

# *Research on the Cultivation of Humanistic Psychology among College Students through Interactive Music Education in Universities*

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**Abstract:** Universities not only have the basic responsibility of cultivating talents and creating scholars, but also have the important mission of conveying the avenues and clarifying morality. Among them, humanistic psychology training is a talent training concept that has attracted much attention relative to professional quality training. It is mainly realized through the development of humanistic quality education in daily teaching. Humanistic quality education carefully sculpts and guides people's conduct, which can subtly influence the development of college students' outlook on life, world outlook and values in daily life, and is of great significance to promoting the common development of morality, intelligence, body and beauty. However, the research on the humanistic psychology of college students mainly stays at the theoretical and low-dimensional level. In response to the above problems, this paper took the interactive education of music in colleges and universities to carry out scientific data analysis and high-dimensional research on the humanistic psychology of college students. The research results have shown that the YOLOv5s-DenseASPP-CBAM model has the best effect. The AP value is the maximum value of 0.854 among all the tested models and the frame rate is 37.52 frames per second, which provided a basis for improving the humanistic psychology of college students.

## 1. Introduction

The cultivation of humanistic psychology is a long-term and arduous task, which is mainly realized through humanistic quality education in daily teaching. Integrating humanistic knowledge, humanistic spirit, humanistic thinking and humanistic methods into the process of comprehensive development of college students will surely enrich the form and content of ideological and political education for college students, and enhance the affinity, effectiveness and appeal of ideological and political education for college students so as to promote the comprehensive and harmonious development of college students. In order to further understand and analyze the humanistic psychology of college students, this paper used the interactive education of music in colleges and universities to analyze the humanistic psychology of college students [1-2].

In this paper, the research on the humanistic psychology of college students is mainly based on

the method of interactive music education in colleges and universities. It explored the composition and development of college students' humanistic psychology from a novel perspective, and explored more branches. On the basis of using the interactive music education method in colleges and universities, this paper is based on the YOLOv5s model with the smallest model depth and parameter amount among the four versions of YOLOv5. The result is that the YOLOv5s-DenseASPP-CBAM model has the best effect. The innovation of this paper is that (1) A projection human-computer interaction method based on improved YOLOv5 and GhostNet-OpenPose is proposed. (2) Using edge detection algorithm to study the humanistic psychology of college students [3-4].

## 2. Cultivation Method of College students' Humanistic Psychology through Music Interactive Education in Colleges and Universities

### 2.1 Cultivation of College Students' Humanistic Psychology

The highest direction of contemporary humanistic psychology is the shaping of ideal personality, affirming the value of human beings, and pursuing human freedom and all-round development. Therefore, the essence of contemporary college students' humanistic psychology is to require contemporary college students to have a global vision and caring spirit, and to cultivate their own higher spiritual realm, humanistic awareness and aesthetic taste. It is necessary to be independent and not enslaved by money and material ideas, so as to realize the comprehensive and healthy development of the body and mind. The relationship research model of humanistic psychological influencing factors is shown in Figure 1 [5].

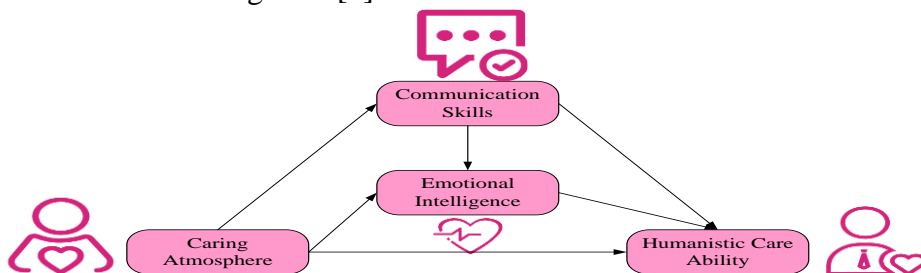


Figure 1: Relationship Model Construction and Road Map of the Mediating Effect of Humanistic Psychological Factors

The humanistic psychology of college students is shown in Figure 2.

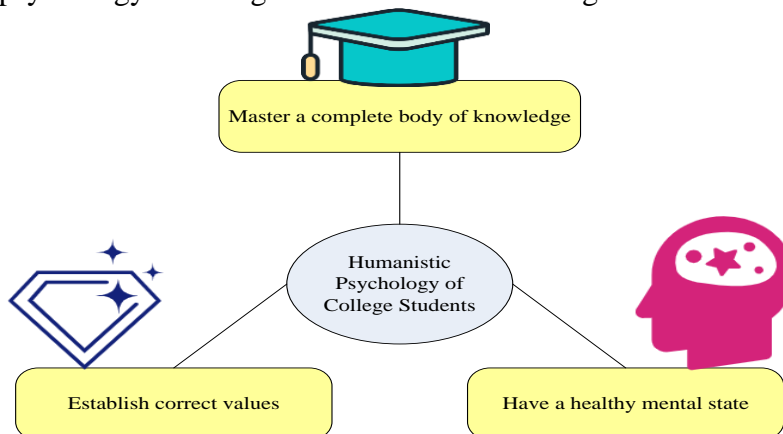


Figure 2: Humanistic Psychology of College Students

Mastering a complete knowledge system: Mastering a systematic, comprehensive and complete knowledge system is an inherent and inevitable requirement of contemporary humanistic psychology for college students. "From the perspective of college students themselves, with the advent of the era of knowledge economy, the society has put forward higher requirements for college students, and college students must have both humanistic psychology and scientific literacy." This is also the minimum standard that college students should achieve in their studies as a member of intellectuals, and reflects the most basic cultural connotation that college students should have. However, it requires college students to have a complete knowledge system, which points to the mastery of the knowledge structure of the college students and whether they are appropriate in learning methods. Its internal regulation is to emphasize that college students should adapt to the various needs of the complex society through a complete knowledge system[6].

## **2.2 Current Situation of the Lack of Humanistic Psychology of Contemporary College Students**

The phenomenon of lack of humanistic psychology of contemporary college students has many forms. In contrast to the "three-fold connotation" i.e. "complete knowledge system", "correct values" and "healthy mental state", the outstanding problems of these three levels including the knowledge system of practical tendency", "the values of utilitarian tendency" and "defective mental state" have increasingly become the typical manifestations of contemporary college students' lack of humanistic psychology [7].

Practical-oriented knowledge system: A common phenomenon in contemporary college students is that they attach importance to the study of practical professional knowledge. Neglecting the mastery of humanistic knowledge and other knowledge has led to the tendency of some college students' knowledge system to be practical. Thus a complete knowledge system structure is lacked , which leads to the phenomenon of lack of humanistic psychology. In addition, the majors that most college students are keen on before entering the university are some practical subjects, while majors such as literature, history and philosophy are rarely pursued in most cases. This is because different majors determine different employment prospects in the future [8].

The value concept of utilitarian tendency: As a national talent resource, ideals and beliefs are considered to be the cognition and pursuit of college students' self-worth. It is the inner expression that they have self-awareness and discover the value of their own life. A person with ideals and beliefs can establish a healthy and upward attitude towards study, life and work. They can make their own life plans and overcome difficulties bravely when encountering setbacks. They can also be more tolerant and kind to others in their interactions with others. However, a person who has no ideals and beliefs tends to fall into depravity and lose his life goals. Not only can they fail to discover their own worth and live their own life well, but they will also drag others down and bring trouble to society and their families. In addition, college students are generally concerned about issues such as current political hotspots, social development, and national development, and their learning attitudes and life attitudes are positive. However, under the background of the market economy, college students, as a special group of young people with ideals, beliefs and knowledge in the society, they have witnessed all the changes in the society, experienced the changes of social culture, The value concept of this part of college students has also changed, and their value concept has a development trend of utilitarian tendency, which also leads to the lack of humanistic psychology of some college students. For example, many college students currently have a very utilitarian concept of career choice. They often evaluate and choose careers based on salary standards, social status, and the stability of rights, but ignore the significance of their hobbies and careers to the development of society and the country.

There are different degrees of psychological barriers: the problems of learning adaptation, interpersonal relationships, personal feelings and Internet addiction among contemporary college students have become common psychological barriers among college students, which are manifested in the lack of life goals, interpersonal communication barriers, inability to face setbacks and long-term to addicted to the web etc. These psychological problems also reflect the lack of humanistic psychology of some college students from one aspect.

### 2.3 Analysis of the Reasons for the Lack of Humanistic Psychology of College Students

The lack of humanistic psychology of college students is affected by many factors, but the main reasons are shown in Figure 3.

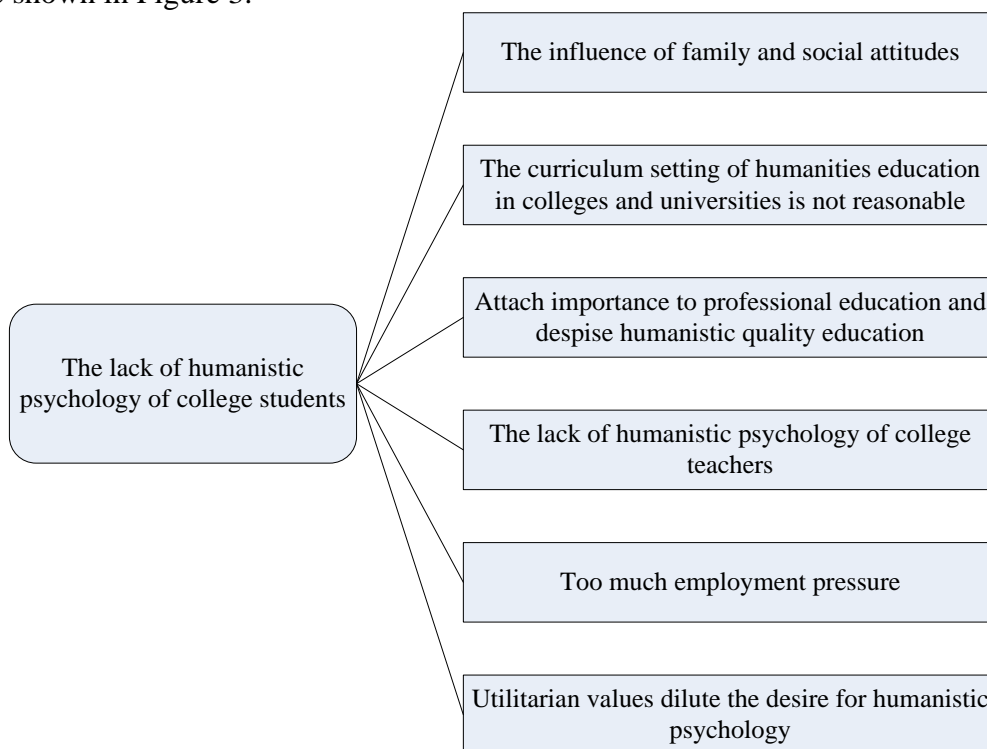


Figure 3: Reasons for the Lack of Humanistic Psychology of College Students

The influence of family and social concepts: The family is the smallest cell in the social structure, and family education also plays an important role in the social education structure system. Some researchers believe that family education is an activity with a certain purpose and awareness, and the environment and atmosphere formed by it have a subtle influence on the growth of children. Therefore, the various personal relationships, ways of doing things, and cultural behaviors formed in the family have a profound and lasting impact on children's thinking, mental health, and life. There is a very deep imprint, with inheritance and continuity. At this stage, some problems in family education are mainly manifested as: the polarization of emotional investment in family construction, that is, serious under-investment and over-investment; serious secular pursuit of family education concepts; serious family education methods emphasizing knowledge and ignoring role models.

The curriculum setting of humanities education in colleges and universities is not reasonable: the curriculum setting is generally based on three aspects: the needs of the system level, the needs of the knowledge level, and the needs of the application level. The education told in this paper is essentially the product of social history, and its educational content, educational form, and curriculum are affected by the dual influence of productive forces and production relations.

Emphasis on professional education and contempt for humanistic quality education: Some scholars believe that due to the unreasonable adjustment of the structure of colleges and departments and the narrow professional caliber in colleges and universities, college students lack humanistic knowledge and humanistic quality. The emergence of this phenomenon has its practical basis. Although all parties have been trying to change this subject concept through curriculum reform in recent years, it still takes a certain amount of time to achieve the goal of balanced development of professional education and humanistic quality education.

The lack of humanistic psychology of college teachers: Colleges and universities are the connection point between society and the "ivory tower", and college education plays an important role in the smooth entry of college students living in the "ivory tower" into society. Among them, college teachers play the glorious role of engineers who cultivate human souls, undertake the sacred mission of teaching and educating people, and undertake the important responsibilities of students' daily ideological and political education and value guidance. The teachers' academic level, ideological and moral quality, humanistic quality and other factors directly affect the overall quality of students.

Excessive employment pressure: employment is the foundation of people's livelihood. In the face of the fierce competition in the talent market at this stage and the increasingly severe employment situation, paying attention to and strengthening the cultivation of humanistic literacy in employment and entrepreneurship education in colleges and universities is an important part of the sustainable development of "mass entrepreneurship and innovation" education and alleviating employment pressure. However, at the annual report on employment and entrepreneurship in some colleges and universities, the employment department often attributed the unsatisfactory employment results to a single major in the relevant employment direction, and suggested that such majors should be abolished and reduced, resulting in the lack of employment and entrepreneurship education in employment and entrepreneurship education. In China, pragmatism prevails, and the independent development of humanistic quality education in colleges and universities is gradually lost.

Utilitarian values dilute the desire for humanistic psychology: the so-called values are the fundamental views and viewpoints that the subject (person) adopts to judge, recognize and select objects based on their own knowledge and experience level. It is the value orientation that guides the subject (person) to carry out daily life. The values generated by different practical foundations are not the same, and the influences brought by them are also different. Some bad values have long affected the formation of the positive ideological values of college students, disturbed the value orientation of college students, weakened the ideal pursuit, and weakened the value guiding role of humanistic psychology.

## 2.4 College Music Interactive Education

In recent years, with the deepening of basic education reform and the rapid advancement of science and technology, the application of information technology to the field of teaching, the use of teaching aids such as multimedia has become a hot spot in the field of education. Information technology represented by network and multimedia has indeed brought new changes and development to the reform of classroom teaching. However, many scholars have come to the same conclusion through research on hundreds of multimedia teaching methods: "Students' learning does not produce unsatisfactory results due to different teaching media, learning outcomes differ significantly only when teaching methods change." The history and experience of learning tell us that the most effective way to acquire knowledge is active learning. On the basis of existing experience, through questioning, thinking, cooperation, feedback and other links, the perceptual knowledge is raised to rational knowledge, and new knowledge is actively constructed. It is

problem-oriented and realizes two-way communication and interaction between teachers and students and between students and students in the teaching process. This teaching mode is called "interactive" teaching mode.

The "interactive" teaching mode is an organic whole that communicates, influences and promotes each other composed of the teaching subject, the teaching environment and the interactive relationship. It is a new teaching mode that adapts to the fierce market competition environment and the new needs of educational development. Applying the "interactive" teaching mode to music teaching in colleges and universities, and comparing and study with the traditional teaching mode to form a scientific and effective teaching mode that conforms to the laws of education, which has important guiding significance for the improvement of teaching quality and the development of college students' humanistic psychology.

### 3. Experiment on the Cultivation of College Students' Humanistic Psychology by Music Interactive Education in Colleges and Universities

#### 3.1 Experiment and Result of College Students' Humanistic Psychology

The subjects of the study were college students in China, and a stratified sampling method was used. Based on the above methods, combined with the convenience and feasibility of practical work, the study is based on multi-stage stratified cluster sampling in different administrative regions.

Inclusion criteria:

7 administrative regions: Northeast, North, East, Central, South, Southwest, Northwest;

3-4 colleges and universities are selected from each administrative division, covering the first-class, second-class and higher vocational college students respectively;

Aware, informed and agreed to participate in the study.

The detailed results of the regional distribution and basic data of 1,000 college students are shown in Table 1 and Figure 4.

Table 1: General Profile Results for 1000 College Students

Project	Classification	Number of People	Percentage
Administrative regions	Northeast	10	1%
	North	120	12%
	East	110	11%
	Central	250	25%
	South	150	15%
	Southwest	120	12%
	Northwest	240	24%
	Total	1000	100%
Gender	Male	60	6%
	Female	940	94%
	Total	1000	100%

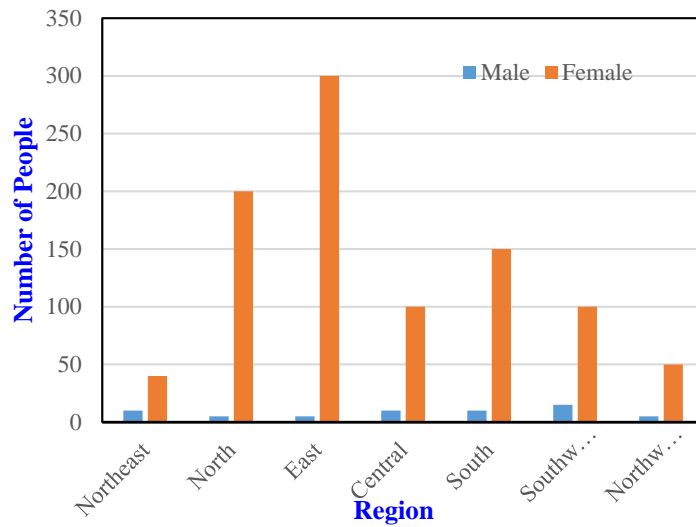
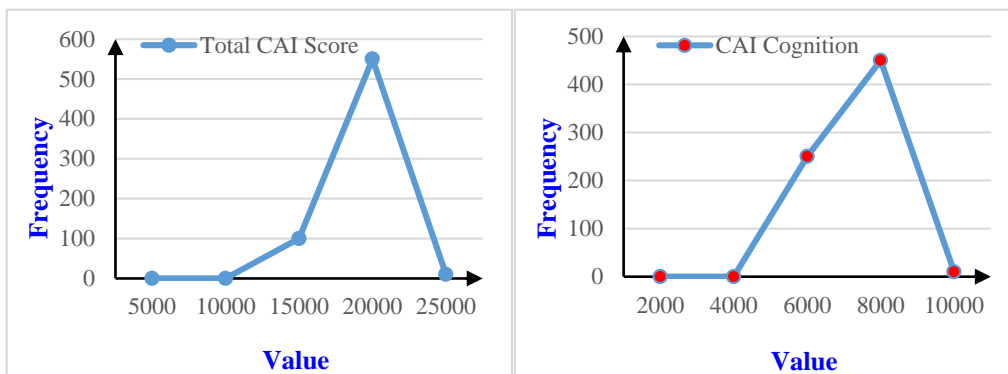


Figure 4: Administrative Region and Gender Distribution of College Students

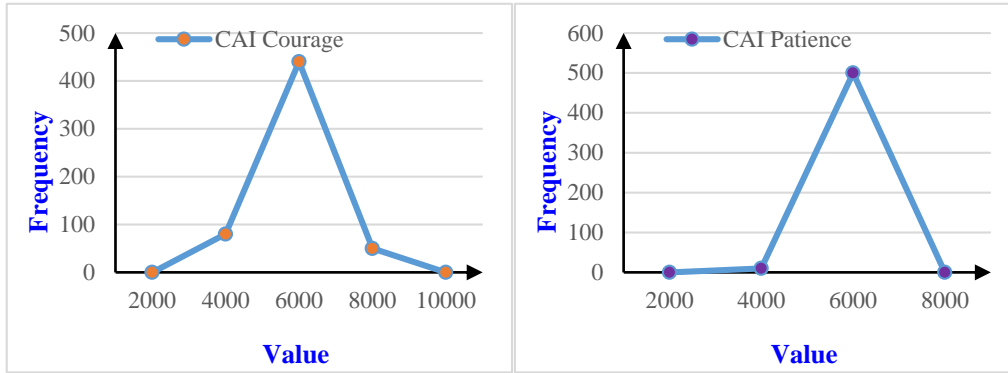
The norm is a standard quantity for comparison, which is calculated from the test results of standardized samples. Generally, the mean and standard deviation of the original scores are used to represent the psychological characteristics of a certain group. The research surveyed 1,000 college students across the country, and the representativeness of the sample met the requirements of the norm model. From this, the total score of college students' humanistic psychology and the norm results of each dimension are shown in Table 2. The total score of CAI scale of 1000 college students was  $200.00 \pm 20.56$ . Among them, the scores and item average scores of cognition, courage and patience are  $75.52 \pm 10.25$ ,  $65.25 \pm 12.25$ ,  $60.35 \pm 5.24$  respectively. The total CAI score and the distribution of each dimension score of 1000 college students are shown in Figure 5, which can visually display the data distribution and changes.

Table 2: Norm Standard of College Students' Humanistic Psychology Score

Scale Dimension	Number Of Entries	Total Score	Average Score
Total CAI Score	40	$200.00 \pm 20.56$	$5.00 \pm 0.514$
CAI Cognition	15	$75.52 \pm 10.25$	$5.03 \pm 0.68$
CAI Courage	12	$65.25 \pm 12.25$	$5.44 \pm 1.02$
CAI Patience	10	$60.35 \pm 5.24$	$6.04 \pm 0.52$



a. Total Score of CAI Scale of 1000 College Students b. Score of CAI Cognitive Dimension of 1000 College Students



c. Score Chart of CAI Courage Dimension of 1000 College Students  
d. Score Chart of CAI Patience Dimension of 1000 College Students

Figure 5: Distribution of CAI Total Score and each Dimension Score of 1000 College Students

It can be seen from Figure 5a that the maximum frequency of the CAI total score is 550; Figure 5b shows that the maximum frequency of the CAI cognitive dimension is 450. From Figure 5c, it can be seen that the maximum frequency of the CAI courage dimension is 450; finally, Figure 5d shows that the maximum frequency of the CAI patience dimension is 500.

### 3.2 Experiment and Result of Music Interactive Education in Colleges and Universities

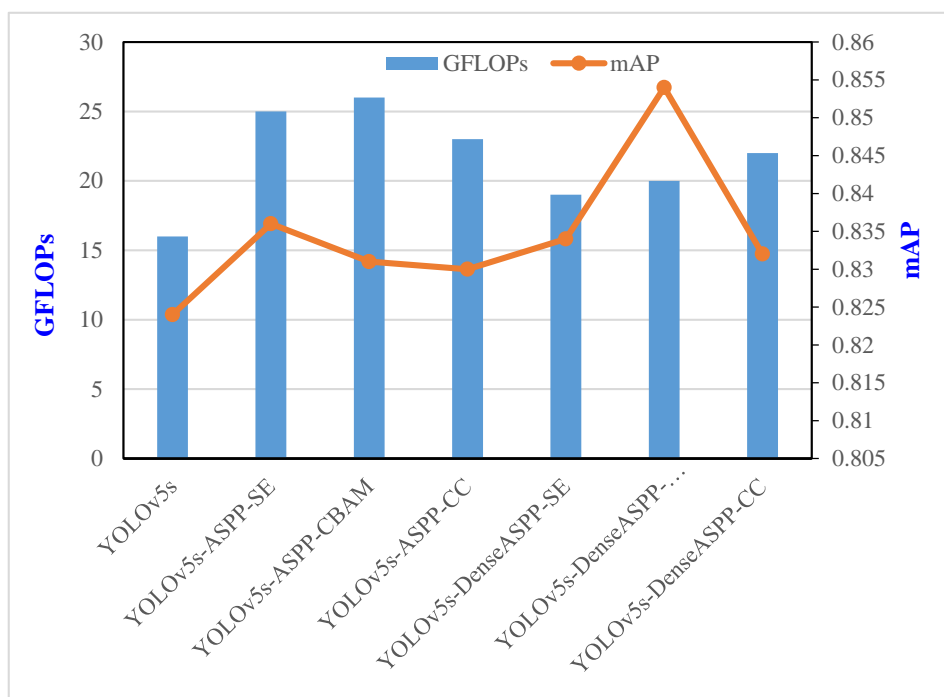
The original YOLOv5 has four versions, namely YOLOv5s, YOLOv5m, YOLOv5l and YOLOv5x. Since the human-computer interaction system in this paper has high requirements for the speed of model inference, the experiments are based on the YOLOv5s model with the smallest model depth and parameter amount among the four versions of YOLOv5. The specific model training parameters are shown in Table 3.

Table 3: Model Training Parameters

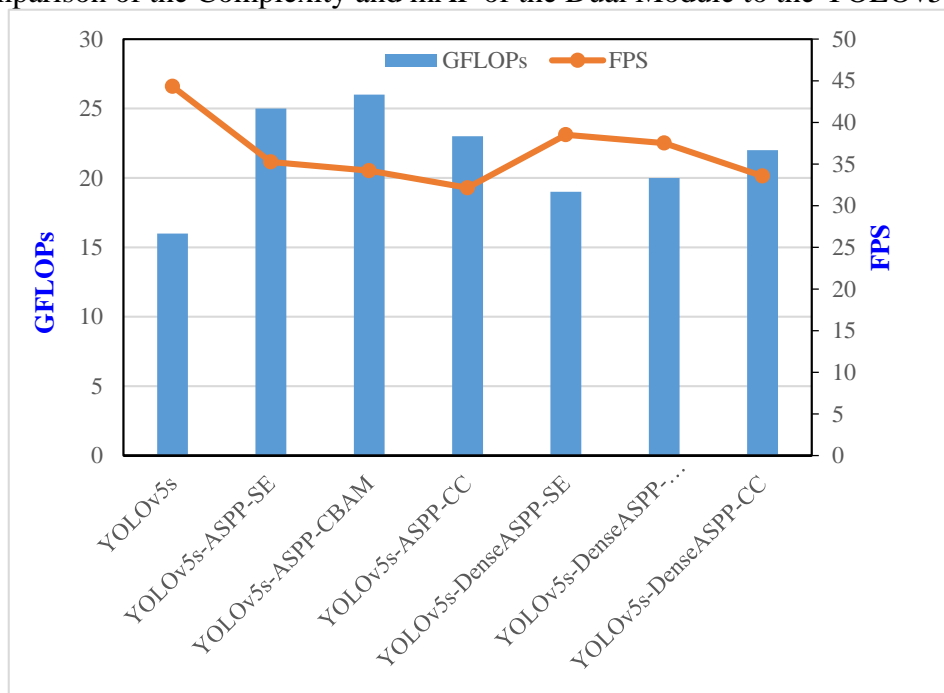
Parameter	Value/Type
Input Size	540×540
Batch-size	50
Learning Rate	0.002
Optimizer	SGD
Loss Function	MSE

In order to visualize the overall experimental results more intuitively, the complexity and mAP (Mean Average Precision) of the two-module pair YOLOv5s model are plotted as shown in Figure 6a, and the comparison chart of complexity and FPS is drawn, as shown in Figure 6b. FPS represents the number of image detections that can be done in one second, which is the frame rate.





a. Comparison of the Complexity and mAP of the Dual Module to the YOLOv5s Model



b. Comparison of the Complexity and FPS of the Dual Module to the YOLOv5s Model

Figure 6: Dual-module Comparison Diagram

From the overall effect, the model including ASPP or CC module brought a large amount of parameters and calculation. The best performance is the YOLOv5s-DenseASPP-CBAM model, whose AP value reached the maximum value of all tested models of 0.854, and the frame rate can still maintain 37.52 frames per second.

## 4. Conclusion

This paper studied the cultivation of college students' humanistic psychology by music interactive education in colleges and universities, which can provide a better foundation and method for the improvement and development of college students' humanistic psychology. In today's society, the ideological and political education of college students attaches great importance to the healthy growth of college students, with the ultimate goal of realizing the free and comprehensive development of college students. However, for a long time, due to various reasons, the important role of humanistic quality training in the comprehensive development of college students is often ignored in real education, and the positive impact of humanistic quality education on the spiritual quality, inner personality, and humanistic quality cultivation of college students cannot be implemented, restricting the development of college students' humanistic psychology. This paper analyzed the humanistic psychology of college students from a novel perspective of music interactive education in colleges and universities. Through scientific and effective analysis methods, the humanistic psychology of college students can be continuously developed and leaped, thereby improving the humanistic quality of college students.

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