



Efficiency of Educational Resources Allocation Among Private Schools in China

DOI 10.5281/zenodo.14026480

Jiacheng Wang

STI West Negros University

<https://orcid.org/0009-0005-2173-0103>

Dr. Rey T. Eslabon

Assistant Vice President for Academic Affairs, STI West Negros University, Bacolod City, Philippines

<https://orcid.org/0009-0005-5206-3243>

Mylene A. Bautista

STI West Negros University, Bacolod City, Philippines

<https://orcid.org/0009-0003-6801-8215>

Abstract:

Effective resource allocation is one of the critical factors to improve the quality of education. Under the conditions of limited resources, optimizing resource allocation and improving resource utilization efficiency has become a core issue that must be solved in developing English education in private schools. This study was conducted to determine the level of efficiency of educational resource allocation among private schools in China for the School Year 2023-2024. The study utilized a descriptive research design. A validated and reliability-tested self-made questionnaire was used to gather baseline data from 522 sampled respondents. Most teacher-respondents are older, have a Master's Degree, and have higher monthly incomes. The teacher's efficiency level in educational resource allocation in personalized teaching and international trends was moderate, and the level was low in education information. There is no significant difference in the level of efficiency of educational resource allocation in personalized teaching, international trends, and education information when grouped and compared according to the variables of age, highest educational attainment, and average monthly income.

Keywords: Efficiency, educational resources allocation, private schools, China

Introduction:

Nature of the Problem

With the rapid development of China's economy and the deepening reform of the education system, private education, as an essential supplement to public education, has ushered in unprecedented development opportunities. English education has received widespread attention among many subject areas due to its important role in international communication. Private schools are investing more and more in innovative measures in English education. However, while developing rapidly, they need help with problems such as uneven distribution of educational resources and low efficiency (Guo & Zhang, 2021).

Researchers have proposed several strategies to enhance the efficiency of resource allocation in Chinese private schools. These strategies include investing in teacher training and professional development programs, leveraging technology for English language instruction, developing tailored curriculum materials, and establishing partnerships with international educational institutions (Chen & Zhang, 2019). Schools can optimize resource utilization and improve English education quality by adopting these strategies.

Effective resource allocation is one of the critical factors to improve the quality of education. Under limited resources, optimizing resource allocation and improving resource utilization efficiency has become a core issue that must be solved in developing English education in private schools. This is related to the sustainable development of private schools, the rational use of educational resources in society, and the realization of educational equity.

In addition, with the advancement of educational modernization, the requirements for the quality of English education in private schools are increasing daily, and the demand for high-quality English education by parents and students continues to grow. Against this background, exploring and analyzing the efficiency and optimization of English education resource allocation in China's private schools is of great practical significance for promoting the healthy development of private schools and meeting society's demand for English education.

Current State of Knowledge



Researchers have proposed several strategies to enhance the efficiency of resource allocation in Chinese private schools. These strategies include investing in teacher training and professional development programs, leveraging technology for English language instruction, developing tailored curriculum materials, and establishing partnerships with international educational institutions (Chen & Zhang, 2019; Guo & Zhang, 2021). Schools can optimize resource utilization and improve English education quality by adopting these strategies. The management skills of department heads play a vital role and are expected to possess good qualities of manager and to deal effectively and efficiently require special skills which make the manager successful in their task (Tiauzon, M. et.al., 2023).

Liu and Xia's (2022) research, titled "Research on Optimization and Allocation of English Teaching Resources," reveals that the recognition accuracy of their proposed approach exceeds 90% when tested with Arduino devices. In actual English teaching environments, the recognition accuracy surpasses 80%, indicating that the method has a certain level of practical applicability. Additionally, the study introduces an innovative interaction model between English learners and teaching resources, enhancing the optimization and distribution of these resources. Consequently, a novel concept for integrating English teaching resources has been developed (Salutin & Maguate, 2023).

The study from Research on the Optimization and Allocation Management of Teaching Resources for English Teaching found that most teachers are more inclined to use teaching materials, teaching aids, and multimedia when choosing English teaching resources. Moreover, through the SMART teaching resource optimization model, English teaching resources exist the lack of funds, lack of administrators, school leaders' ignorance, insufficient use of resources, and other reasons for optimization (Zao & Wang, 2022). The proposed model in this paper demonstrates a significant enhancement in students' English proficiency compared to conventional English teaching methods, the UTAUT model, and the SICAS model.

Meanwhile, the research by Dhungana et al. (2023) offers valuable insights for policymakers, researchers, and farmers by shedding light on the socio-economic aspects of large-scale cardamom cultivation in the region. Farmers can enhance resource efficiency and boost profits by addressing production gaps, optimizing the utilization of resources, and focusing on post-harvest processes. These insights are crucial for formulating targeted policies and strategies to support the cardamom farming sector and promote sustainable agricultural development.

Meanwhile, the study "The Efficiency of University Resource Allocation Based on the DEA Model" (Jiang, 2024) examined undergraduate teaching data from eight private universities in Guangxi from 2018 to 2022, utilizing the DEA model to evaluate resource allocation efficiency. The results reveal a steady increase in the overall efficiency of resource allocation at these institutions. Moreover, scale efficiency significantly surpasses pure technical efficiency, making it the primary contributor to the overall efficiency improvements observed.

The optimization strategies proposed by Chen and Zhang (2019) and Guo and Zhang (2021) are essential. Their suggestions include investing in teacher training, using technology to improve information access, and developing customized course materials to address these issues by improving resource use efficiency. In particular, the application of technology, as emphasized by Luo (2020), can significantly improve the access and application of information and narrow the gap in teachers' understanding and response to education policy changes

Theoretical Underpinnings

Educational resource allocation theory by Bower (2016) explores how to allocate limited educational resources among various levels of education, between regions, and between schools so that the invested educational resources can be fully and effectively used. This includes the allocation of total social resources to education, the allocation of educational resources among all levels of education, and the allocation of educational resources among education in various regions. Educational resource allocation aims to achieve fairness, efficiency, and stability. In this paper, one can explore how to improve the efficiency of English education in private schools by optimizing resource allocation and considering the importance of equity and stability.

This theory works for this study because it allocates limited educational resources and how they will be efficiently used.

Objectives

This study aimed to determine the level of efficiency of educational resource allocation among private schools in China for the School Year 2023-2024. Specifically, this study sought answers to the following questions: 1) What is the profile of the respondents in terms of age, highest educational attainment and average monthly income; 2) What is the educational resource allocation efficiency level according to personalized teaching, international trend and education information; and 3) the significant difference in the efficiency level of educational resource allocation when grouped and compared according to the abovementioned variables.

Research Methodology:



This section presents the discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedure for data analysis.

Research Design

A descriptive research design was employed to assess the efficiency of educational resource allocation in Chinese private schools for the 2023-2024 academic year. This research approach aims to characterize the features of the population or phenomenon under investigation, focusing mainly on detailing the nature of a specific demographic group. Additionally, it seeks to gather quantifiable data for statistical analysis of the population sample in quantitative research (Manjunatha, 2019). A descriptive research design is valuable to this study as it provides facts and scientific judgment. Also, this design is appropriate for the study as it helps reveal patterns and connections that might otherwise go unnoticed, present situations, and determine the prevailing issues, making an adequate and accurate interpretation of the data.

Study Respondents

The respondents consisted of 522 English Teachers from 5 different schools. They directly participated in English teaching activities and directly impacted students' development of their English abilities. Purposive sampling was utilized. Purposive sampling is a non-probability sampling.

Instruments

The study utilized a researcher-made questionnaire. Part 1 focused on personal information, including age, highest educational attainment, and average monthly income. Part 2 was the efficiency of educational resource allocation in the areas used in this study: Personalized Teaching, International Trends, and Education Information. The instrument was divided into these areas, each composed of ten questions. Each part of the questionnaire required the respondents to read the items and mark the preferred option, except for the first part related to their personal information. The respondents responded either (5) always, (4) often, (3) sometimes, (2) rarely, (1) almost never. The research instrument was subjected to validity (4.82-excellent) and reliability (0.922-excellent). All of them were interpreted as worthy and good; respectively.

Data Gathering Procedure

After establishing the validity and reliability of the instrument, the researcher wrote a letter to the school directors asking permission to conduct the study. During the conduct, the researcher explained the purpose of the study, personally administered it by sending them questionnaire software developed by a Chinese Company, and guided them carefully in answering and giving the needed data and retrieving the questionnaires. The respondents were assured of the confidentiality of the data gathered.

Data Analysis and Statistical Treatment

- Objective No. 1 used descriptive and analytical schemes and frequency and percentage to determine the profile of the respondents in terms of age, highest educational attainment, and average monthly income.
- Objective No.2 used a descriptive-analytical scheme and mean to determine the efficiency of educational resource allocation according to the areas of teaching, International Trends, and Education Information.
- Objective No.3 utilized a comparative analytical scheme and Whitney U test to determine the significant difference in the level of efficiency of educational resource allocation when grouped and compared according to the abovementioned variables.

Ethical Consideration

Ethical considerations are the principles that must be followed when conducting any research. Ethical considerations ensure no human rights are violated and that the research has no hidden agenda. The researcher emphasized the respondents' voluntary participation, informed consent, risk of harm, confidentiality, and anonymity to protect the study's participants. In this study, for voluntary participation, the researcher asked the participants to sign or agree to a consent form by filling out a blank line/data entry slot with the respondents' initials or an alias. After they sign or agree to the consent form, they can withdraw without giving a reason. To obtain informed consent, the research ensured that the respondents were thoroughly briefed on the procedures and potential risks associated with the study and that they were required to agree to participate. Regarding the risk of harm, the researcher ensured that participants were not placed in situations that could expose them to any danger due to their involvement in the study. Should this happen, the participants can decline to answer all the questions and may withdraw their participation at any time. For confidentiality, the researcher guaranteed that the



participants' identifying information would not be made available to anyone not directly involved in the study. Further, for the anonymity of the respondents, they can use aliases or initials to keep their identities anonymous to the researcher and other participants.

Results and Discussion:

This section deals with the presentation, analysis and interpretation of data gathered to carry out the objectives of this study. All these were made possible by following certain appropriate procedures so as to give the exact data and solution to each specific problem.

Table 1
Profile of Respondents

Variables	Categories	Frequency	Percentage
Age	Younger (less than 40 years old)	253	48.50
	Older (40 years old and above)	269	51.50
	Total	522	100
Highest Educational Attainment	Lower (Bachelor's Degree)	201	38.50
	Higher (Master's Degree)	321	61.50
	Total	522	100
Average Monthly Income	Lower (less than RMB 11,500)	260	49.80
	Higher (RMB 11,500 and above)	262	50.20
	Total	522	100

As presented in Table 1, the majority of the respondents (51.50%) fall into the older age group (40 years old and above), while the remaining 48.50% are classified as older (below 40 years old). In addition, the data reveals that the majority (61.50%) of the respondents were Master's Degree Holders, while the remaining 38.50% were Bachelor's Degree Holders. Meanwhile, data also shows that the majority (50.20%) of the respondents have higher monthly income (RMB 11,500 and above), while the remaining 49.80% have lower monthly income (below RMB 11,500).

In educational research, the demographic characteristics of respondents are crucial to understanding behaviors and outcomes in academic settings. The data in Table 2 show the distribution of respondents in terms of age, education, and income level, which can provide us with insights into educational research:

The age distribution shows that respondents are almost evenly divided into two age groups: under 40 and 40 and above. This distribution may reflect the educational needs and preferences of different age groups. For example, older respondents may focus more on career development or continuing education, while younger groups may focus more on primary education and career preparation. This age difference may affect the demand for and utilization of educational resources.

The impact of education level: The proportion of respondents with a master's degree (61.50%) is relatively high, which may indicate that the research sample includes many professionals or academics. This high level of education may be related to the respondents' attitudes towards career development and lifelong learning. This can help us understand how higher education affects an individual's career path and the need for continuing education.

The income levels of respondents are almost evenly distributed, which shows that the research sample covers different economic backgrounds. Income level is an essential factor affecting educational opportunities and quality. High-income groups may have more resources to invest in education and training, while low-income groups may face more academic challenges. This distribution allows researchers to explore how income differences affect education access and quality.

Providing content based on Table 2 can help educational researchers and policymakers better understand different groups' academic needs and challenges. These data can be used to design more targeted education programs, evaluate the effects of educational interventions, and develop more equitable education policies.

Table 2
Level of Efficiency of Educational Resource Allocation in Personalized Teaching

Area	Mean	Interpretation
A. Personalized Teaching <i>As a teacher, I am....</i>		



1. implementing personalized teaching methods.	2.14	Low Level
2. designing classroom activities based on personalized teaching principles.	2.10	Low Level
3. observing improved student learning in a personalized instructional environment.	1.39	Very Low Level
4. personalizing instruction for students of different ability levels.	2.09	Low Level
5. evaluating private schools' current efficiency in allocating personalized English teaching resources.	3.52	High Level
6. attending professional training on personalized teaching.	2.74	Moderate Level
7. using technology tools to support personalized instruction.	2.16	Low Level
8. providing personalized teaching according to students' learning needs and abilities.	3.49	High Level
9. receiving professional training in personalized teaching methods.	2.76	Moderate Level
10. using learning platforms tailored to individual student needs.	3.49	Moderate Level
Overall Mean	2.59	Moderate Level

As shown in Table 2, the efficiency level of educational resource allocation in personalized teaching obtained an overall mean score of 2.59, interpreted as a "moderate level." Moreover, it was revealed that item 5, "evaluating the current efficiency of private schools in allocating personalized English teaching resources." obtained the highest mean of 3.52, interpreted as "high level." In contrast, item 3, "Observing improved student learning in a personalized instructional environment." got the lowest mean of 1.39, interpreted as "very low level."

In pedagogy, personalized instruction is a teaching method that aims to meet each student's unique learning needs and abilities. The data in Table 3 show that although teachers were rated as moderate in their overall effectiveness in implementing personalized instruction, they were rated very low (1.39) in terms of "observing improvements in student learning in a personalized teaching environment," which may indicate that, despite teachers' attempts to implement personalized instruction, they did not observe significant improvements in student learning.

Personalized instruction requires teachers to identify and adapt to each student's different needs and abilities, which may be more complex and time-consuming in practice than in theory.

Teachers may not have sufficient resources or support to effectively implement personalized instructional plans, especially when human and time resources are limited. They may not receive adequate professional training to design and implement effective personalized instructional strategies.

Assessing student progress in a personalized learning environment may be more complex than traditional teaching models, requiring more customized evaluation tools and indicators.

Technology tools to support personalized teaching may be less effective than expected, possibly due to a lack of appropriate technology infrastructure or teachers' unfamiliarity with technology.

This study conforms with Li & Chen (2018) that Chinese private schools face challenges allocating resources for English education. This may explain why, despite high resource allocation efficiency scores, other areas, such as technology application and student learning improvement scores, are low.

According to the research published by Tomlinson (2018), the successful implementation of personalized teaching requires teachers to have a high degree of expertise and flexibility, as well as support at the school level, including professional development and allocation of time resources.

In addition, research shows that technology integration can promote personalized learning, but this requires teachers to have the corresponding skills and schools to have sufficient technical support. The literature also points out the challenges of implementing personalized teaching, such as increased teacher workload, the need for additional time and resources, and the need for teacher professional development.

Table 2 may reflect the complexity and challenges of implementing personalized teaching in educational practice. This is consistent with the discussion of barriers to implementing personalized teaching in the education literature, suggesting that educational decision-makers and school administrators need to provide more support and resources to help teachers implement personalized teaching more effectively to truly achieve the goal of improving student learning.



Table 3

Level of Efficiency of Educational Resource Allocation in International Trend

Area	Mean	Interpretation
B. International Trend		
<i>As a teacher, I am....</i>		
1. keeping up to date with current trends in international English teaching.	3.58	High Level
2. collaborating with educational technology companies for advanced personalized learning tools.	4.22	High Level
3. incorporating international trends in English teaching in your classroom.	3.51	High Level
4. encountering obstacles in integrating international trends into your teaching.	2.15	Low Level
5. making the most of international English teaching tools in your classroom.	3.58	High Level
6. participating in international certifications such as TEFL/TESOL.	2.85	Moderate Level
7. participating in professional development activities for international English teachers, such as online workshops and conferences.	4.28	High Level
8. actively and effectively utilizing international cooperation and exchange opportunities to improve the quality of English teaching.	3.56	High Level
9. allowing students to increase global awareness through international news, literature, and media resources.	2.85	Moderate Level
10. advising schools to make better use of international resources and trends.	2.86	Moderate Level
Overall Mean	3.34	Moderate Level

The efficiency level of educational resource allocation in International Trend obtained an overall mean score of 3.34, interpreted as a "moderate level." Moreover, it was revealed that item 7, "participating in professional development activities for international English teachers, such as online workshops and conferences," obtained the highest mean of 4.28, interpreted as "high level." In contrast, item 4, "Encountering obstacles in integrating international trends into your teaching," got the lowest mean of 2.15, interpreted as "low level."

The low score (2.15) for Item 4, "Encountering barriers to incorporating international trends into teaching," suggests that although teachers are generally aware of and actively following the latest trends in international English teaching (as indicated in Items 1 and 3), they face significant challenges in actually incorporating these trends into their daily teaching. These challenges may include resource constraints, insufficient institutional support, limited professional development opportunities, and compatibility issues with existing curriculum and assessment standards.

Challenges faced by educators when trying to integrate new technologies and teaching methods. These challenges often involve the following aspects:

Teachers may have difficulty obtaining necessary technical support and teaching resources, especially in public school systems with limited budgets.

They may also need additional training to effectively use new teaching methods and technologies. Research shows teachers may feel unconfident or reluctant to adopt new technologies and methods without adequate professional development.

School and education system policies may not support or encourage innovative teaching practices. For example, standardized tests and curriculum requirements may limit teachers' freedom to adopt new methods.

In some cases, communities and parents may have concerns about new teaching methods, which may affect teachers' willingness and ability to try and implement these methods.

These challenges are consistent with the many difficulties in allocating resources for English education in Chinese private schools mentioned in the research literature by Li and Chen (2018). The study showed that insufficient funding, lack of qualified English teachers, inappropriate teaching materials, and significant differences in student proficiency directly affect the effectiveness and quality of English education. These factors may cause teachers to encounter obstacles when integrating new teaching methods or technologies, especially without sufficient support and resources.

The low score in item 4 also highlights the gap between educational practice and international educational trends. It points out the potential shortcomings of the education system in supporting teachers in integrating these trends. This is consistent with the discussion of barriers to implementing educational innovation in the education literature, suggesting that education policymakers and school administrators must provide more support and resources to help teachers integrate international teaching trends more effectively, thereby improving teaching quality and student learning outcomes.



Table 4

Level of Efficiency of Educational Resource Allocation in Education Information

Area	Mean	Interpretation
C. Education Information		
<i>As a teacher, I am....</i>		
1. accessing educational information and resources.	1.46	Very Low Level
2. participating in professional communities or forums to exchange educational information and experiences among peers.	2.87	Moderate Level
3. providing teachers with educational information and professional development opportunities.	2.12	Low Level
4. encountering difficulties or challenges when using educational information resources.	2.15	Low Level
5. regularly read educational journals and professional books to keep teaching methods modern and innovative.	2.15	Low Level
6. understanding changes in national education policy and their impact on English teaching.	1.41	Very Low Level
7. sharing educational information resources with other teachers.	2.18	Low Level
8. exploring and experimenting with emerging educational technologies and teaching tools to improve teaching effectiveness and student engagement.	2.87	Moderate Level
9. reviewing the transparency of educational information in private schools.	3.55	High Level
10. making specific suggestions to improve the utilization of English education information resources in private schools.	3.59	High Level
Overall Mean	2.43	Low Level

The level of efficiency of educational resource allocation in education information obtained an overall mean score of 2.43, interpreted as "low level." Moreover, it was revealed that item 10, "making specific suggestions to improve the utilization of English education information resources in private schools." obtained the highest mean of 3.59, interpreted as "high level." In contrast, item 6, "Understanding changes in national education policy and their impact on English teaching," got the lowest mean of 1.41 and was interpreted as "very low level."

The very low score (1.41) for Item 6, "Understanding changes in national education policies and their impact on English teaching," suggests that teachers have significant difficulties acquiring, understanding, and applying changes in national education policies. This low score may reflect several key issues:

Teachers may lack effective channels to obtain timely information about updates and changes in education policies. This may be due to an incomplete information dissemination mechanism or teachers' limited access to this information.

Even if teachers can obtain relevant policy information, they may find it difficult to accurately interpret the actual meaning of these policies and their specific impact on English teaching. This may be because policy texts often use professional terms or are not clearly stated, making it difficult for teachers to translate policy requirements into teaching practice.

Teachers may not receive sufficient professional development support to help them understand and implement new education policies. This includes a lack of targeted training, workshops, or guidance resources, which leads to teachers feeling helpless and isolated when facing changes in education policies.

The optimization strategies proposed by Chen and Zhang (2019) and Guo and Zhang (2021) are essential in response to these issues. Their suggestions include investing in teacher training, using technology to improve information access, and developing customized course materials to address these issues by improving resource use efficiency. In particular, the application of technology, as emphasized by Luo (2020), can significantly improve the access and application of information and narrow the gap in teachers' understanding and response to education policy changes.

In addition, the uneven distribution of academic resources mentioned by Kim (2012) may also exacerbate the difficulties teachers face in some regions or schools in obtaining education policy information, further highlighting the urgency of strengthening the fairness of resource allocation.

The very low score for item 6 reveals an issue that urgently needs attention and resolution: the significant barriers teachers face in obtaining and understanding changes in national education policies. To improve the quality of English education and teachers' teaching effectiveness, it is necessary to systematically address the problems of



insufficient information acquisition, interpretation and application, and professional development support. This requires educational decision-makers, school administrators, and policymakers to work together to provide more practical information dissemination mechanisms, interpretation tools, and continuous professional development support to ensure that teachers can effectively respond to changes in education policies.

Table 5

Difference in the Level of Efficiency of Educational Resource Allocation in Personalized Teaching when grouped and compared according to the abovementioned variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	253	267.04	32626.500	0.324		Not Significant
	Older	269	256.29				
Highest Educational Attainment	Lower	201	261.59	32241.500	0.989	0.05	Not Significant
	Higher	321	261.44				
Average Monthly Income	Lower	260	265.84	32931.500	0.428		Not Significant
	Higher	262	257.19				

Results presented in Table 5 on the difference in the level of efficiency of educational resources and allocation in personalized teaching revealed no significant differences when grouped and compared according to the variables age, highest educational attainment, and average monthly income as the computed p-value of 0.324, 0.989, and 0.428 respectively were more significant than the level of significance 0.05. Thus, the hypothesis stating that there is no significant difference in the level of efficiency of educational resource allocation in personalized teaching when grouped and compared according to age, highest educational attainment, and average monthly income is not rejected.

Regarding the finding in Table 6 that age, highest education level, and average monthly income do not significantly differ in the level of English education resources and allocation efficiency in the field of personalized teaching, we can infer from the following five aspects:

With the development of information technology and the digitization of educational resources, people of different ages, educational backgrounds, and economic statuses may have relatively equal opportunities to obtain educational resources. This universality may reduce the significant differences in resource access between these variables.

Many educational policies promote equity and ensure different groups access appropriate educational resources. Policy support may help narrow the gap in educational resources between people of different ages, educational levels, and income levels.

Personalized teaching emphasizes teaching according to each student's specific needs and abilities, which may reduce the differences in educational resource allocation caused by age, education level, or economic status. Teachers may be trained to adapt to the learning needs of students from different backgrounds, weakening these variables' impact.

The application of educational technology, such as intelligent teaching systems and online learning platforms, may provide additional learning opportunities and resources for learners of different ages and economic statuses. Using these technologies may compensate for the inequality of traditional educational resource distribution to some extent.

Although average monthly income is an essential indicator of economic status, it may not fully reflect the ability of individuals or families to invest in educational resources. Other factors, such as the degree of emphasis on education by families and the distribution of educational resources in the region, may also affect the acquisition and use of resources.

Although higher education levels are generally associated with more vital resource utilization ability, in personalized teaching, teachers may adjust resource allocation according to students' specific circumstances so that differences in education levels do not significantly affect the efficiency of resource allocation.

As stated by Li and Chen (2018), private schools in China generally face challenges in resource allocation, including insufficient funds and a lack of qualified teachers. These problems are universal and may have similar impacts on groups of different ages, education levels, and income levels, so group comparisons on these variables did not



show significant differences. Although Kim (2012) mentioned the problem of uneven distribution of educational resources, in actual educational practice, there may be multiple factors working together so that the impact of a single variable (such as age, education, or income) is offset by other factors, resulting in no significant differences in the group comparison on these variables. Luo (2020) emphasized the critical role of information technology in education. The popularization and application of technology may help narrow the gap in educational resources between different ages, education levels, and income levels. So, no significant differences are shown in the group comparison of these variables.

Therefore, age, highest education level, and average monthly income do not show significant differences in the level of English education resources and allocation efficiency in the field of personalized teaching, which may be due to the joint effect of factors such as the universal accessibility of educational resources, the balanced goal of educational policies, the popularization of personalized teaching, the compensatory role of educational technology, and the complexity of the influence of socio-economic factors. These inferences show that in personalized education, the differences in educational resources and allocation efficiency between different groups can be effectively reduced through appropriate educational strategies and technology applications.

Table 6

Difference in the Level of Efficiency of Educational Resource Allocation in International Trends when grouped and compared according to the abovementioned variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	253	259.95	33636.500	0.778		Not Significant
	Older	269	262.96				
Highest Educational Attainment	Lower	201	272.70	30009.000	0.096	0.05	Not Significant
	Higher	321	254.49				
Average Monthly Income	Lower	260	264.53	33271.000	0.570		Not Significant
	Higher	262	258.49				

Results revealed in Table 6 on difference in the level of efficiency of educational resource allocation in international trend showed no significant differences when grouped and compared according to the variables age, highest educational attainment, and average monthly income as the computed p-value of 0.778, 0.096, and 0.570 respectively were more significant than the level of significance 0.05. Thus, the hypothesis stating that there is no significant difference in the level of efficiency of educational resource allocation in personalized teaching when grouped and compared according to age, highest educational attainment, and average monthly income is not rejected.

According to the data in Table 7, age, highest education level, and average monthly income do not show significant differences in English education resources' efficiency and allocation level in international trends. This finding may be related to the following factors:

With the popularization of the Internet and digital learning resources, people of different ages and economic backgrounds may have more opportunities to access international education resources. This may lead to a reduction in differences in access to these resources between different groups.

Globalization has promoted the internationalization of educational resources, and many online education platforms and international education programs may provide equal learning opportunities for all who are willing and able to pay, regardless of their age or background.

Governments or private institutions may provide financial and policy support to encourage people of all ages and education levels to participate in international education programs. Such support may help reduce the economic barriers to participating in international education trends.

Promoting personalized learning models may enable students to obtain appropriate resources and support according to their needs, reducing differences caused by age, education level, or economic status.

Information technology can improve the learning environment and results, which means that even students from different socio-economic backgrounds can obtain high-quality educational resources through technology.



Although the resource allocation challenges pointed out by Li and Chen (2018) exist, these challenges may be partially overcome through the popularization of information technology and international educational resources, resulting in insignificant differences in the level of resource allocation efficiency among different groups.

The optimization strategies proposed by Chen & Zhang (2019) and Guo & Zhang (2021) may have been widely adopted so that people of different ages and educational levels can benefit from these strategies, thereby improving the overall resource allocation efficiency.

Luo's (2020) view is supported because technology does seem to play a vital role in improving the opportunities for different groups to obtain high-quality English education resources.

Although Kim (2012) raised the issue of uneven distribution of educational resources, in actual international education trends, this imbalance may be partially alleviated by various educational technologies and policies.

Overall, these findings suggest that in the field of international education trends, by leveraging modern technology and the popularization of educational resources, it is possible to reduce the differences in the efficiency of access to and allocation of educational resources caused by factors such as age, education level, and income. This emphasizes investing in educational technology, teacher training, and resource sharing to promote equity and quality improvement.

Table 7

Difference in the Level of Efficiency of Educational Resource Allocation in Education Information when grouped and compared according to the abovementioned variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	253	264.84	33184.500	0.539		Not Significant
	Older	269	258.36				
Highest Educational Attainment	Lower	201	257.11	31377.500	0.509	0.05	Not Significant
	Higher	321	264.25				
Average Monthly Income	Lower	260	256.45	32746.500	0.339		Not Significant
	Higher	262	266.51				

Results showed in Table 7 on the difference in the level of efficiency of educational resource allocation in education information revealed no significant differences when grouped and compared according to the variables age, highest educational attainment, and average monthly income as the computed p-value of 0.539, 0.509, and 0.339 respectively were more significant than the level of significance 0.05. Thus, the hypothesis stating that there is no significant difference in the level of efficiency of educational resource allocation in personalized teaching when grouped and compared by age, highest educational attainment, and average monthly income is not rejected.

Regarding the finding in Table 8 that there is no significant difference in the level of English education resources and allocation efficiency in regional education information by age, highest education level, and average monthly income, we can infer from the following four aspects:

As mentioned earlier, the widespread application of information technology may give people of different ages and economic backgrounds more opportunities to access high-quality educational resources. The popularity of this technology may reduce the differences in access to resources between various groups.

Globalization has promoted the internationalization of educational resources, and many online education platforms and international education programs may provide equal learning opportunities for all who are willing and able to pay, regardless of their age or background.

Governments or private institutions may provide financial and policy support to encourage people of all ages and economic conditions to participate in educational programs. Such support may help reduce the economic barriers to participating in international education.

Promoting personalized learning models may enable students to obtain appropriate resources and support according to their needs, reducing differences caused by age, education level, or economic status.

Teacher professional development and student achievement: Yoon et al. (2017) explored the relationship between teacher professional development and student achievement, emphasizing the importance of teacher quality and



educational resources to student learning outcomes. If all teachers can participate in professional development training, this may help balance allocating educational resources among different groups.

The causal effect of class size on student achievement: Angrist et al. (2018) analyzed the impact of class size on student academic performance through empirical research, revealing the importance of educational management decisions on learning outcomes. If class size is adequately controlled, it may help improve education quality and reduce resource allocation inequality.

Because these factors work together, the differences in English education resources and allocation efficiency levels between groups of different ages, highest education levels, and average monthly incomes may not be significant. This shows that in regional education information, the differences in educational resources and allocation efficiency between different groups can be effectively reduced through appropriate educational strategies and technology applications.

Conclusions:

In conclusions, this study aimed to explore the efficiency of English education resource allocation and its optimization strategy in private schools in China. Significant findings were obtained through extensive data collection, analysis, and interpretation. These findings reveal the efficiency level of current resource allocation and expose existing problems and deficiencies.

The study shows that most of the interviewed teachers are older, have a master's degree, and have a high monthly income. This background information reflects the qualifications and economic status of the teaching staff in private schools in China, which is of great significance for understanding the essential characteristics of the teaching group.

In personalized teaching, the level of resource and allocation efficiency of English education is medium, indicating that although there is a certain degree of resource allocation, there is still room for further optimization. This implies the need for more sophisticated resource allocation and the development of personalized teaching programs.

Regarding international trends, resource efficiency is also at a medium level. This may be related to the increased popularity and accessibility of global educational resources, but it also indicates the insufficiency of resource allocation in internationalization.

Regional educational information's resource and allocation efficiency level is low, exposing the significant local English education resource allocation shortage. This highlights the problem of regional differences and uneven educational resources.

The study found no significant differences in the group's comparison of age, highest education level, or average monthly income in different fields. This finding shows that in English education in private schools in China, the distribution of educational resources does not differ significantly due to the personal background of teachers, suggesting the equality of educational opportunities.

Recommendations

The following recommendations and action plan were formulated based on the findings and conclusions derived from the study.

Based on the research results and conclusions, the following recommendations and action plans were formulated to improve the efficiency of English education resource allocation in private schools in China and promote the improvement of education quality.

1. Formulate more flexible education policies to encourage private schools to innovate and experiment in English education, such as allowing more foreign-funded education institutions to participate in the Chinese market and introduce international high-quality education resources.
2. Establish a public-private partnership mechanism to encourage private capital to invest in English education, especially technology and facility construction in primary education, through government procurement of services and tax incentives.
3. Build a regional or national online sharing platform for English education resources to collect and integrate various high-quality education resources, including course content, teaching methods, research materials, etc., for all private schools to use. Moreover, measures should be taken to optimize resource allocation, including strengthening support for economically weaker regions to reduce the education gap between areas.



4. Set up a special fund to support the professional training and international exchanges of English teachers in private schools and improve the teaching staff's overall quality and teaching ability.
5. Internationalization is an essential trend in current education. Through cooperation with international educational institutions, advanced educational concepts and teaching methods can be introduced, educational content can be enriched, and academic quality can be improved.
6. The government and educational institutions should strengthen the research and adjustment of educational policies to ensure that policies can better meet the actual needs of private schools. For example, policies should encourage and regulate the application of information technology in education and provide support for personalized learning.
7. Actively adopt information technology, such as intelligent teaching systems, online education platforms, etc., to improve the utilization rate of educational resources and students' learning experience.
8. Develop and implement personalized teaching plans, use big data and artificial intelligence technology, analyze students' learning behaviors and grades, and tailor learning paths and content for each student.
9. Increase investment in teacher training, especially in applying educational technology and international education concepts, and attract high-level English education experts to join. Secondly, ensure that they can effectively use modern educational technology regarding educational informatization.
10. Establish a regular evaluation and dynamic adjustment mechanism to adjust resource allocation plans according to student needs regarding timely social changes and technological development.
11. Parents should actively participate in school education, establish a suitable communication mechanism with the school, and jointly pay attention to and support their children's English learning.
12. The community can become a bridge connecting families and schools, provide venues and financial support, hold English learning activities and competitions, and increase students' language practice opportunities. Through the implementation of the above suggestions, it is expected that the efficiency and effectiveness of English education resource allocation in private schools will be significantly improved, thereby providing Chinese students with a more equitable and high-quality English learning environment.

Acknowledgment

Inestimable gratitude and deepest appreciation are expressed for the help and support given by the following people, who in different ways contributed to the completion of this study. Special thanks to my adviser, Dr. Rey T. Eslabon, for his motivation and guidance throughout the course of this study, which made my dream come true. His expertise and selflessness provided a solid foundation for my research. To panel members, friends and family members, thank you for supporting me in this journey. Your encouragement and companionship kept me motivated during the research process.

References:

- Bower, J. (2016). Educational resource allocation theory. *Journal of Educational Administration*, 54(2), 123-145.
- Chen, Y., & Zhang, L. (2019). Strategies for enhancing resource allocation in Chinese private schools. *Journal of Private School Education*, 28(2), 117-135.
- Brimley, J., Smith, M., & Johnson, A. (2017). Resource allocation in education. *Educational Management*, 45(2), 187-202.
- Grant, M. (2012). Personalized teaching. *Journal of Educational Psychology*, 104(3), 527-545.
- Guo, J., & Zhang, W. (2021). Optimizing Resource Utilization in English education: A case study of Chinese private schools. *Comparative Education Review*, 65(1), 78-99.
- Jiang, Y. (2024). The efficiency of university resource allocation based on DEA model. *Journal of Higher Education*, 55(1), 78-95.
- Kim, Y. (2012). The economic implications of English education in Korea. *Journal of Korean Studies*, 37(2), 127-145.
- Li, Y., & Chen, X. (2018). Challenges in resource allocation for English education in Chinese private schools. *International Journal of Educational Management*, 32(4), 456-472.
- Liu, Y., & Xia, L. (2022). Research on optimization and allocation of English teaching resources. *Journal of Educational Technology*, 15(3), 237-255.
- Luo, X. (2020). The role of information resources in college English education in the context of big data. *Computer Assisted Language Learning*, 33(4), 387-405.
- Meredith, J. R., & Shafer, S. M. (2016). Operations management. *Journal of Operations Management*, 34(3), 215-230.
- Salutin, M. A., & Maguate, G. (2023). Values-Based Exercises for the Development of Reading Readiness Skills for Preschool Children. *International Journal of Scientific Research and Management (IJSRM)*, 11(08), 22-30.
- Tiauzon, M. J., Moyani Jr, G., Bautista, M., & Maguate, G. (2023). Management Skills of Department Heads in Relation to Employees Work Performance. *Valley International Journal Digital Library*, 5327-5334.
- Zao, J., & Wang, X. (2022). Research on the optimization and allocation management of teaching resources for English teaching. *Journal of Foreign Languages*, 42(2), 107-123.