




Investigating English Learning with Integration of Ideology and Politics: A Social Psychological Perspective on Panic Perception in Online Game

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Abstract. In order to overcome the students' social psychological panic, this paper adds ideological and political thoughts in the process of English learning, and uses the English teaching process to improve the response to psychological panic. Moreover, this paper integrates ideology and politics into English teaching to improve the psychological recovery of students' social psychological panic in English teaching. In addition, this paper uses the wearable ECG vest as the ECG acquisition device, uses the Bluetooth protocol to transmit the ECG data, and draws the ECG waveform in the mobile phone terminal. Finally, this paper sets the experimental group and the control group to perform effect analysis, and performs normalized simulation experiments for the filtering and waveform recognition of ECG signals. Through experimental research, it can be seen that the method of integrating ideology and politics into English teaching proposed in this paper can effectively improve the social psychological panic improvement effect of English classroom students, and effectively enhance students' self-confidence.

Keywords: social psychology; panic perception; study on the effect of English ideological and political learning; Panic Perception in Online Gaming

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1 INTRODUCTION

1.1 Related Work

As a chronic anxiety disorder, social anxiety refers to a marked and persistent fear of one or more interpersonal situations[1]. Its core manifestations are fear and fear of social situations, social activities, and social objects. Foreign scholars have different reports on the effect of physical activity on social anxiety. Most scholars agree that physical activity can affect and improve the social anxiety of college students, but some scholars hold a negative view. They believe that the subjects' anxiety,

depression and tension after physical exercise Negative emotions did not show any significant changes [2].

College English is a public basic compulsory course with multiple characteristics such as culture, general knowledge, internationality and professionalism. The implementation of "course ideology and politics" has laid a theoretical foundation [3]. On the one hand, the cultural and general characteristics of English courses in colleges and universities have led to their increasingly embarrassing status under the general trend of integration of work and education and integration of production and education. The implementation of "political" reshapes the value of college English courses [4]; on the other hand, the international and professional characteristics of college English provide policy support, global vision, international awareness and application-oriented action-oriented advantages for ideological and political education. This is not only reflected in the policy class time guarantee and content carrier necessary for ideological and political education in college English, but also in the compatibility of the implicit curriculum characteristics and educational functions of college English with the "ideological and political curriculum", which makes college English implement "curriculum ideology". Ideological and political "has feasibility and possibility [12]. This section presents the analysis of panic perception data collected during the online gaming-based English language learning sessions. It examines the relationship between panic perception, the integration of ideology and politics, and learning effects. The findings are presented and discussed in relation to the effectiveness of immersive multimedia in English language learning.

College English teaching is generally faced with a series of problems such as vague teaching objectives, misalignment of teaching content and students' actual needs, single teaching activities, one-sided teaching evaluation, lack of students' interest, and low motivation [5]. Although colleges and universities are committed to promoting the deepening of English teaching reform, in recent years, the situation of English learning in colleges and universities has not only not eased, but has intensified. Coupled with the trend of popularization of higher education, the focus of lower academic qualifications has gradually shifted, and the recent student crisis in colleges and universities has become increasingly prominent. , and gradually shifted from the registrant education system to the examination admission system, which further exacerbated the weakening of the overall cultural quality and knowledge foundation of college students. Under such current circumstances, college English teaching can only inject a strong spiritual power into the majority of students by firmly grasping the opportunity of the era of "curriculum ideological and political" reform and fully exploiting the inherent attributes and educational functions of college English courses. To deal with the increasingly diversified, popular and complex student sources and learning conditions [11]. In order to effectively implement the "course ideology and politics", the achievement of the three educational goals of "course ideology and politics" is examined in the evaluation of college English teaching. On the one hand, colleges and universities should supervise the teaching documents, require teachers to fill in the teaching progress task book, and add a "ideological and political content" module to each unit to ensure that the ideological and political content is specific to each class hour of college English teaching, and describe the ideological and political content. The integration point with English knowledge should be well-documented and well-documented[8]. on the other hand, the evaluation form should be standardized, and English teaching evaluation should comprehensively cover multiple forms such as process assessment, semester assessment, and annual assessment. In the process assessment, experts should be assigned to listen to the class randomly, focusing on whether teachers follow the teaching progress task book, integrate ideological and political content in English teaching, carefully record and feedback teachers, avoid the blindness and randomness of "course ideological and political", and also encourage teachers Listening to each other's classes, focusing on assessing whether the implementation method of "course ideology and politics" is scientific and whether the teaching effect achieves the goal of educating people; the semester and annual assessments are in the charge of the secondary college, combined with the "course ideological and political" evaluation standards formulated by the secondary college evaluation [7]. Colleges and

universities should reconstruct the evaluation system, realize the "same standard" as the evaluation of ideological and political education, break the evaluation in the form of standard answers, increase the evaluation forms such as English reading reports, data search, group discussion reports, etc., and focus on reflecting the content of Chinese culture and cross-cultural. The assessment of pragmatic ability highlights the value-leading function of college English courses and the baton function of evaluation, referring to the feedback of experts during the assessment process, and fully stimulated. Teachers should actively innovate English teaching methods, break the traditional cramming grammar teaching, and explore micro Multiple teaching modes such as movies, micro-videos, micro-lectures, inquiry-based teaching, and flipped classrooms, or the use of workplace-related project-based activities to cultivate craftsmanship and professionalism, so that students can perceive industry needs in project teaching and develop scientific skills. Professional attitude not only guarantees the scientific nature of English teaching, but also has flexible teaching methods; in addition, in addition to the main position of college English classrooms, it is necessary to actively expand the second classroom, or guide students to learn cultural products independently through extended teaching after class Textbook [9].

1.2 OBJECTIVES

Colleges and universities should realize the importance, necessity and feasibility of implementing "course ideology and politics" in English teaching. In addition to strengthening the cultivation of English knowledge and skills, it is also necessary to deeply excavate the ideological and political elements of the curriculum, and think about how to "enter the classroom" from the whole process of teaching objectives, teaching content, teaching activities, and teaching evaluation. At the same time, it is necessary to give full play to the "main channel" of English classroom teaching, to fully penetrate the ideological and political education into each unit theme of English teaching, so as to realize the implicit ideological and political education of higher vocational English courses, and lay a solid foundation for better cultivating outstanding socialist talents with both political integrity and ability. This paper studies the students' social psychological panic, and uses the English teaching process to improve the psychological panic, integrates ideology and politics into English teaching, and improves the psychological recovery of students' social psychological panic in English teaching.

2 METHODOLOGY

2.1 Research on Normalization Algorithm of Filtering and Waveform Recognition

Social psychological panic perception ECG waveform identification mainly includes QRS complex identification and P and T wave identification. Among them, QRS complex identification includes R wave peak point identification and QRS complex width identification.

At present, there are many theoretical studies on the detection of QRS complexes. However, due to the complex and changeable waveforms of ECG signals perceived by social psychological panic, there are individual differences and time differences. Although the characteristics of these waveform recognition algorithms are different, few of them can be successfully applied in practice, and even fewer can meet the requirements of real-time recognition.

In addition, the identification of P and T waves is also of great significance in the automatic diagnosis of social psychological panic perception ECG. The calculation of some social psychological panic perception ECG parameters depends on the correct positioning of the start and end points of the P and T waves. So far, the existing identification algorithms of P and T waves have been unsatisfactory.

The identification of the QRS complex is mainly composed of two parts: one is the detection of the peak point of the R wave, and the other is the detection of the width of the QRS complex. This section mainly introduces an improved differential threshold method to realize R peak identification and QRS complex width detection.

By analyzing the power spectrum of the ECG signal in the perception of social psychological panic, it can be seen that the energy of the QRS complex occupies a large percentage of the ECG signal in the perception of social psychological panic. The general difference method is to first determine the R wave, then determine the Q wave, S wave, and then determine other waveforms.

There are many ways to realize the difference threshold. This paper selects a more typical method to introduce [10]:

$$\Delta x(n) = x(n+1) - x(n) \quad (1)$$

Before detection, it determines the threshold δ , and compares δ with $\Delta x(n)$. If three or more of the following occur in a row:

$$\Delta x(n) > \delta \quad (2)$$

It is considered that this segment is the rising segment of the R wave. Also, it searches for the maximum value in the last 50ms period. If the maximum value exists and is greater than the amplitude threshold R_0 , the maximum value point is considered to be the peak point of the R wave. In addition, the selection of the threshold size has also become one of the ways to improve the accuracy. For example, if the threshold is too large, it is easy to miss detection, and if the threshold is too small, false detection is easy to occur. Since the R-wave amplitude varies greatly depending on the detection object, it is difficult to find a uniform threshold. For this case, this section adopts a simple self-learning algorithm to establish the test threshold. It mainly includes 3 stages:

1) The simple self-learning algorithm is used to determine the initial detection threshold. The specific method is to start a period of time (such as 24s) before the official detection starts, and divide a piece of filtered social psychological panic perception ECG data into 8 segments, that is, a 3s segment (to ensure that there is a complete QRS complex in each segment). Then, the algorithm calculates the difference according to the formula, finds the maximum value of the difference in each segment, and discards the maximum and minimum values of the 8 maximum values. Then, the algorithm calculates the arithmetic mean value Δ_{n0} of the remaining difference values, and repeatedly determines the three initial detection thresholds as:

$$\delta_{10} = \frac{2}{5} \Delta_{n0}, \quad \delta_{20} = \frac{2}{5} \Delta_{n0} + 2, \quad \delta_{30} = \frac{2}{9} \Delta_{n0}. \quad (3)$$

Here, the maximum and minimum values of the eight differential maximum values are removed to reduce the excessive difference caused by accidental spikes and the missed detection caused by the excessive threshold. However, removing the minimum value is to reduce the missed detection caused by the threshold being too small. The three initial thresholds of the formula are used to detect the R wave, until after 6 peaks are found, each R wave is detected, and the detection threshold is adjusted adaptively once.

2) Correction of detection threshold. In order to avoid the influence of time, the moving average method was used to modify the detection threshold after six R waves were detected. Δ_{ni} is the

average value of the 6 largest differences including the current QRS complex, and the corresponding new threshold is set as:

$$\delta_{1i} = \frac{1}{4} \Delta_{ni} + C_1, \delta_{2i} = \frac{1}{4} \Delta_{ni} + C_2, \delta_{3i} = \frac{1}{8} \Delta_{ni} + C_3 \quad (4)$$

Among them, C_1, C_2, C_3 is defined as:

$$C_1 = \frac{1}{10} \Delta_{n0}, C_2 = \frac{1}{10} \Delta_{n0} + 2, C_3 = \frac{1}{10} \Delta_{n0} \quad (5)$$

In the formula, C_1, C_2, C_3 —are all constants;

$\delta_{1i}, \delta_{2i}, \delta_{3i}$ —is determined by experiment;

i —is the number of currently detected R waves, $i = 6, 7, 8 \dots$.

3) R wave detection

The R wave detection steps are as follows: First, it calculates three initial detection thresholds according to the steps in (1), and then performs forward difference for each social psychological panic perception ECG data, and uses these three thresholds to detect R waves. If two consecutive difference values are greater than δ_{10} and δ_{20} respectively, and there is a negative difference in the next 100ms, the absolute value of which is greater than δ_{30} , it can be concluded that an R wave peak point is found. The algorithm repeats the above steps until 6 R wave peak points are found with the initial threshold, and then the threshold is modified according to formula (4) and formula (5). Moreover, the algorithm uses the new threshold $\delta_{1i}, \delta_{2i}, \delta_{3i}$ to detect the next R wave according to the above method. Every time a new R wave is detected, the detection threshold is modified once, and then the next R wave is detected.

For the detection of the QRS complex width, the Tompkins method based on the first-order and second-order difference, which is the most widely used at present, is still used in this section. The specific algorithm principle will not be introduced in detail here, and please refer to the related literature for details.

2.2 Waveform Recognition Mechanism of Neuron Filter Model

The traditional filtering and waveform recognition algorithms are independent, and the general method adopted is to filter the signal uniformly first, and then perform waveform recognition processing on the filtered signal. Traditional filtering methods have shortcomings in terms of recognition rate and processing speed. Moreover, most conventional methods use the displacement-related information for differential operations and the displacement signal changes relatively slowly. Therefore, there are defects such as higher requirements for previous signal processing, higher sensitivity to noise, and limited fault tolerance. Therefore, we take the velocity signal, which is more sensitive than the displacement change, as the reference vector for waveform identification. Its specific expression is as follows:

For the neuron filter model [6]:

$$\{m_i\} = \frac{|\{x'_i\}|}{\{x'_i\}} = \begin{cases} \{1\} & \{x'_i\} > \{0\} \\ \{0\} & \{x'_i\} < \{0\} \end{cases} \quad (6)$$

$$\{n_i\} = \frac{|\{y'_i\}|}{\{y'_i\}} = \begin{cases} \{1\} & \{y'_i\} > \{0\} \\ \{0\} & \{y'_i\} < \{0\} \end{cases} \quad (7)$$

In the formula, x'_i, y'_i —the dual output of the filtered speed;

x_i, y_i —the dual output of the filtered displacement;

$i = 1, 2, \dots, n$.

For formulas (6), (7), if:

$$\{m_i\} + \{n_i\} > \{1\}$$

Then, we take:

$$\{m_i\} + \{n_i\} = \{1\}$$

We set:

$$\{p_i\} = \begin{cases} \{m_i + n_i\} & m_i + n_i > 0 \\ \{0\} & m_i + n_i \leq 0 \end{cases}$$

$$\begin{Bmatrix} t_i^s \\ w_i^s \end{Bmatrix} = \{p_i\} \cdot \begin{Bmatrix} t_i \\ w_i \end{Bmatrix}$$

In the formula, t_i^s, w_i^s —the output;

t_i, w_i —the input;

p_i —intermediate conversion variable,

$i = 1, 2, \dots, n$.

2.3 Social Psychological Panic Perception Model

As shown in Figure 1, the entire platform is mainly divided into ECG acquisition and transmission, ECG data pre-analysis, and ECG data diagnosis and feedback. The patient collects the ECG data

through the wearable ECG device, transmits it to the mobile phone to receive the client through Bluetooth, saves the ECG data and displays the ECG waveform.

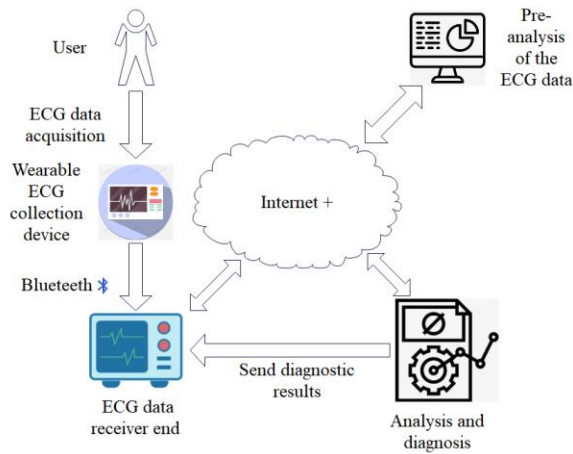


Figure 1: Social psychological panic perception platform.

In this paper, the wearable ECG vest is used as the ECG acquisition device, the Bluetooth protocol is used to transmit ECG data, and the ECG waveform is drawn in the mobile terminal. The specific process is shown in Figure 2.

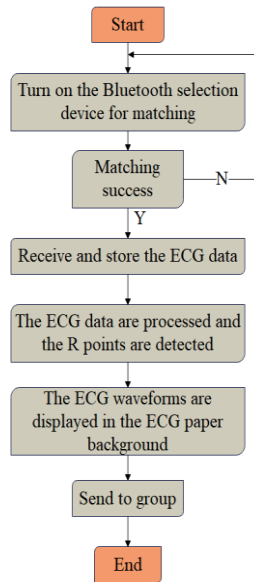


Figure 2: Flow chart of ECG data receiving end.

2.4 Test Environment and Test Method

The setup of the experimental environment is shown in Figure 3.

Introduction of the room where the subjects are located: During the experiment, the MP150 was used to collect signals such as ECG and pulse. To realize the acquisition of ECG and pulse signals, 3 electrode patches and a finger-clip photoelectric pulse sensor are required. The auditorium is located in front of the subjects and contains 21 identical stools. There is a TV behind the students' seats, which is used for the presentation of the GUI scoring interface. The subjects can use the mouse to slide and divide according to the visual continuous scale, so as to realize the self-assessment of the overall, psychological and physical anxiety. The camera is used to realize the video surveillance during the experiment.

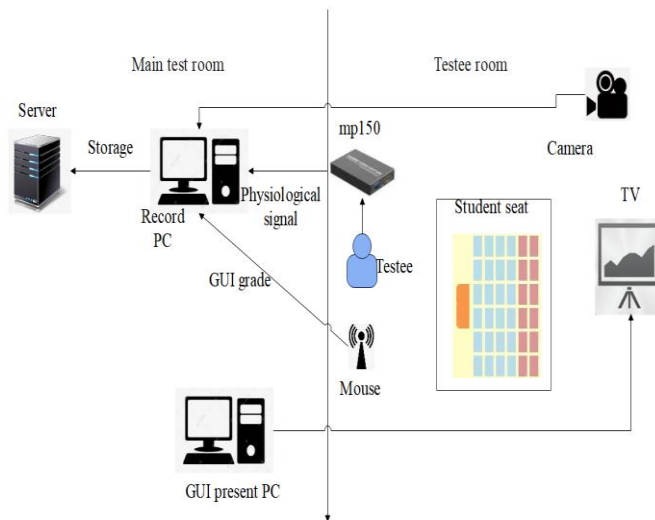


Figure 3: Experimental environment.

Introduction of the Visual Continuous Scale: The Visual Continuous Scale will be used during the experiment. The subjects can operate the mouse to evaluate their overall, psychological and physical anxiety levels on the Visual Continuous Scale.

The experimental group and the control group are set up, and both groups have a certain degree of social psychological panic. The simulation of integrating ideological and political education into English classroom teaching is carried out through the English simulation classroom. This teaching mode is applied to the experimental group, and the other group is set as the control group, which adopts the conventional teaching mode, and other teaching contents are similar. Finally, this paper calculates the improvement effect of the two groups of students' social psychological panic.

3 RESULTS

In this paper, the filtering and waveform recognition normalization simulation experiments of ECG signal are carried out, and the representative recorded results are selected respectively, as shown in Figure 4. The improvement effects of social psychological panic in the experimental group and the control group calculated in this paper are shown in Table 1 and Figure 5.

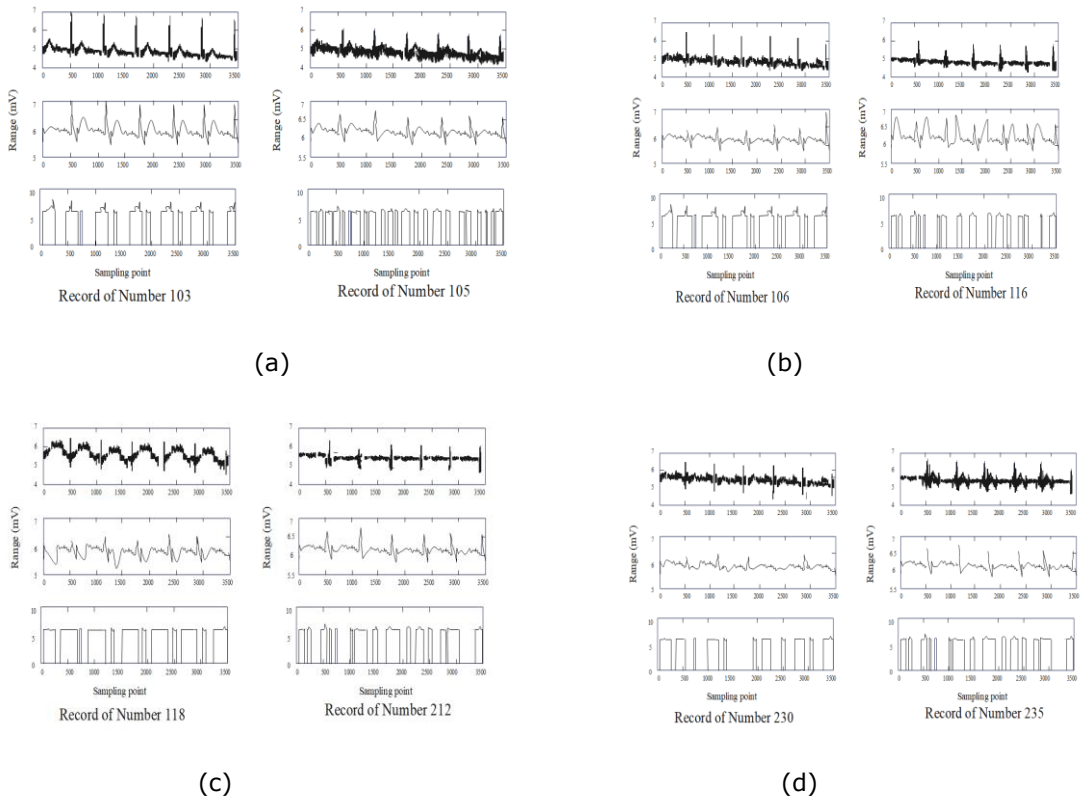


Figure 4: Illustration of ECG signal filtering and waveform recognition.

<i>Num</i>	<i>Test group</i>	<i>control group</i>	<i>Num</i>	<i>Test group</i>	<i>control group</i>
1	32.35	22.69	13	40.81	19.15
2	33.47	11.41	14	35.73	22.74
3	32.27	21.05	15	41.94	6.29
4	33.06	24.00	16	28.22	12.21
5	35.91	10.71	17	31.96	9.60
6	37.30	18.70	18	38.08	22.36
7	39.17	17.84	19	36.87	22.63
8	29.77	10.68	20	40.61	20.53

9	34.48	11.88	21	24.90	12.80
10	41.34	19.60	22	24.19	22.69
11	39.83	16.17	23	27.94	11.55
12	28.45	18.88	24	37.19	17.90

Table 1: The improvement effect of social psychological panic in the experimental group and the control group.

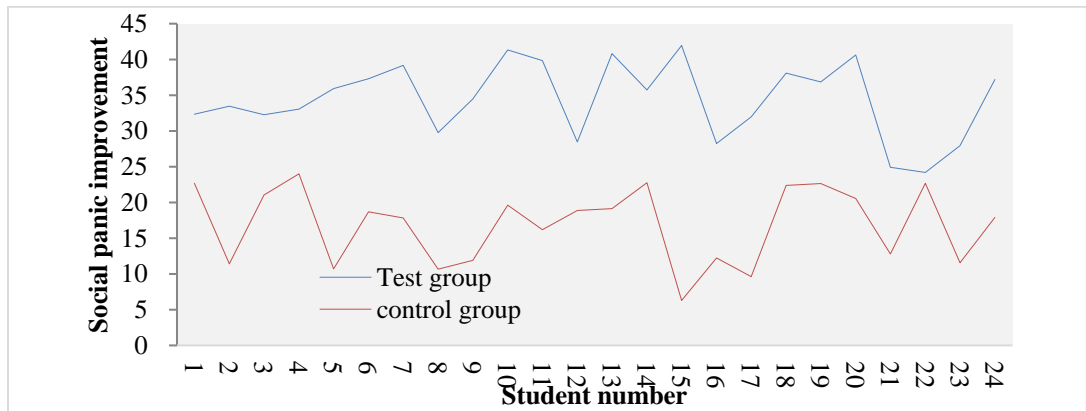


Figure 5: Statistical diagram of the comparison of the improvement effect of social psychological panic.

4 DISCUSSION

This paper studies the students' social psychological panic, and uses the English teaching process to improve the psychological panic, and integrates ideology and politics into English teaching to improve the psychological recovery of students' social psychological panic in English teaching.

It can be seen from Figure 4 that the neuron filtering model can effectively inhibit the power frequency interference, muscle electrical signal interference (white noise), and baseline drift during filtering. At the same time, due to the feature recognition function of the neuron filtering model itself, the signal processing time is reduced, the real-time performance is improved, and the normalization of filtering and waveform recognition is realized.

5 CONCLUSION

In order to lay a solid foundation for better cultivating outstanding socialist talents with both ability and political integrity, this paper studies the social psychological panic of students, and uses the English teaching process to improve the response to psychological panic. Moreover, this paper integrates ideology and politics into English teaching to improve the psychological recovery of students' social psychological panic in English teaching. Through experimental research, it can be

seen that the method of integrating ideology and politics into English teaching proposed in this paper can effectively improve the social psychological panic improvement effect of English classroom students, and effectively enhance students' self-confidence.

6 RECOMMENDATIONS

The construction of college English courses is a systematic project, which requires the joint efforts and cooperation of many parties. Among them, the top-level design of the national education authority and the specific implementation of the university teaching management department are crucial. The national education authority should continuously optimize the top-level design of the ideological and political construction of college English courses. According to the current mental health characteristics of college students, integrating ideology and politics into English teaching can not only improve the effect of English classroom teaching, but also effectively improve students' mental health. Moreover, this paper demonstrates that the method of integrating ideology and politics into English teaching can effectively improve the social psychological panic improvement effect of English classroom students. Therefore, in the follow-up, we can try to continuously integrate ideological and political thinking into subject teaching, and effectively improve the physical and mental health of students.

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