

# On the Construction of University Track and Field Class Score Assessment System under Theory of Multiple Intelligences

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**ABSTRACT.** *According to the investigation of several problems about the students' track and field class scores assessment current situation in local universities on the basis of Howard Gardner's theory of multiple intelligences, discipline features, documents, questionnaire and interviews, this paper tries to establish the score assessment system of local university students with the local characteristics, as to improve the evaluation of local university physical training education and reform.*

**KEYWORDS:** *Pluralistic Intelligent; University and College; Track and Field Class; Assessment System*

## **1. Introduction**

In recent years, China follows the trend of basic education reform; sports related courses have also been put into the tide of reform. Its structure and the connotation have been readjusted. The guiding concept of health first is highlighted. Quality education and lifelong physical education are included in the teaching guidance program. However, at present, the track and field courses have not been in line with the education concept and training objectives. Therefore, we will use the theory of multiple intelligence to investigate and study the current situation of the content, method and evaluation system of track and field general courses in normal universities of Jiangxi province from a new perspective on the basis of inheriting the advantages of traditional evaluation concept to expand and innovate, and build a set of scientific, standardized and reasonable multiple intelligences assessment and evaluation system consistent with the teaching objectives, so as to provide practical reference for track and field teaching reform in normal universities.

## **2. Some problems in the evaluation of students' academic performance in track and field major of local normal university**

### **2.1 Same teaching evaluation; Neglecting the cultivation of students' ability**

Based on the survey of 6 normal universities in Jiangxi province, the teaching

syllabus of track and field was summarized and analyzed. The characteristics of the six normal universities were that the content of the education professional track and field course examination mainly included four sections, namely, the normal part, the theoretical part, the technical part and the ability part. Due to differences in formulate outline, the percentage of the four sections of each university is different. According to the survey results, these universities do not pay enough attention to the cultivation of students' ability. The assessment content is mainly inclined to the knowledge and technology part, ignoring the assessment of the ability part, which directly leads to the poor practical ability of students, and then affects their employment competitiveness and comprehensive social work ability[1].

### ***2.2 Single evaluation method***

Through the survey it was found that the traditional track and field course student score evaluation in colleges and universities in Jiangxi province still takes the final exam score as the main basis, only attaches importance to the technical evaluation and the standard score of students at the end of the stage, and ignores the efforts and progress of different individuals in the learning process. In the traditional evaluation method, the evaluation of the achievement of the standard is still in the stage of competitive sports, which is an objective quantitative evaluation and ignores the individual differences between students. Track and field teaching is for the purpose of students to learn and master sports technology and improve sports skills. Insufficient attention is paid to the attitude, emotion and cooperation intention of students in the course of track and field learning, which seriously discourages the initiative of students in practice and leads to the lack of subjective evaluation in the evaluation process and the emphasis on objective evaluation[2].

### ***2.3 The assessment is out of line with the training objective***

Although the new curriculum standard has already been made public, but the track and field teaching reform of colleges and universities in Jiangxi province starts relatively late, which still stays in the category of competitive sports. Some universities have simply changed their teaching hours and content accordingly. However, the focus of teaching has not been shifted to the cultivation of students' ability and the improvement of students' quality. In this way, students' comprehensive quality and ability are relatively weak. Although some schools have set the ability training objectives in the track and field syllabus, the performance is not obvious in the assessment and evaluation system, and the assessment and evaluation methods are seriously out of line with the training objectives[3].

### ***2.4 Utilitarian evaluation result***

The significance of physical education teaching in evaluating students' performance lies in that on the one hand, it is to make teachers check their teaching effects, and then make information feedback, so as to further adjust their teaching

methods, and improve the teaching level and quality. On the other hand, it enables students to fully understand themselves, realize their progress and shortcomings, and further improve themselves. However, in the actual physical education teaching work, once the evaluation results of academic performance are associated with the teacher's evaluation of excellence, priority, promotion title and other indicators, the evaluation results will have a utilitarian color, which cannot fully reflect the actual situation of teachers and students, thus damaging the proper function of teaching evaluation.

### **3. Inspired by the theory of multiple intelligences, the college physical education curriculum is reexamined**

#### ***3.1 The connotation of theory of multiple intelligence evaluation***

In 1983, American psychologist Gardner proposed the theory of multiple intelligences, in which he believed that intelligence is a group of abilities including eight kinds of intelligence, rather than one kind of ability. Its basic structure is diversified, and each kind of intelligence plays an equally important role. The appearance of this concept broke the traditional view of single intelligence and broadened the vision of human intelligence, which was included in the Interpretation of Basic Education Curriculum Reform Outline (trial) in China. Therefore, Gardner's theory of multiple intelligences not only has a profound impact on the whole education field, but also provides many inspirations for the reform of physical education teaching in colleges and universities, and provides a new perspective for the vigorous development of education.

#### ***3.2 The integration of multiple intelligences theory and college physical education curriculum***

The profound impact of the theory of multiple intelligences on the education sector has led to a whirlwind of education reform in Chinese universities, and a batch of intellectuals have emerged to devote themselves to studying this theory. Inspired by the theory of multiple intelligences, the purpose of education in physical education should be to develop multiple intelligences and help students find professional occupations and hobbies suitable for their characteristics of intelligences. The essence of Guidelines for Physical Education Teaching in Colleges and Universities in China is highly consistent with the theory of multiple intelligences. Its essence is consistent with the view that "the development of each kind of intelligence of students is not immutable, and the teaching methods teachers choose in the teaching process should be determined according to the unique strengths and weaknesses of each specific student"[4].

### ***3.3 The application of theory of multiple intelligences in college physical education***

In Britain, the United States and other major western countries, the theory of multiple intelligences has long been popular in the teaching of universities and primary schools, and has achieved fruitful teaching theory results, which verified the reliability and effectiveness of this theory in teaching practice. Taking Gardner's theory of multiple intelligences as the basis, Fogarty, a scholar, wrote *Multiple Intelligences and Question-based Learning*, which provides a specific direction for the implementation of theory of multiple intelligences in teaching. Chinese experts believe that the theory of multiple intelligences provides a new perspective for physical education teaching in colleges and universities, and has carried out a lot of theoretical research on the reform of physical education curriculum in colleges and universities, providing a reliable guarantee for the practical work of the following specific disciplines.

## **4. The construction of multiple intelligence evaluation system of track and field performance in local normal universities**

### ***4.1 The evaluation of track and field courses in sports majors is inspired by the theory of multiple intelligences***

The theory of multiple intelligences advocates the diversity of human intelligences, and everyone has different strengths and weaknesses due to different intelligence structures. Therefore, when evaluating students' track and field performance, different and targeted evaluation methods and means should be adopted and diversified according to the differences in students' individual, teaching environment and teaching content to re-establish the teaching objective oriented by "taking ability cultivation as the main line, improving students' problem-solving ability and comprehensively developing students' comprehensive ability", construct a set of corresponding multiple intelligences evaluation system, and help it promote and accelerate the pace of educational reform.

### ***4.2 Establishment of multiple intelligence evaluation system indexes for track and field course students in local colleges and universities***

Guided by the theory of multiple intelligences, through questionnaire and field interviews, on the basis of giving priority to expert experience advice and track and field knowledge system, the evaluation index can not only reflect the basic professional knowledge and skills of students, but also adapt to the demand for high-quality talents in the new situation. In addition, it enables students to keep up with the forefront of the development and gain insight into the comprehensive abilities needed in the new era. In view of this, combined with the characteristics of pedagogy, psychology, sports and other professional disciplines, a multiple intelligence evaluation system of academic performance of track and field students in local colleges and universities is preliminarily established. The first-level

indicators are identified by experts as: skills and knowledge (language intelligence, mathematical logic intelligence, body movement intelligence), means and process (visual spatial intelligence, music rhythm intelligence, natural observation intelligence), emotional attitude and values (interpersonal intelligence, self-knowledge and self-reflection intelligence). The establishment of the second-level index is based on the combination of the professional characteristics of track and field courses and the unique connotation of the first-level index. It is filtered and positioned on the basis of defining the inherent characteristics of the eight intelligences of multiple intelligences.

### ***4.3 Construction and demonstration of multiple intelligences evaluation system for track and field students in local colleges and universities***

#### 4.3.1 Skills and knowledge

Combining the connotation of the theory of multiple intelligences and the characteristics of track and field courses for physical education majors, the skills and knowledge indexes for evaluating students' academic performance in track and field courses are mainly reflected in language intelligence, mathematical logic intelligence and physical movement intelligence.

##### (1) Verbal intelligence

Verbal intelligence is used to test students' mastery of the basic knowledge of track and field, theory and concept, and it is carried out effectively. The expression of language and writing ability is the basis and guarantee in social work and further study in the future. It mainly includes two aspects: language expression ability and writing ability.

The evaluation method of language expression ability: Ability to teach theoretical knowledge and technical essentials of track and field; Ability to accurately use professional terms: able to accurately explain the key points of movement technology or rules of games related to track and field in various technical projects; Ability to correctly use the password: students can correctly use the password of a technical project in warm-up activities or in a teaching link of a technical project to express clearly and concisely; Express track and field sports experience, learning and feeling ability: in daily learning and communication, being able to clearly express learning and sports feelings in the course of track and field to partner or others, and make DV.

The evaluation method of writing ability is as follows: Ability of writing teaching training and teaching plan documents: able to timely write a teaching plan or training plan for a certain stage according to the teaching process; Ability to write teaching plans: according to the requirements of teaching objectives and a certain technical project of track and field, be able to write a complete teaching plan of technical courses; Writing ability: according to the teacher's requirements, students can make full use of electronic resources to obtain theoretical knowledge of track and field to finish assignments[5].

(2) Mathematical logic intelligence

Mathematical logic intelligence is the ability to effectively use numbers and reasoning, to be able to use logical reasoning to discover and solve present problems. It includes the ability to use numbers and logical reasoning.

Evaluation of numeracy is as follows: Ability to identify and record track and field performance: ability to accurately record track and field events and fields as required; Ability of drawing and measuring sports venues: understand the venues of track and field sports, be able to design the venues according to the actual situation, measure and draw the venues of each project; Ability of score conversion: Be able to accurately convert the standard scores into corresponding scores according to the examination outline and rank them.

The evaluation method of logical reasoning ability: Track and field games scheduling ability: Being familiar with computer programming software to make brochures on corresponding procedures and rules; Teaching design and organization ability: designed teaching procedures and steps according to the requirements of teachers, with clear teaching organization and strong logic; Ability to grasp the principle of technical action: able to understand and master the technical principle of track and field sports, and clearly draw the diagram of each technical action and make the basic technical flow chart.

(3) Physical movement intelligence

Physical movement intelligence is the most central part of track and field projects, which is the fundamental embodiment of the characteristics of track and field projects. The mastery of this intelligence effect directly affects the process of track and field teaching and plays a decisive role in the learning effect of students. The main evaluation methods are as follows:

Evaluation method of technical action: Ability of mastering the technical action : according to the track and field technical projects taught by the teacher, correctly understand and comprehend the characteristics and key points of the technical structure, and master the technical action standard, in place; Ability of technical comments: in the teaching process, being able to make scientific, reasonable, rigorous and standard comments on other students' technical actions;

Evaluation method of physical fitness: Ability to reach the standard: track and field sports events such as walking, running, jumping and shooting can show good reaction speed and movement speed, good jumping ability and good strength quality ability; Test: this is one of the methods commonly adopted by colleges and universities at present. When the learning unit of a technical project is completed, students are required to take the score test of the technical project, and their test scores shall meet the requirements of the teaching syllabus;

Evaluation method of teaching practice ability: Teaching organization ability: students can organize teaching flexibly and flexibly according to the actual situation of teaching objects, site facilities and teaching environment; Judging ability of track and field sports competition: competent for judging work of all kinds of sports

meetings held by cities, districts and universities, proficient in rules of track and field competition; Ability to explain and write teaching plans: students can write a complete teaching plan of track and field according to the teacher's requirements, and can explain the teaching content designed by themselves within the specified time, highlighting the key points and characteristics.

#### 4.3.2 Means and process

Skills and knowledge are the main contents of academic performance evaluation of track and field courses. Only by mastering various technical projects of track and field in "means and process" can students acquire more skills and knowledge. The intelligence of "means and process" is mainly embodied by visual spatial intelligence, music rhythm intelligence and natural observation intelligence[6].

##### (1) Visual spatial intelligence

Visual spatial intelligence is the ability that students must have in learning any technical project. The first step is to establish an intuitive understanding of the overall concept of a technical project through this intelligence and through intuitive visual perception and experience and spatial perception to improve the learning effect. The main evaluation methods are as follows:

Evaluation methods of visual discrimination and transfer-ability: Visual discrimination ability: In the course of track and field learning, through teaching videos, CDs and teachers' personal demonstrations, it is necessary to have some understanding of the technical links and movement details of a technical project, to feel and distinguish, and to form motion appearance; Visual transfer-ability: on the basis of visual discrimination ability, it is necessary to deepen the understanding of technical action, gradually master the movement technology, so as to better appreciate the track and field sports and track and field competition;

Evaluation methods of time and space orientation perception: Time perception: in the process of learning, students are able to grasp the opportunity of learning actions and teaching demonstration according to their own feelings about the practice feelings generated by practicing and doing exercises for a certain technical project; Space orientation perception: in the process of teaching, students can correctly grasp the position of demonstration and be able to change the position of body[7].

##### (2) Music rhythm intelligence

The main forms of this intelligence in the learning process of track and field events are the ability to respond quickly to sound and the ability to control rhythm, such as in the start of a race and the ability to control rhythm in the middle- long-distance running and heel- and-toe walking race, etc. The main evaluation methods are as follows:

Evaluation method of sound perception ability: Ability to respond to sound: students' keen ability to respond to the commands and signal at the start of a race in teaching or competition;

Evaluation method of music and rhythm: Dubbing ability: students can dub in background music in warm-up or ending of the class or in the middle-and-long distance running teaching, so as to motivate the students or mediate the classroom climate; Track and field rhythm ability: the rhythm of the class, technical rhythm ability and track and field breathing rhythm.

### (3) Natural observation intelligence

It mainly manifests students' ability to observe things or individuals and to recognize nature in the learning of track and field project. The main evaluation methods are as follows:

Evaluation method of observation ability: Ability to watch video: able to correctly observe the characteristics and structure of technical movements of athletes or teachers; Ability to observe and correct wrong actions: students can observe the characteristics of their technical actions and find out the problems;

Evaluation method of natural discrimination: Ability to distinguish natural light, smoke and obstacles: be able to reasonably distinguish the smoke of starting gun in teaching or competition, or the placement position of equipment and the height and distance of the bar rack; ability to apply natural conditions to track and field teaching[8].

### 4.3.3 Emotional attitudes and values

The establishment of this first-level index is mainly to reflect the non-intelligence factors of students' learning, guide students to form correct values and improve students' initiative in learning, including interpersonal relationship intelligence and self-evaluation intelligence.

Interpersonal intelligence: Interpersonal intelligence can promote mutual understanding and help. Its core is the ability to notice the differences between others and work better with others. It mainly includes the ability to cooperate with others and the ability to understand and communicate.

Ability to understand and communicate: In the process of track and field learning, be able to learn and communicate with others, communicate feelings in the learning process, and experience the learning emotions and feelings of others. The ability to persuade others to take an active part in track and field fitness through their own knowledge;

Ability of cooperation and communication: Teamwork spirit: able to actively set up a group or a team according to the teaching needs, and demonstrate a strong sense of cooperation, mutual guidance and help in a team or group; Ability to appreciate and learn from others: the ability to see the advantages of other students in the learning process, and learn from others; Ability to help each other: in the learning process, students with good action skills can take the initiative to help underachievers, which reflects a strong sense of collectivism.

Self-evaluation intelligence: The main forms of this intelligence in the learning process of track and field events are that students can be modest, seriously recognize



themselves, often remind and reflect on their own to constantly strive for progress, which is an important means to promote the quality of students' track and field learning, through their continuous accumulation of experience, improve learning methods and methods, and then improve the quality of track and field learning.

Evaluation method of self-cognition capacity: Correct self-knowing ability: to know themselves dialectically and scientifically, recognize their strengths and weaknesses of learning, find out their strengths and weaknesses; Ability to control their learning timing: students can correctly recognize and control their learning timing for track and field learning according to their learning emotions and motivation; Self-positioning ability: In the track and field learning process to give themselves a correct and reasonable positioning, which is conducive to active track and field learning.

Evaluation method of self-reflection ability: Positioning and evaluating the ability of learning outcomes: be able to objectively and accurately evaluate the learning outcomes of a certain stage of learning; Self-reflection and guiding ability: through self-reflection on the learning effect, seek for the shortcomings, to make a self-learning plan and better guide the future study of track and field.

## 5. Conclusion

The teaching reform meets with higher requirement with the times development, in which the theory of multiple intelligences plays an increasingly obvious role. It has become an important basis for the reform of college physical education curriculum, and has been integrated into the teaching practice of physical education classroom, presenting diversified types of physical education curriculum. Meanwhile it is clear that education evaluation is a long and complicated work, and there is still a gap between the pursuit of ideal evaluation and realistic evaluation. This gap still needs more efforts to be completed in the later stage. Due to the limitation of teaching time and conditions, multiple intelligences evaluation system cannot cover all aspects in the teaching practice, which requires us to find a reasonable balance between ideal and reality. "If education provides the motivation and foundation for lifelong education learning both on and off the job, then education can be considered successful. "This is the purpose of the multiple intelligences evaluation system.

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