadership in school reform.

Based on the above-mentioned research foundations, this paper puts forward the following research hypotheses:

**Hypothesis 2a.** Principal curriculum leadership has a significant positive impact on the development of teacher leadership.

**Hypothesis 2b.** Teacher leadership has a significant positive impact on the development of students’ modernity.

**Hypothesis 2 (H2).** Teacher leadership plays a mediating role between principal curriculum leadership and students’ modernity.

2.3.3. The Mediating Effect of Class Management Efficiency

In the narrow sense, teachers’ class management only refers to the management work of teachers in the field of classes and classrooms. In a broad sense, teacher class management is not limited to management in the classroom environment, but also includes student learning effects in multiple scenarios, class routine management, class atmosphere creation, class environment planning, and home–school interactive relationship creation [28]. Teacher management effectiveness emphasizes the achievement of class management goals.

Firstly, class management effectiveness may be an outcome variable of principals’ curricular leadership. The impact of principal curriculum leadership on class management effectiveness is unclear. Some scholars believe that teachers’ innovative management in the classroom field is an extra-role behavior that is not recognized by the organization’s formal reward system, while the principal’s encouragement and organizational support in the curriculum will promote teachers’ enthusiasm in their class management efforts [29]. Principal curriculum leadership can also stimulate the intelligence of teachers and encourage them not to adhere to the established work model [30]. In addition, principals with high curriculum leadership care about the needs and ideas of teachers and pay particular attention to the personal development of teachers and encourage them to improve their classroom management ability. Conversely, other studies have found that principal curriculum leadership does not directly affect class management [31]. Secondly, students’ modernity may be an outcome variable of class management effectiveness. Inkeles [5] analyzed the impact of education on individual modernity by focusing on the role of teachers as “models” and speculated that teachers’ role models were “expressed in various activities in different ways”. As a class manager, class management efficiency exerts an
“expectation effect” on the development of students. As an illustration, the leader affects the goal pursuit of students by strengthening their relationships [32]. Tierney et al. [33] corroborated that leaders’ expectations have a positive and significant predictive effect on members’ innovative performance.

Based on this, this paper proposes the following research hypotheses:

**Hypothesis 3a.** Principal curriculum leadership has a significant positive impact on the development of class management effectiveness.

**Hypothesis 3b.** Class management effectiveness has a significant positive impact on the development of students’ modernity.

**Hypothesis 3 (H3).** Class management effectiveness plays a mediating role between principal curriculum leadership and students’ modernity.

### 2.3.4. Chain Mediating Effect of Teacher Leadership and Class Management Effectiveness

Class management effectiveness may be an outcome variable of teacher leadership. First of all, according to the distributed leadership theory and intermediate leadership theories, teacher leadership is divided into three levels according to their actions. The first is that teachers need to assume the most basic role and bear the fundamental responsibilities and tasks of teachers; the second level is that teachers must take on additional school professional tasks and roles, including counseling new teachers, participating in school decision-making, etc.; the last is teacher leadership exerting its influence outside the school [34]. The above theories show that teacher leadership influences the classroom management dimensions such as classroom routine management, classroom climate creation, and classroom environment planning through curriculum teaching, classroom management, school involvement, and home–school interaction, and thus contributes to the improvement of class management effectiveness [34]. More empirical studies have directly proven that teacher leadership has a direct facilitating effect on classroom construction and classroom management [35]. Moreover, the concept of “significant others” was developed by the American sociologist Charles Wright Mills and was originally put forward based on George H. Mead’s theory of “self-development”, referring to a person who has an important influence on another individual in the process of socialization [36]. In classroom management, teacher leaders, as teachers’ “significant others”, can activate teachers’ goals and guide their behaviors in a specific situation, thus enhancing the effectiveness of classroom management [37].

Based on this, this paper introduces the following research hypothesis:

**Hypothesis 4 (H4).** The combination of “teacher leadership–class management effectiveness” has a chain mediating effect between principal curriculum leadership and students’ modernity.

### 2.3.5. Moderating Effect of Class Collective Efficacy

The social information processing theory aims to explore the complex connection between information and its social context, perception, attitude, and behavior. This theory provides an overview of the moderating role of class collective efficacy [38]. In organizations, collective efficacy and collectivism commonly serve as a social environment which contains a series of social information such as gregariousness and harmonious relationships and affects the psychology and behavior of team members [39]. In a study of class situations, scholars introduced the “social background model”, which confirmed that the degree to which behavior penetrates the social environment assists peers in accepting the behavior—that is, class members are influenced by the norms in the class [40]. Factors such as routine management, class atmosphere, and class environment, as the overall cognitive and behavioral patterns of the class, are bound to be shaped and guided by teacher leaders in terms of cognitive and behavioral patterns. The environment affects how individuals
think and feel about certain aspects of the environment and thus make corresponding behav-
ioral responses [38]. Class collective effectiveness, as a concept of the class environment, conveys the ability of leaders and teachers to influence the role behavior of class members, as well as the aspects and extent to which the specific role behavior will be encouraged, supported, and reported by the leader. Effectiveness can thus be reflected [41]. The value guidance and behavioral patterns observed in a class with high collective efficacy inevitably impact the alterations in the psychology and concepts of students in it, making them adjust their cognitive behavioral patterns to match the teacher’s class management style and their own development.

Therefore, based on the theory of social information processing, this paper puts forward the fifth research hypothesis:

**Hypothesis 5 (H5).** *Class collective effectiveness has a moderating effect between teacher leadership and class management effectiveness, as well as between class management effectiveness and students’ modernity.*

The research hypotheses are shown in Figure 2.

![Figure 2. Schematic diagram of the relationship between principal curriculum leadership and students' modernity.](image)

3. Methods

3.1. Subjects and Procedures

This study passed the ethical review of the local ethics committee. The background, purposes, and main content of the study were explained to the subjects, and their consent was obtained before the study started. In addition, the subjects were informed that participation in the study was completely voluntary and that there would be no negative consequences for refusal or discontinuation of the study. A random stratified sample of 662 teachers at the basic education level from a province in western China was selected for the study, as shown in Table 1. A total of 616 valid questionnaires were collected, with a valid return rate of 93.1%. Regarding the gender distribution, 216 (35.1%) were male teachers and 400 (64.9%) were female teachers. In terms of ethnicity distribution, 101 (16.4%) teachers were Han Chinese and 515 (83.6%) were ethnic minorities. As regards the school section distribution, 243 (39.4%) were elementary school teachers and 373 (60.6%) were secondary school teachers. With regard to the post of headteacher, 346 (56.2%) teachers were headteachers, and 270 (43.8%) teachers were not. Concerning the distribution of teaching experience, 186 (30.2%) teachers had less than 5 years of teaching experience, 108 (17.5%) teachers had 6–15 years of teaching experience, and 322 (52.3%) teachers had more than 16 years of teaching experience.
Table 1. Teacher samples.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>216</td>
<td>25.7</td>
</tr>
<tr>
<td>Female</td>
<td>400</td>
<td>64.9</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Han</td>
<td>101</td>
<td>16.4</td>
</tr>
<tr>
<td>Minority</td>
<td>515</td>
<td>83.6</td>
</tr>
<tr>
<td>Segment Distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary school teacher</td>
<td>243</td>
<td>39.4</td>
</tr>
<tr>
<td>Secondary school teacher</td>
<td>373</td>
<td>60.6</td>
</tr>
<tr>
<td>Whether or not to Work as a Class Teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Served as a class teacher</td>
<td>346</td>
<td>56.2</td>
</tr>
<tr>
<td>Not as a class teacher</td>
<td>270</td>
<td>43.8</td>
</tr>
<tr>
<td>Years of Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>186</td>
<td>30.2</td>
</tr>
<tr>
<td>6-15 years</td>
<td>108</td>
<td>17.5</td>
</tr>
<tr>
<td>More than 16 years</td>
<td>322</td>
<td>52.3</td>
</tr>
</tbody>
</table>

3.2. Measuring Tools

3.2.1. Principal Curriculum Leadership

We used the headmaster curriculum leadership scale compiled by Huang and Wu [42]. This scale consists of 20 items related to principal curriculum leadership, including five dimensions: shaping a vision of the curriculum, integrating curriculum resources, testing the curriculum, providing a supportive environment, and conducting curriculum inspections. It was graded on a scale of 1 to 5, from “completely inconsistent” to “completely consistent”. Teachers were asked to choose the degree of their principal’s curriculum leadership according to their personal teaching experience. The higher the score, the higher the principal’s curriculum leadership. In this study, the Cronbach $\alpha$ coefficient of the scale was 0.975, and the confirmatory factor analysis showed that the construct validity was satisfactory ($\chi^2/df = 1.955$, RMSEA = 0.045, CFI = 0.962, TLI = 0.957, SRMR = 0.024).

3.2.2. Teacher Leadership

The teacher leadership scale used in this study was adapted from the teacher leadership scale compiled by Beycioglu and Aslan [43]. This scale consists of 20 items related to teacher leadership, including five dimensions: curriculum teaching, class management, school affairs participation, learning community, and home–school interaction. It was graded on a scale of 1 to 5, from “completely inconsistent” to “completely consistent”. Teachers were asked to choose the degree of teacher leadership, with a higher score indicating a higher degree. The Cronbach $\alpha$ coefficient of the scale in this study was 0.943, and the exploratory factor analysis results showed that the construct validity was satisfactory ($\chi^2/df = 2.768$, RMSEA = 0.061, CFI = 0.937, TLI = 0.928, SRMR = 0.055).

3.2.3. Class Management Effectiveness

The class management effectiveness scale used in this study was adapted from the Yalçın classroom management effectiveness scale compiled by Ozdemir [44]. After deleting the items with low factor loads, the modified scale was composed of 16 items related to class management performance, including 5 dimensions of student learning effect, class routine management, class atmosphere creation, class environment planning, and home–school interaction. It was graded on a scale of 1 to 5, from “completely inconsistent” to “completely consistent”. The participants were asked to choose the level of class management effectiveness based on their personal teaching experience, with a higher score indicating a higher level of class management effectiveness. The Cronbach $\alpha$ coefficient of the scale in this study was 0.955, and the exploratory factor analysis results showed that the construct validity was satisfactory ($\chi^2/df = 1.737$, RMSEA = 0.072, CFI = 0.949, TLI = 0.942, SRMR = 0.051).
3.2.4. Class Collective Effectiveness

The class collective effectiveness scale used in this study was adapted from the collective effectiveness scale of Chinese middle school students compiled by Chen [45]. The modified scale, after excluding items with low factor loadings and reversing the scale of some of the items, consisted of 14 items related to class collective effectiveness performance, including four dimensions of class positive joint strength, member self-efficacy, efficacy of top-performing members, and class negative joint strength, using a 5-point scale. The teachers were requested to select the level of class collective effectiveness, with higher scores implying higher levels of class collective effectiveness. The Cronbach α coefficient of the scale in this study was 0.895, and exploratory factor analysis determined that the construct validity was satisfactory (χ²/df = 2.926, RMSEA = 0.076, CFI = 0.940, TLI = 0.925, SRMR = 0.077).

3.2.5. Students’ Modernity

The modernity scale for primary and secondary school students compiled by Mao [46] was adopted. This scale consists of 30 items related to students’ modernity performance, including 8 dimensions of equality, participation, efficacy, communication, openness, responsibility, initiative, and reflectiveness, using a 5-point scale. The participants were asked to evaluate the modernity level of the students according to the situation of the students in the class, with a higher score indicating a higher modernity level. In this study, the Cronbach α coefficient of the scale was 0.940, and the exploratory factor analysis showed that the construct validity was satisfactory (χ²/df = 2.395, RMSEA = 0.071, CFI = 0.939, TLI = 0.934, SRMR = 0.071).

In this study, the teachers completed the assessment of the principal curriculum leadership, teacher leadership, classroom management effectiveness, class collective effectiveness, and students’ modernity in their school. We opted to recruit teachers as the participants, since they have first-hand knowledge of the principal’s leadership. A principal’s cognitive–behavioral approach is directly reflected in their leadership of teachers’ work, and teachers have the most say regarding the principal’s leadership. Additionally, students’ self-assessment may have problems with response bias due to a limited cognitive level and reading comprehension or a tendency to fulfill social expectations. Teachers have close contact with students and have a better understanding of their students [47]. Therefore, teachers represent the link between principals and students. Through the teachers’ perspectives, it is possible to link principal curriculum leadership with students’ modernity, which facilitates the exploration of the relationship between them.

3.3. Data Analysis

This study established a structural equation model consisting of principal curriculum leadership, teacher leadership, class management effectiveness, class collective effectiveness, and students’ modernity as latent variables to verify the relationship between each latent variable. We used the bootstrap self-service sampling method to test the mediating effect of teacher leadership and class management effectiveness in the structural equation model, and used the achievement index method to test the adjustment of class collective effectiveness to the two paths of “teacher leadership–class management effectiveness” and “class management effectiveness–students’ modernity” [48]. The software used for statistical analysis was SPSS 27.0 and Mplus 8.0.

4. Results

4.1. Common Method Bias Test

Common method bias refers to artificial covariation between predictor and target variables due to the same data source region or rater, measurement setting, or item context; Harman’s one-way test is generally used to determine the presence of serious common method bias [49]. To begin, exploratory factor analysis was conducted on the variables of principal curriculum leadership, teacher leadership, teacher classroom management
effectiveness, students’ modernity, and classroom collective effectiveness, and the results indicate that the variance explained by the first common factor was 29.150%, which was lower than 40%. Then, a validation factor analysis was conducted on the aforementioned variables, setting the number of common factors to 1 [48], and the results indicate a poor model fit ($\chi^2/$df = 8.581, RMSEA = 0.111, CFI = 0.454, TLI = 0.442, SRMR = 0.112). The above steps indicated that there was no serious common method bias in this study.

4.2. Descriptive Statistics and Correlation Analysis of Each Variable

Table 2 presents the descriptive statistics and related analytical results of principal curriculum leadership, teacher leadership, classroom management effectiveness, and students’ modernity. From the results of the data analysis, it can be inferred that there was a significant positive correlation between the dependent variable, students’ modernity, and the four other variables ($r = 0.474–0.770$, $p < 0.001$), among which there was a moderate degree of correlation with principal curriculum leadership ($r = 0.546$, $p < 0.001$). Moreover, there was a significant positive correlation between principal curriculum leadership and teacher leadership ($r = 0.770$, $p < 0.001$) and a strong correlation between principal curriculum leadership and teacher classroom management effectiveness ($r = 0.677$, $p < 0.001$). Finally, there was a significant positive correlation between teacher leadership and teacher classroom management effectiveness ($r = 0.826$, $p < 0.001$).

Table 2. Descriptive statistics and correlation analysis among variables.

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>M</th>
<th>SD</th>
<th>The Correlation Coefficient between Each Variable Pair</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Principal curriculum leadership</td>
<td>3.810</td>
<td>0.721</td>
<td>-</td>
</tr>
<tr>
<td>2. Teacher leadership</td>
<td>3.779</td>
<td>0.639</td>
<td>0.770 ***</td>
</tr>
<tr>
<td>3. Teacher class management</td>
<td></td>
<td></td>
<td>0.677 ***</td>
</tr>
<tr>
<td>effectiveness</td>
<td></td>
<td></td>
<td>0.826 ***</td>
</tr>
<tr>
<td>4. Students’ modernity</td>
<td>3.650</td>
<td>0.604</td>
<td>0.546 ***</td>
</tr>
<tr>
<td>5. Class collective effectiveness</td>
<td>3.373</td>
<td>0.581</td>
<td>0.474 ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.590 ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.655 ***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.763 ***</td>
</tr>
</tbody>
</table>

Note: *** means $p < 0.001$.

Correlation analysis preliminarily determined a relationship between the variables. In order to further explore the specific relationship path between variables, they were used to establish a structural equation model and statistically analyzed.

4.3. Structural Equation Model and Its Path Coefficient Estimation: Moderated Chain Mediation Effect

Table 3 summarizes the convergent validity and discriminant validity of the measurement models. The measurement models comprised principal curriculum leadership, teacher leadership, class management effectiveness, and students’ modernity. The factor loading, combined reliability (CR), and average variance extraction (AVE) of the secondary indicators of each variable reflected the convergent validity of the measurement model [50]. Table 3 shows that the above measurement model indicators were all greater than the corresponding suggested values, indicating favorable convergent validity. Comparison of the average variance extracted (AVE) with the square of the correlation coefficient between variables can be used to determine the discriminant validity between measurement models, and the variable can only be explained in the case where the correlation coefficient of the variable with other variables is lower than the square root of the average variance extracted for the variable [51]. The discriminant validity of the four models was satisfactory, as depicted in Table 3.
Table 3. Convergent validity and discriminant validity of the measurement model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of Topics</th>
<th>Item Reliability</th>
<th>Composition Reliability</th>
<th>Convergent Validity</th>
<th>Discriminant Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Principal curriculum leadership</td>
<td>5 (second order)</td>
<td>0.91–0.98</td>
<td>0.984</td>
<td>0.926</td>
<td>0.962</td>
</tr>
<tr>
<td>2. Teacher leadership</td>
<td>5 (second order)</td>
<td>0.83–0.95</td>
<td>0.956</td>
<td>0.814</td>
<td>0.592</td>
</tr>
<tr>
<td>3. Class management effectiveness</td>
<td>5 (second order)</td>
<td>0.91–0.98</td>
<td>0.978</td>
<td>0.897</td>
<td>0.682</td>
</tr>
<tr>
<td>4. Students' modernity</td>
<td>8 (second order)</td>
<td>0.73–0.95</td>
<td>0.955</td>
<td>0.726</td>
<td>0.407</td>
</tr>
<tr>
<td>5. Class collective effectiveness</td>
<td>4 (second order)</td>
<td>0.61–0.97</td>
<td>0.913</td>
<td>0.728</td>
<td>0.348</td>
</tr>
</tbody>
</table>

Note: The numbers in bold on the diagonal of the discriminant validity column are the square root values of AVE (average variance extracted), and the values in the lower triangle are the squares of the correlation coefficients between variables.

Afterward, principal curriculum leadership and students’ modernity were set as the explanatory and explained variables, respectively, while teacher leadership and class management effectiveness were set as the chain intermediaries to construct a structural equation model, as shown in Figure 3. The maximum likelihood (ML) method was applied to evaluate the overall fitting degree of the structural model and the path coefficient among the four variables [52]. The following are the primary fitting indices of the model: \( \chi^2/df = 2.579; \) CFI = 0.910; TLI = 0.905; RMSEA = 0.065; SRMR = 0.058, all within the recommended value range (\( \chi^2/df < 3, \) CFI > 0.9, TLI > 0.9, RMSEA < 0.08, SRMR < 0.08) [53,54], demonstrating the good fit of the structural equation model constructed in this study. At the same time, the standardized path coefficients among the variables of this structural equation model displayed uncovered a significant direct effect of principal curriculum leadership on teacher leadership (path coefficient = 0.77, \( p < 0.001 \)). In addition, there was a significant direct effect of teacher leadership on both class management effectiveness (path coefficient = 0.70, \( p < 0.001 \)) and students’ modernity (path coefficient = 0.29, \( p < 0.001 \)); concurrently, a significant direct effect was observed for class management effectiveness on students’ modernity (path coefficient = 0.34, \( p < 0.001 \)). Meanwhile, the effect of principal curriculum leadership on class management effectiveness (path coefficient = 0.11, \( p > 0.05 \)) and students’ modernity (path coefficient = 0.10, \( p > 0.05 \)) was not statistically significant.

Figure 3. The path map of the impact of principal curriculum leadership on students’ modernity. Notes: \( n = 616. \) Standardized coefficients are reported; \( * \) means \( p < 0.05, \) \( ** \) means \( p < 0.001. \)
Class collective effectiveness had a significant positive effect on class management effectiveness ($\beta = 0.12, t = 1.71, p < 0.05$) and students’ modernity ($\beta = 0.18, t = 2.36, p < 0.05$); the interaction term between teacher leadership and class collective effectiveness had a significant positive effect on class management effectiveness ($\beta = 0.14, t = 7.62, p < 0.001$); and the interaction term of class management effectiveness and class collective effectiveness had a significant positive effect on students’ modernity ($\beta = 0.17, t = 2.16, p < 0.05$). These results indicate that class collective effectiveness has a moderating role on the impact of teacher leadership effectiveness on class management, and on the impact of class management effectiveness on students’ modernity. Based on this, H5 is supported.

4.4. Testing the Mediating Effect of Teacher Leadership and Class Management Effectiveness

Based on the above results, the mediating effect of teacher leadership and class management effectiveness on the relationship between principal curriculum leadership and students’ modernity was further tested. In order to estimate the mediating effect and confidence interval of teacher leadership and class management effectiveness, this study utilized bootstrap self-service sampling 5000 times, and the results are listed in Table 4.

Table 4. The direct effect, indirect effect and total effect of principal curriculum leadership on students’ modernity.

<table>
<thead>
<tr>
<th>Effect Category</th>
<th>Standardized Effect Size</th>
<th>Standard Error and Z Value</th>
<th>Bias Corrected 95% Confidence Interval</th>
<th>Boot Strapping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lower Limit</td>
<td>Upper Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lower Limit</td>
<td>Upper Limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lower Limit</td>
<td>Upper Limit</td>
</tr>
<tr>
<td>direct effect</td>
<td>0.104</td>
<td>0.060</td>
<td>1.745</td>
<td></td>
</tr>
<tr>
<td>total indirect</td>
<td>0.443</td>
<td>0.049</td>
<td>8.948</td>
<td></td>
</tr>
<tr>
<td>total effect</td>
<td>0.547</td>
<td>0.036</td>
<td>15.188</td>
<td></td>
</tr>
<tr>
<td>specific</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>indirect effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCL→TL→SM</td>
<td>0.224</td>
<td>0.062</td>
<td>3.623</td>
<td></td>
</tr>
<tr>
<td>PCL→CME→SM</td>
<td>0.036</td>
<td>0.020</td>
<td>1.826</td>
<td></td>
</tr>
<tr>
<td>PCL→TL→CME→SM</td>
<td>0.183</td>
<td>0.033</td>
<td>5.632</td>
<td></td>
</tr>
</tbody>
</table>

Note: PCL = principal curriculum leadership, TL = teacher leadership, CME = class management effectiveness, SM = students’ modernity; *** = $p < 0.001$; bootstrap repeated sampling 5000 times.

Table 4 illustrates that both the total indirect effect and the total effect of principal curriculum leadership on students’ modernity were significantly positive ($p < 0.05$, 0 is not included in the 95% confidence interval), whereas the direct effect was not ($p > 0.05$, 0 is included in the 95% confidence interval). Likewise, among the three groups of specific indirect effects, the group of indirect effects of “principal curriculum leadership–class management effectiveness–students’ modernity” did not reach a significant level. In comparison, a significant indirect positive effect was identified ($p < 0.05$, 0 not included in the 95% confidence interval) between the “principal curriculum leadership–teacher leadership–students’ modernity” (effect size = 41.0%) and “principal curriculum leadership–teacher leadership–class management effectiveness–students’ modernity” groups (effect size = 33.5%). Therefore, principal curriculum leadership has a fully mediated effect on students’ modernity; the independent mediating effect of teacher leadership and the chain mediating effect of teacher leadership and class management effectiveness regarding the influence of principal curriculum leadership on students’ modernity were confirmed. It can be deduced that the combination of “teacher leadership–class management effectiveness” played a partial mediating role in the influence of principal curriculum leadership on students’ modernity. Therefore, these results support hypotheses H1, H2 and H4, whereas H3 is not supported. The above results establish that improving the level of principal curriculum leadership can enhance teacher leadership and subsequently improve the effectiveness of teachers’ class management, ultimately promoting students’ modernity.
4.5. Examination of the Moderating Effect of Class Collective Efficacy

To further clarify the moderating role of classroom collective efficacy between teacher leadership and teacher classroom management effectiveness, and between teacher classroom management effectiveness and student modernity, this study employed slope analysis to test the moderating effect of class collective effectiveness and further explored the essence of variable interaction effects. By taking one standard deviation above and below the collective effectiveness of the class as the boundary, this research stratified the subjects into a high-level class management group and a low-level class management group (high-level student group and low-level student group). At a high level of class collective effectiveness (M + 1 SD), class management effectiveness showed a significant upward trend with an increase in teachers’ leadership (β = 0.26, t = 4.68, p < 0.001). On the other hand, at a low level of collective effectiveness (M − 1 SD), class management effectiveness showed a progressive downward trend with an increase in teachers’ leadership, but the results were not statistically significant (β = −0.02, t = −0.23, p > 0.05). Similarly, at a high level of class collective effectiveness (M + 1 SD), students’ modernity showed a significant upward trend with an increase in class management effectiveness (β = 0.15, t = 2.14, p < 0.05). At a low level (M − 1 SD), students’ modernity showed a gradual upward trend with an increase in class management efficiency, but these results were not statistically significant (β = 0.03, t = 0.26, p > 0.05). The above results are shown in Figures 4 and 5. Collectively, these results signify that improvements in the collective effectiveness of students’ classes can effectively enhance the influence of teachers’ leadership on class management effectiveness and consequently students’ modernity, thereby promoting the development of students’ modernity. Based on this, improvements in class collective effectiveness can effectively increase the impact of teacher leadership on classroom management effectiveness, and that of classroom management efficacy on students’ modernity. These results support hypotheses H5.

![Figure 4](image-url)  
**Figure 4.** Moderating effects of high and low class collective effectiveness on class management effectiveness.
5. Conclusions and Suggestions

5.1. Discussion and Conclusions

This study explored the impact mechanisms of principal curriculum leadership on students’ modernity, examined the chain mediating effects of teacher leadership and class management effectiveness, and the investigated the moderating effects of class collective effectiveness.

5.1.1. This Study Discovered That Principal Curriculum Leadership Could Not Directly Affect the Development of Students’ Modernity

Our results are in agreement with those of previous studies, and the direct impact model had strong instability [14]. The direct impact model assumes that principal curriculum leadership directly drives students’ development. Critics point out that this view is only based on theoretical speculation or direct data testing and does not provide corresponding evidence and empirical materials. Indeed, the correlation may be erroneous [55]. Proponents of the direct impact model postulate that the insignificance of the model is likely due to conceptual limitations, and the predominant leadership values and roles are often narrow, resulting in the neglect of leadership dimensions or practices directly related to student development. Despite the results of the direct impact model of principal curriculum leadership on student development being erratic, it is critical to reflect on and improve the effectiveness of principal curriculum leadership [56].

5.1.2. The Results from the Mediating Effect Models Showed That Principal Curriculum Leadership Shapes the Organizational Characteristics and Processes of Various Schools, Subsequently Affecting Student Learning Outcomes

This study also noted that the impact of principal curriculum leadership on students’ modernity was not direct, but rather was mediated by factors such as teacher leadership and class management effectiveness, and moderated by class collective effectiveness. That is to say, a series of key auxiliary factors are “embedded” in the relationship sequence between principal curriculum leadership and students’ modernity and are “stitched” together to form a bridge linking principal curriculum leadership and students’ modernity [57]. These auxiliary elements are manifested in the following aspects.
Teacher Leadership Independently Mediates the Relationship between Principal Curriculum Leadership and Students’ Modernity (Effect Size 41.0%) 

More specifically, principal curriculum leadership is complemented by teacher leadership and further contributes to the development of students’ modernity, with this path being the most significant mediating path. The empirical analysis showed that principal curriculum leadership positively predicted teacher leadership, which in turn positively predicted the development of students’ modernity, implying that principals with outstanding curriculum leadership act as role models for teachers, increase teachers’ motivation and capacity to lead, and help reflect the results of teacher leadership in the development of students’ modernity. Teacher leadership can act as a distributed leadership that complements the principal, working in tandem, interacting, and influencing each other in changing schools to increase their effectiveness. The principal is the soul of a school and has significant power and influence. When the principal shapes the vision of the curriculum, integrates curriculum resources, serves as a model, provides a supportive environment, or conducts curriculum testing, the principal can increase the commitment of the school’s teachers toward the school and encourage teachers and administrators to invest time and effort in school development. This signifies that the principal can act as a role model for teachers and lead them in the development and progress of the school. At the same time, the majority of teachers are or have been class teachers, subject teachers, or administrative staff and are a direct bridge between homes, schools, and communities. By creating an atmosphere of effective communication between home and school, a warm and welcoming classroom atmosphere, or a stimulating teaching atmosphere, teacher leaders can, on the one hand, foster friendly and communal relationships between teachers and, on the other hand, establish a link between family, school, and society, thereby creating an environment that is more conducive to the development of students’ modernity by creating a link between family, school, and society and promoting more family and social participation in classroom and school governance [58]. As stated by John A. Ross [59], a principal’s influence on students is primarily accomplished through the organizational commitment and beliefs of teachers who influence students through their commitment to the school’s mission, their commitment to their professional community, and their commitment to school–community partnerships.

The Combination of “Teacher Leadership-Class Management Effectiveness” Plays A Partial Mediating Role in the Impact of Principal Curriculum Leadership on Students’ Modernity (Effect Size 33.5%) 

The improvement in principal curriculum leadership through strengthening teacher leadership subsequently improved the efficiency of teachers’ class management and ultimately promoted students’ modernity. Teachers are the central link in the impact of principal curriculum leadership on students’ modernity. Earlier studies established that principal curriculum leadership cannot directly affect students’ cognition and behavior, but rather through teachers in classes, schools, and home–school interactions. Teachers are “significant others” in the process of students’ growth and have a major influence on the process of students’ modern development. According to the theory of human development ecology, teenagers spend two-thirds of their waking hours in school, which is an important microsystem; the key figures and role models in the system—teachers—are the key imitation objects for students’ thoughts, attitudes, values, and behavioral patterns [13]. The chain intermediary role of “teacher leadership–class management effectiveness” is to emphasize the value of teachers’ curriculum, teaching leadership, class management, and school affairs participation. Principal curriculum leadership affects teachers’ curriculum leadership, school affairs participation, and home–school collaboration, which can be used to improve the effectiveness of teachers in class management. Specifically, principal curriculum leadership stimulates the sense of community and initiative of key teachers and other leading groups in school management, the teacher learning community, and home–school collaboration systems, thereby boosting the learning of students, standardizing class
routine affairs, planning and optimizing the class atmosphere, improving home–school interactions, etc., and eventually achieving the modern development of students.

Class Collective Effectiveness Plays a Moderating Role in the Impact of Teacher Leadership on Class Management Effectiveness and in the Impact of Class Management Effectiveness on Students’ Modernity

Developing the collective effectiveness of classes can effectively ameliorate the influence of teacher leadership on class management effectiveness and class management effectiveness on students’ modernity, thereby promoting the development of students’ modernity. The classroom is an important place for children to socialize. Class collective effectiveness is a social environment factor. In a class with a high collective efficacy, students can learn to get along with teachers and other students, learn to restrain themselves, and participate in activities organized by teachers. Diverse activities such as guidance, communication, and cooperation with other students aid in elevating the effectiveness of teachers’ class management, such as learning effects, class routine management, class atmosphere creation, and students’ modernity. Prior studies have reported that better class participation and community awareness play an essential role in the social and personality development of students, enabling them to gain valuable experience in difficult choices, develop altruistic qualities, and acquire an encouraged mode of civic activity [60]. A class with active collective effectiveness can often bring students a sense of security and self-confidence, making them dare to think and act, and can stimulate students’ wisdom, making them open to accepting new things, reflecting on existing knowledge and methods, and improving modernity.

Unlike many previous researchers who focused on academic achievement, this study is unique because it focused on the relationship between principal leadership and modernity. This conclusion not only reinforced the theory of human development ecology and social information processing theory, but also provided a theoretical basis for yielding a better understanding of school reform based on the cultivation of students’ modernity.

However, there are still some deficiencies and limitations of this study that need to be further explored. Firstly, this study used teachers to explore the impact of principal curriculum leadership on students’ modernity and teacher leadership and class management effectiveness. Given that teachers are the link between these different groups, it would have been more convenient to individually match the multi-level variables. Future research can aim to perform one-to-one correspondence between the three levels, namely principals, teachers, and students, leading to superior effects by using a multi-level structural equation model. Secondly, this study examined the influence mechanism of principal curriculum leadership on students’ modernity via a cross-sectional study. Consequently, it is inherently challenging to identify the causal relationship between variables. Future research can combine longitudinal research to further explore this topic.

5.2. Suggestions

This study explored the path for cultivating students’ modernity based on principal curriculum leadership. Based on the research conclusions, this study proposes a school reform strategy to improve the students’ modernity.

5.2.1. Changing the Focus: Principal Curriculum Leadership Should Focus on Students’ Sustainable Development

Dewey [61] argued that schools should aim to develop students into well-rounded, socially conscious, and responsible citizens, as active participants in a democratic society, and as modern citizens with openness and creativity, in addition to imparting knowledge. Education plays a key role in the development of human modernity. The development needs of students’ modernity call for the reform and modernization of school education. The current research concentrates on the impact of teachers, the school environment, and teaching methods on students’ modernity in school education and on reforming the cognition, purpose, content, and system of education to promote students’ modernity. Nevertheless,
the importance of principal curriculum leadership has not been given sufficient attention, and if the reform of education excludes the participation and guidance of the principal, the transformation of leadership style and the improvement of ability, the effect of the reform will be greatly reduced. Judging the effectiveness of a peculiar leadership style is typically based on the extent to which the leader uses this style to lead the organization in order to complete tasks within the scope of their responsibility and to achieve goals. The academic evaluation of leadership effectiveness is mainly carried out based on the aspects of process and output [62]. The leadership effectiveness of the school system essentially refers to the degree of improvement in its educational quality. If the main task of teachers is “teaching and educating people”, then judging the quality of a school is often carried out from the perspective of teaching quality and educating people. Teaching is quality-oriented to promote the improvement of students’ academic performance, and is also measurable. Furthermore, it is commonly used for comparison, while the quality of education is the quality that promotes the development of students’ moral and psychological qualities. In the past, the public paid more attention to the explicit characteristics of education quality—that is, the quality of cognitive ability improvement represented by grades—while the internal quality represented by non-cognitive ability improvement was ignored. Modern thinking, attitudes, values, and behaviors in line with modernization should be at the core of students’ sustainable development and the crux of school education and curriculum leadership performance.

5.2.2. Important Others: Focusing on the Value of Principals and Teachers in Student Development

The development of individual psychology and behavior is not isolated, and social situations such as social groups and relationship networks embedded in them have a paramount impact on individual psychology and behavior. In school, the “significant others” of students are naturally the principal and teachers, and more than two-thirds of students’ waking hours are spent in school [63], and thus they have a far-reaching influence on the development of students’ modernity. As students interact with teachers and principals, they develop detailed relational schemas that include goals, ways of thinking, and behavioral paradigms that individuals often pursue when they interact with teachers or principals. When students activate their own relational schemas, they activate the corresponding paradigms, which in turn lead them to unconsciously pursue goals with significant others, thinking or behaving like teachers or principals. Significant others include idolized significant others and interactive significant others. Principals with a higher charisma tend to become idolized significant others for students’ psychological development and socialization and can achieve indirect interactions with students by influencing teachers, while teachers may become the student’s iconic and interactive significant other. To achieve this, principals and teachers should not simply teach students about adaptation and following the status quo, but should take teaching as an independent academic practice to promote active reflection and rational practice and continuously improve teaching and promote the reorganization of students’ values and beliefs, as well as the formation of independent psychological qualities and socialized behaviors. In order to effectuate the autonomy of principals and teachers in curriculum leadership, teachers should reflect on the curriculum setting and implementation status in teaching practice, such as contemplating the usual curriculum goals and content arrangement and reflecting on the teaching philosophy and teaching mode. Meanwhile, students should reflect on the granting of learning rights, opportunities, and resources, as well as fair treatment, mutual respect, and care, and whether the so-called common-sense teaching assumptions and practices can really be used “as usual”.

5.2.3. Ecological Overlap: Emphasis on the Influence Mechanism of the School Ecological Environment on Students’ Development

Edmonds [64], known as the “father of the school effectiveness movement”, clearly stated that “a safe, orderly climate contributes to learning and benefits the future of educa-
tion”. Similarly, in Sergiovanni’s [65] view, promoting a unique change in school ecology is the fifth leadership competency of principals. Irrespective of the approach used to discuss the development of students, environmental issues cannot be avoided because individual development is the result of the interaction between the individual and their environment. Possibilities can only be developed into reality through interactions with the environment [66]. The same applies to individual development in school education. The school’s ecological environment, as a school’s individual characteristic, is its most important environmental factor and plays a key role in shaping students’ psychology. After entering the school, the individual’s cognition, thinking, and behavior form various conflicts in the interaction with the school’s ecological environment. In order to eliminate this tension, the individual attempts to adopt various solutions. The conflicts may be resolved by adjusting one’s behavior to adapt to school rules, culture, and interpersonal written and unwritten norms and internalizing this new behavioral pattern into individual psychological characteristics. To build a school ecological environment that promotes the modernity of students, the idealized influence of the principal is crucial. In the face of possible disputes about the construction of the school’s ecological environment, the principal should display a firm stance, demonstrate their most important values and foresight, fully emphasize the far-reaching significance of atmosphere construction, and promote all aspects of the school to reflect the orientation of modernity, such as classrooms and teaching, as well as lunch, recess, physical education, and other aspects [67]. The principal should try every means possible to convey the concept of students’ modernity to every field and stage of development of the school so that the teachers and students are subconsciously influenced by the modern cultural atmosphere and subconsciously agree with the “modern behavior”.

**Author Contributions:** Conceptualization, Y.L. and Y.S.; methodology, Y.L. and D.Z.; formal analysis, Y.L. and D.Z.; data curation, D.Z.; writing—original draft preparation, Y.L., D.Z. and Y.S.; writing—review and editing, D.Z. and B.Q.; supervision, Y.S.; project administration, Y.L. and Y.S.; funding acquisition, Y.S., Y.L. and D.Z. contributed equally to this research and should be considered co-first authors. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was funded by the Major Research Plan of National Social Science Fund of China, “Theoretical and Practical Research on the Organizational Form and Institutional Restructuring of Future Schools”, grant number VFA210006.

**Institutional Review Board Statement:** This study was carried out in accordance with the recommendations of the Ethics Committee of Zhejiang University. The protocol was approved by the Ethics Committee of Zhejiang University in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Not applicable.

**Conflicts of Interest:** The authors declare no conflict of interest.

**References**

17. Gruenert, S. Correlations of Collaborative School Cultures with Student Achievement. NASSP Bull. 2005, 89, 43–55. [CrossRef]
56. Silva, J.P.; White, G.P.; Yoshida, R.K. The Direct Effects of Principal–Student Discussions on Eighth Grade Students’ Gains in Reading Achievement: An Experimental Study. *Educ. Adm. Q.* 2011, 47, 772–793. [CrossRef]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.