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HIGH SCHOOL TEACHERS' ATTITUDES TO INTEGRATE THE SUSTAINABLE DEVELOPMENT GOALS INTO ENGLISH EDUCATION: AN EMPIRICAL STUDY FROM CHINA

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Abstract:

This study aims to investigate Chinese high school teachers' attitudes toward integrating the SDGs into English education and examine whether there are differences in terms of gender, age, teaching experience, and professional titles. The study adopted an online purposive sampling survey method and collected 400 questionnaire data, including 381 valid questionnaires. The collected data were analysed using the descriptive and differential analysis methods of SPSS 27. The results found that teachers have lower attitudes towards integrating the SDGs into English education (mean =3.30), with the average score of cognitive attitudes being higher than behavioural attitudes. The overall attitude of female teachers is higher than that of male teachers, that of younger teachers is higher than that of older teachers, and that of teachers with 11-20 years of teaching experience and intermediate professional titles is higher than that of the other two groups. The difference analysis shows that teachers' cognition, behaviour and overall attitude are significantly affected by teaching experience and age, while gender and professional title have little impact on attitudes. Respondents generally cited a lack of understanding of the SDGs and a lack of relevant training and support. Finally, the researchers proposed four suggestions to integrate SDGs into English education effectively.

Keywords:

High School Teachers, Sustainable Development Goals, English Education

Introduction

The Sustainable Development Goals (SDGs) have become the focus of global attention in the 21st century (ElAlfy et al., 2020; Pizzi et al., 2020). These goals aim to solve many world challenges, such as poverty, climate change, resource sustainability, etc. (Avtar et al., 2020; UNESCO, 2023). Education is generally considered a meaningful way to achieve these goals because it is directly related to cultivating leaders, innovators, and decision-makers of future society (Elalfy et al., 2021). Education is not just about imparting knowledge; it should also be committed to cultivating students' comprehensive literacy and awareness of sustainable development to promote the overall progress of society (Tao, 2021).

In recent years, China's research on the SDGs in the field of education has gradually increased, covering multiple aspects of discussion. First, some studies focus on the interaction between higher vocational education and local cultural sustainable development goals and propose constructing goals, mechanisms, experiences, and application frameworks (Wu & Gan, 2023). Meanwhile, some studies have explored the World Bank's commitment and actions to achieve the education for SDGs, as well as the relationship between China's Education Modernization 2035 and the realization of the global education for SDGs (Ding & Kang, 2021; Gu & Teng, 2019). There are also studies exploring sustainable development concept education teaching strategies in high school geography under the core literacy goals (Tao, 2021; Xing, 2019). Moreover, some studies focus on the fields of higher vocational education and university education management, exploring the realization and management of SDGs in educational practice (Fu, 2017; Luo, 2018; Wang, 2002). Recent research also involves fields such as artificial intelligence and ecological environment protection, exploring its application and role in achieving SDGs (Liu & Wang, 2023; Huang, 2022).

However, there is insufficient discussion on effectively integrating the SDGs into English education in China. The current English education focuses on cultivating language skills, but the penetration of the concept of sustainable development is still insufficient. Many teachers have different perceptions and understandings of the SDGs, resulting in uneven application in actual teaching. In addition, the lack of teaching resources and the singleness of teaching methods also restrict the effective promotion and implementation of the SDGs in English education. Therefore, it is necessary to conduct an in-depth study of teachers' attitudes and actual operations towards the SDGs in English education in China to promote education's sustainable development better.

This study focuses on a group of teachers in the field of English education in China. As the main body of educational practice, teachers' attitudes and actual operations towards SDGs directly affect the dissemination and implementation of the concept of sustainable development in the classroom. An in-depth understanding of teachers' views, attitudes, and the challenges and difficulties they face in teaching can provide an essential reference for future education reform and curriculum design.

This study aims to fill the research gap on integrating SDGs in English education in China and provide theoretical and empirical support for educational policy formulation and teaching practice. By profoundly exploring teachers' attitudes and opinions, we can provide helpful inspiration for future education reform and curriculum design and promote the development of the education system in the direction of sustainable development. Therefore, the purpose of this study is as follows:

1. Investigate the attitude level of Chinese high school English teachers towards the SDGs.
2. Examine whether Chinese high school English teachers' attitudes toward the SDGs differ based on gender, age, teaching experience, and professional titles.
3. Understand Chinese high school English teachers' challenges and difficulties in implementing the SDGs.
4. Propose four strategies to enhance teachers' attitudes towards integrating the SDGs.

Research Design

This study will use mixed research methods, including questionnaires and interviews, to comprehensively understand teachers' attitudes and operations towards the SDGs. Through the combined analysis of quantitative and qualitative data, the research questions can be grasped more comprehensively, and practical suggestions and measures can be put forward to promote English education in China towards SDGs.

Sample/Participant

According to Table 1, the gender distribution shows that female English teachers account for a more significant proportion of the sample, accounting for 70.9% of the total sample, while male teachers account for 29.1%. Regarding age structure, most teachers are aged 41-60 (55.9%), while teachers in the 25-40 age group account for 44.1%. Regarding teaching experience, 49.9% of teachers have 11-20 years of teaching experience, 35.7% have 0-10 years of teaching experience, and 14.4% have 21-30 years of teaching experience. From the perspective of professional title distribution, 64.8% of teachers have intermediate professional titles, 23.6% have junior professional titles, and 11.5% have senior professional titles.

Table 1: Demographic characteristics of participants

Variables	Characteristics	N	%
Gender	Male	111	29.1%
	Female	270	70.9%
Age (Year)	25-40	168	44.1%
	41-60	213	55.9%
Teaching experience (Year)	0-10	136	35.7%
	11-20	190	49.9%
	21-30	55	14.4%
Professional title	Junior	90	23.6%
	Intermediate	247	64.8%
	Senior	44	11.5%
Total		381	100%

Instrument

The scale used in this study was adapted from Michalos et al. (2021). Using Likert's fifth-degree notation, there are 24 items, including 13 cognitive attitude items and 11 behavioural attitude items. Three experts validated the scale, and the Cronbach coefficient for cognitive attitude was 0.791, the behavioural attitude was 0.683, and the overall Cronbach coefficient was 0.808, meeting academic research standards (Creswell, 2017)

Data Collection and Analysis

High school English teachers in Shanxi Province, China, answered all the questions in the questionnaire. The researchers informed the participants of the purpose of the study, collected

their demographic data, and ensured its confidentiality. This study received 400 online questionnaires, of which 19 were invalid due to excessively long or long response times. The remaining 381 data will be analysed using descriptive and differential analysis. Due to the non-normal distribution of the data, the differential analysis in this study was conducted using Mann Whitney U test and Kruskal Wallis H test (Nachar, 2008; Sherwani et al., 2021).

Results

According to Table 2, in the cognitive attitude dimension of integrating SDGs into English education, the average score of English teachers is 3.48, with a standard deviation of 0.42. The lowest score is 2.46, and the highest score is 4.77. This indicates that teachers generally hold a relatively positive cognitive attitude, but there are also specific differences. In the dimension of behavioural attitude, the average score of teachers is 3.29, with a standard deviation of 0.37. The lowest score is 2.36, and the highest score is 4.55. Compared to the cognitive attitude dimension, the score for behavioural attitude is slightly lower, but it also shows a certain level of positivity. Considering two data dimensions, teachers' overall attitude toward integrating SDGs into English education is 3.40, with a standard deviation of 0.33. The minimum score is 2.50, and the maximum score is 4.58. Teachers have a positive attitude towards this goal, but there are certain differences and fluctuations.

Table 2: Statistics of Teachers' Attitude to Integrate the SDGs into English Education

Dimension	Item	Mean	SD	Min	Max
Cognitive attitude	13	3.48	0.42	2.46	4.77
Behavioural attitude	11	3.29	0.37	2.36	4.55
Total	24	3.40	0.33	2.50	4.58

According to Figure 1, the average score of female English teachers in terms of cognitive attitude is 3.50, slightly higher than the male score of 3.43, while in terms of behavioural attitude, the average score of female English teachers is 3.28, slightly lower than the male score of 3.32. Taken together, women's overall attitude towards integrating SDGs into English education scored 3.40, somewhat higher than men's score of 3.38. This suggests that women may have some advantages in cognitive attitudes, while men are slightly more optimistic in behavioural attitudes.

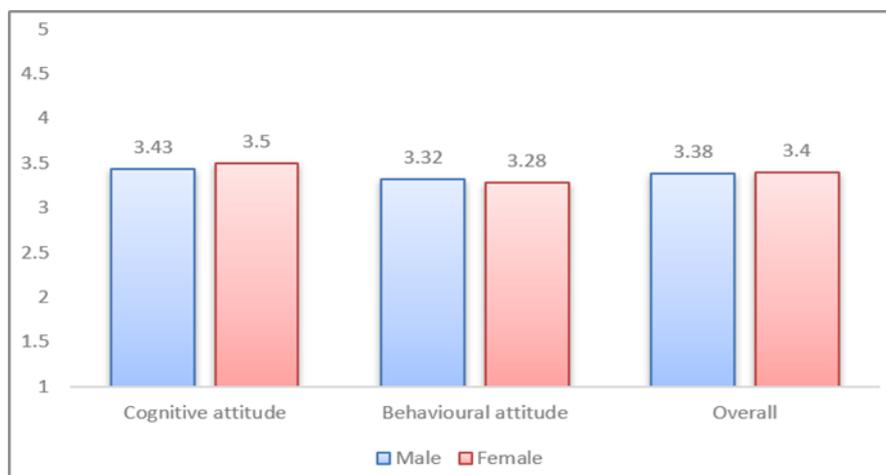


Figure 1: Mean Attitude Of Teachers Of Different Genders

As shown in Figure 2, the average cognitive attitude score of individuals in the 25-40 age group is 3.52, higher than the 3.45 in the 41-60 age group. Regarding behavioural attitude, the average score in the 25-40 age group is 3.32. This is similar to the 3.27 for the 41-60 age group. The overall attitude score of individuals in the 25-40 age group towards integrating the SDGs into English education is 3.43, slightly higher than the 3.37 in the 41-60 age group. This suggests that younger individuals may be more active in integrating the SDGs.

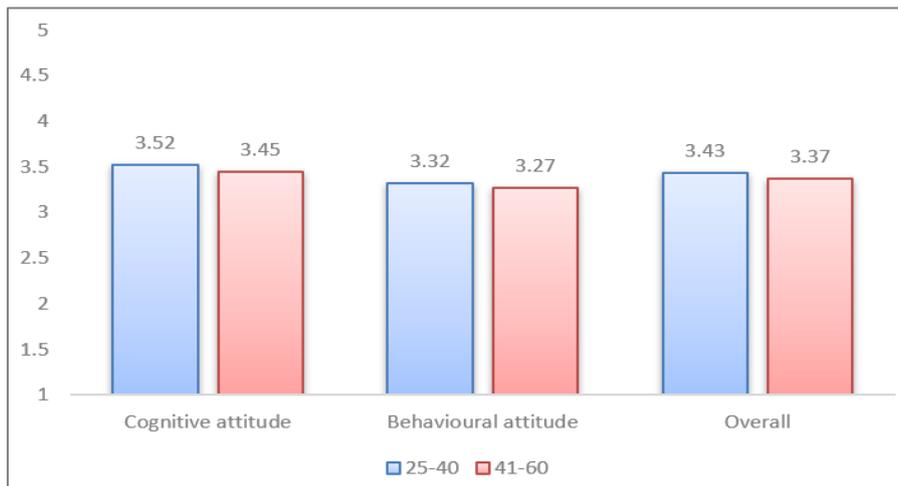


Figure 2: Mean Attitude Of Teachers Of Different Ages

In terms of teaching experience, teachers with 0-10 years of teaching experience have an average cognitive attitude score of 3.37, which is lower than 3.58 for teachers with 11-20 years of teaching experience, while in terms of behavioural attitudes, teachers with 0-10 years of teaching experience have a score of 3.21, lower than 3.35 for those with 11-20 years of teaching experience. The overall attitude score of teachers with 11-20 years of teaching experience in integrating the SDGs into English education is 3.48, which is higher than 3.30 for teachers with 0-10 years of teaching experience. This suggests that teachers with more extended teaching experience.

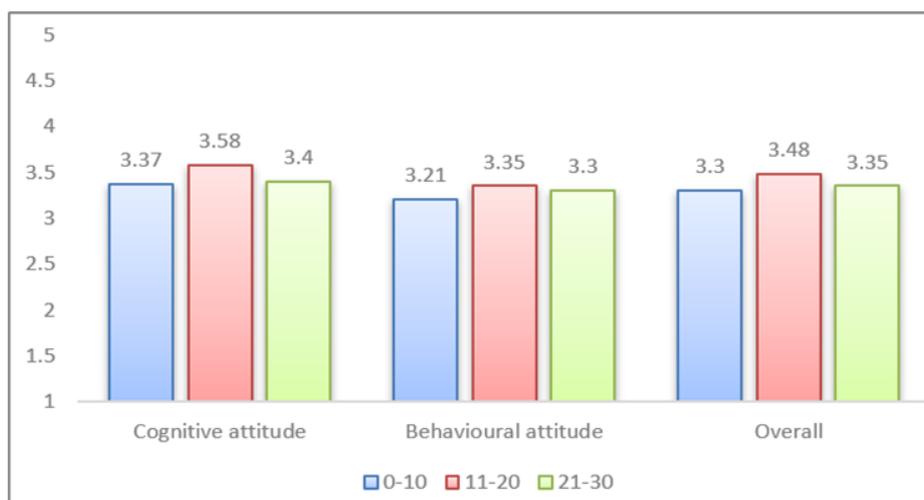


Figure 3: Mean Attitude Of Teachers Of Different Teaching Experiences

Figure 4 shows that the average cognitive attitude score of teachers with junior professional titles is 3.54, higher than 3.47 for intermediate professional titles and 3.42, higher than 3.42 for teachers with senior professional titles. Regarding behavioural attitudes, the score for teachers with junior professional titles is 3.37, higher than 3.47 for teachers with intermediate professional titles. 3.28, higher than 3.18 for senior professional titles. In summary, the overall attitude score of teachers with junior professional titles in integrating the SDGs into English education is 3.47, higher than 3.39 for intermediate professional titles and 3.31 for senior professional titles. This suggests that teachers with junior professional titles may be more active in integrating the SDGs.

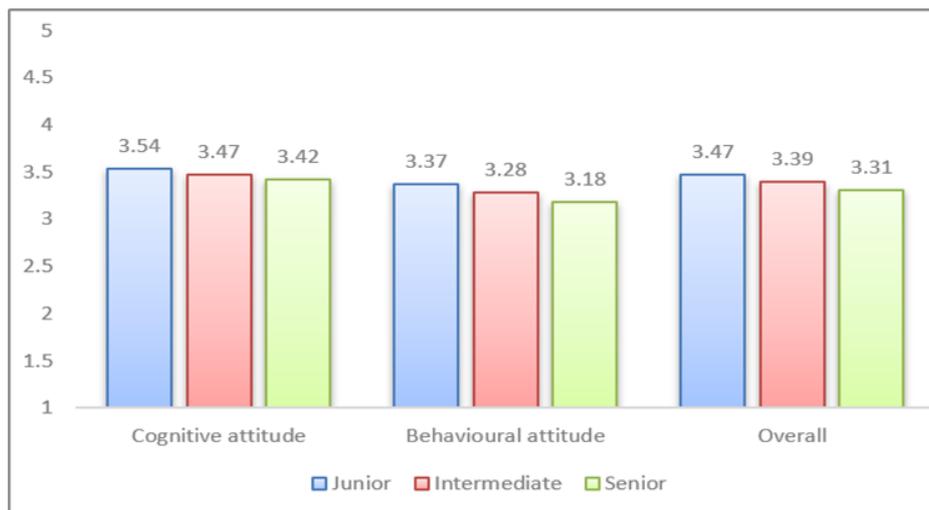


Figure 4: Mean Attitude Of Teachers Of Different Professional Titles

Table 3: Analysis of Differences Among Teachers' Attitudes to Integrate the SDGs into English Education

Dimension	Gender		Age		Teaching experience		Professional title	
	z	p	z	p	H	p	H	p
Cognitive attitude	-1.608	0.108	-2.087	0.037*	18.652	0.000*	4.290	0.117
Behavioural attitude	-0.835	0.404	-1.245	0.213	11.371	0.003*	7.331	0.026*
Total	-0.634	0.526	-2.314	0.021*	23.308	0.000*	7.867	0.020*

According to Table 3, in terms of cognitive attitude, gender has no significant difference in cognitive attitude ($p > 0.05$). This means that male and female teachers show similar tendencies in cognitive attitudes. Age showed a significant difference in cognitive attitudes ($p < 0.05$). Teaching experience significantly differed significantly on cognitive attitudes ($p < 0.05$). Regarding cognitive attitudes, the differences between teachers with different professional titles did not reach a statistically significant level ($p > 0.05$).

Regarding behavioural attitudes, gender has no significant difference ($p > 0.05$). Male and female teachers show similar tendencies in behavioural attitudes. Age did not reach a significant level in behavioural attitudes ($p > 0.05$). Teaching experience significantly differed in behavioural attitudes ($p < 0.05$). Professional titles reached a significant level in behavioural attitudes ($p < 0.05$).

Concerning overall attitude, gender had no significant difference in overall attitudes ($p > 0.05$). Age showed a significant difference in overall attitudes ($p < 0.05$). Younger teachers are more likely to have more positive overall attitudes. Teaching experience significantly differed significantly on overall attitude ($p < 0.05$). Professional titles reached a significant level regarding overall attitude ($p < 0.05$).

Table 4 shows the demographic information of the interviewees.

Table 4: Demographic Characteristics of Interviewers

Dimension	Gender	Age	Teaching experience	Professional title
Interviewer 1	Male	25	5	Junior
Interviewer 2	Female	33	8	Junior
Interviewer 3	Female	42	15	Intermediate
Interviewer 4	Male	50	20	Senior

Interviewer 1:

I believe that integrating SDGs into English education is crucial for the comprehensive development of students. However, one of the main problems I am facing is that my understanding of SDGs is insufficient, and I have not received the relevant training provided by the school. Therefore, I feel that there is a lack of appropriate methods and strategies in teaching practice to integrate SDGs into English education effectively. This has also led to my low enthusiasm for teaching SDGs.

Interviewer 2:

I think it is essential to integrate SDGs into English education. However, I have attempted to integrate SDGs into different teaching content and activities in English teaching. For example, I would choose topics related to the environment, social welfare, etc., for discussion or guide students to read articles or stories related to environmental protection, cultural diversity, etc., and engage in relevant classroom discussions and project design. However, one of the main challenges I face is that the school does not provide training and guidance for teachers on SDGs. Therefore, my enthusiasm for teaching about SDGs is not high.

Interviewer 3:

One of the biggest challenges I have found is making students understand and pay attention to the importance of SDGs. To address this issue, I continuously explore innovative teaching methods and resources, attempting to enable students to gain a deeper understanding and experience of sustainable development concepts and practices through interaction and experience. However, due to the lack of relevant professional knowledge and support, I find it challenging to find suitable methods and approaches to introduce SDGs into my English teaching effectively.

Interviewer 4:

I believe that integrating SDGs into English education is very important. In my English teaching practice, I have attempted to integrate SDGs into teaching through various methods such as classroom discussions, reading materials, and project design. I believe that relevant knowledge and guidance in teaching practice are also needed. I also need to have a strong understanding of SDG myself.

Conclusion

The research results show that teachers have low attitudes toward integrating SDGs into English education (Mean=3.30), with the average score of cognitive attitudes (Mean=3.48) being higher than behavioural attitude (Mean=3.29). The overall attitude of female teachers is higher than that of men, younger teachers are higher than older teachers, and teachers with 11-20 years of teaching experience and intermediate professional titles have higher attitudes than the other two groups. The difference analysis results show that teachers' cognition, behaviour and overall attitude are significantly affected by teaching experience and age. At the same time, gender and professional title have relatively little impact on attitudes. The interviewers generally believe that integrating SDGs into English education is crucial for the comprehensive development of students. However, they face similar challenges due to insufficient understanding of SDGs and a lack of relevant training and support. Due to a lack of professional knowledge and guidance, they find it challenging to integrate SDGs into English education in teaching practice effectively. This also leads to their low enthusiasm for teaching SDGs. Integrating the SDGs into English education can cultivate students' global citizenship and intercultural communication skills, enhance their understanding of sustainable development, and stimulate innovative problem-solving abilities. Therefore, based on the above analysis, the researchers put forward the following four suggestions:

1. Provide specialized training and resource support

Schools can organize specialized training for teachers, providing knowledge and teaching guidance on SDGs. These trainings can include basic concepts of SDG, access to related resources, teaching strategies, and practical cases to help teachers better understand and apply SDG in English education.

2. Develop specific teaching guidelines

Schools can develop specific teaching guidelines to guide teachers in integrating SDGs into English teaching. These guidelines can include suggestions on the design of teaching content, the selection of teaching methods, and the determination of evaluation methods, providing specific operational guidelines for teachers.

3. Provide teaching resources and case sharing

Schools can establish a teacher resource-sharing platform to collect and organize relevant teaching resources and cases for teachers to refer to and learn from. At the same time, teachers should be encouraged to share their teaching practices and experiences, and teaching resources should be shared and exchanged.

4. Strengthening interdisciplinary cooperation

Schools can promote interdisciplinary cooperation and communication, encouraging English teachers to collaborate with other subject teachers (such as science, sociology, etc.) to carry out interdisciplinary SDG teaching activities. Through interdisciplinary cooperation, SDG can be better integrated into English education, improving the quality and effectiveness of teaching.

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