

## Research Article

### Study of Competency of Sports Teachers in Colleges and Universities Base on Students' Cognition

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**Abstract:** With the improvements of physical education in Chinese colleges and universities, the main body of sports teaching value transforms from social value to student's value. Current performances of competency studies exist some problems like study objects and study scopes. There are some shortages in leading teachers to education reform, stimulating developments of teachers' careers and adapting to the requirements of curriculum reforms. This study uses literature research method, behavioral event interview method, group focus interview method, mathematical statistics method, etc, analyzes the factor set of competency in pare to analysis, which includes 20 factors like character, understanding, innovation, learning, etc; the competency model includes for dimensions such as individual character, interpersonal communication, teaching organization and qualities; this study clarifies the competency model of sports teachers in colleges and universities base on students' recognition and gives various factors and dimensions and parameter evaluations of such model. This model demands competency evaluations under the idea of satisfying the students. Its practical applications can provide references for curriculum reforms and some proofs for career training and career development. It is also the abundance and development of analysis of competency.

**Keywords:** College and university, competency, model, sports teachers

#### INTRODUCTION

With the progressing of teaching reforms in college and university, the value body of sports teaching transforms from social value to individual value (Zhang, 2005). Some aspects like functions, structures, contents, evaluations and management, etc have changed a lot, which has proposed new challenge and higher requirements. The competency, as an important area, includes psychology, human source management, environmental culture, performance evaluation, etc. Many scholars studies on competency of people in some special career, like teacher, offices, doctor, etc (Zhou, 2010). Although some results on teachers exist, some problems in objects and scopes exist. For example, the objects usually are sports teachers in middle school, or the study only starts on teaching management or teacher himself. On condition of changing the value body, the practice will have many problems. This study, through many scientific methods, in the perspective of students, discusses the competency of sports teachers in college and university, providing some references for meeting the demands of curriculum reforms and promoting teachers' career development and adapting to curriculum reforms. Meanwhile, it is the practical application of such theory and the abundance and development of multi-aspect overview of competency.

#### THEORETICAL BASIS

**Conception:** Competency can be explained in many ways. The classical one is: McClelland (1994) considers competency is a recognizable behavior skill, such as motion, feature, self conception, altitude, values, etc and personal character which can separate the high-performance persons and general-performance persons, which can be evaluates by credible ways. Boyatzi (1982) considers competency is an ability meeting the word demanding in organization environment, generated by person, which can bring predictive effects. Blancero *et al.* (1996), indicates competency includes knowledge, skill, ability and other factors to reach future character objects. It can be classified as eight categories: management competency, commercial competency, skill competency, interpersonal competency, recognition/imagination competency, effect competency, organization competency, personal competency. Sandberg (2000) thinks the competency of the man on work isn't the whole knowledge and skill, but the knowledge and skills used in the work. Zhong and Shi (2005) Lifeng and Shikan considers competency as the personal potential and long-term features for judging the performances of people.

The competency is not only the key of education, but also the hot top with the development of the reform of fundamental education and teacher

professionalization progress. The conception of competency is the basis and premise. The following tips can refer: the competency should stress its relation with teaching performance, closely associating with successful teaching. It should stress its judging function, which can separate high-performance teachers and general teachers. Its availability should be stressed, such as specific description of knowledge, ability, character, feature, motion, self-recognition, career values, etc. Therefore, so-called competency is the potential character which separate high-performance teachers from general teachers, in the teaching, including the knowledge, ability, character, self-recognition and career values, etc.

**Content structure:** In the practices of human sources, competency becomes a common topic. To the timely effects, many organizations use the practical measures base on competency. For example, David and Yang (2005) considers competency is the source power of successful organization and lists many successful plans. David *et al.* (2006) explains the human source management base on competency. To the construction of competency, it includes professional knowledge, professional skill, professional altitude or values, teaching and professional responsibility, teacher reflection, cooperative ability, efficiency and leading, planning, preparing, teaching environment surveillance, communication ability, independent thinking, affection and organization and management, etc.

**Competency base on sports teaching theories:** The quality of teachers mainly includes its institution, cultivation and improvement and qualified education, relations with new curriculum reforms, etc. In recently years, there are some studies on competency of sports teachers. Its obvious features can be summarized as aspects in the following (Zhang, 2011).

**Uniqueness:** the competency can not only separate the qualities of teachers, but also their own characters. It is the criteria among teachers. Different teacher has different competency, which leads to the difference of performances.

**Dynamic development:** the competency is a long-term result of educational activities, which is developing dynamically. Teacher training, continuous education or learning will change such feature.

**Stability:** in special developing stage, the developing level of competency is comparatively stable. The specific contents of competency are stable.

**Comprehension:** like its conception, it comprises of knowledge, ability, character, self-recognition and career values, etc. They affect themselves, forming the whole body.

### THE STUDY OF COMPETENCY MODEL IN COLLEGES AND UNIVERSITIES

**Conversation method:** This study uses conversation method on 15 students, to get the factor set from the

Table 1: Statistics of factor set of competency

Factor set of competency			
Character	Student's		
	conscious	Learning	Knowledge
Trust	Understanding	Strain	Control
Innovation	Flexibility	Charm	Confidence
Communication	Observation	Duty	Respect
Relationship	Information acquisition	Active	Mobility
Sports ability			

perspective of student's recognition. Conduct Delphi method on 10 specialists to questionnaire in two sections. Make the outline of behavior events of sports teachers in college and university. It is designed according to classical behavior conversation. The main part comprises of three failure events of general teachers and three successful events of good teachers. The stress is the interactive communication between interviewers and interviewees. All the specialists consider the outline is scientific, has strong availability and fine effects. This study, on basis of Spencer competency dictionaries, combining with results of job analysis, edits competency dictionaries of sports teachers in colleges and universities after communicating with specialists on human source management and managers in sports departments in colleges and universities. Conduct essential training on coders, the pre-study definite 2 coders' consistence of text codes.

**Conversation results:** Comparing conversation text codes to competency dictionaries of sports teachers in colleges and universities, through pare to analysis and recognize the main factor of evaluation. The 80% competency has 21, which constitutes the factor set of competency, Table 1.

**Trust test:** Classification consistency is percentage of number of codes in the same category of the same conversation papers among persons in the conversation group. According to winter formula:

$$CA = \frac{2 \times T_1 \cap T_2}{T_1 \cup T_2}$$

$T_1 \cap T_2$  is the number of the codes in the same classification,  $T_1 \cup T_2$  is the summary of the number of individual codes of the evaluators. CA is classification consistency. According tp the calculating results, the classification consistency is 67.9%, which indicates the code has better consistency. Therefore, the result is credible.

**Effectiveness degree test:** Construct questionnaire item according to such indexes, design in Li Kete Five Points Type Amount Table, abstract 30 students from different schools and different classes randomly and conduct twice questionnaires on their current teachers and once teachers. Evaluate the competency degree. Judge the

Table 2: Differences of various competencies

Competency factor	High-performance group		General-performance group		T
	Mean	Standard variance	Mean	Standard variance	
Character	4.038	0.865	2.512	0.831	2.230*
Trust	3.801	0.572	1.724	0.351	2.243*
Innovation	4.011	0.538	2.410	0.462	2.213*
Communication	3.759	0.722	3.154	0.271	3.429**
Relationship	4.154	0.551	3.210	0.366	2.275*
Sports ability	4.159	0.277	2.358	0.634	2.455*
Student's conscious	3.926	0.573	3.219	0.650	2.135*
Understanding	4.176	0.411	3.269	0.691	3.302**
Flexibility	4.520	0.587	3.209	0.532	3.401**
Observation	4.001	0.695	2.948	0.360	2.934**
Information acquisition	3.765	0.679	3.492	0.351	1.641
Learning	3.891	0.376	2.153	0.624	2.215*
Strain	4.032	0.513	3.524	0.798	2.148*
Charm	4.286	0.254	2.937	0.611	3.690**
Duty	4.022	0.538	3.176	0.341	2.206*
Active	3.915	0.277	2.931	0.884	3.660**
Knowledge	3.701	0.265	3.046	0.345	2.198*
Control	3.734	0.701	3.205	0.811	2.207*
Confidence	3.769	0.708	3.314	0.636	2.491*
Respect	3.624	0.551	3.011	0.625	2.387*
Mobility	4.262	0.831	3.106	0.773	3.347**

“\*”:p<0.05 ; “\*\*”:p<0.01

Table 3: Situation statistics

	Delivery number	Recovery number	Effective number	Recovery ratio (%)	Effective ratio (%)
Questionnaire	350	342	335	97.7	95.7

Table 4: Load matrix of components of competency

Component	1		2		3		4	
Character	0.842		Communication	0.795	Trust	0.811	Knowledge	0.788
Charm	0.801		Relationship	0.734	Control	0.749	Innovation	0.745
Confidence	0.766		Student's conscious	0.618	Mobility	0.682	Sports ability	0.632
Respect	0.531		Understanding	0.535	Active	0.547	Learning	0.611
Duty	0.422				Observation	0.495	Flexibility	0.464
					Strain	0.433		

levels of teachers at first. The levels can be classified as good and general dimensions. Each dimension selects a teacher to judge. The flair analysis mainly observes whether the differences of CR (Critical ratio) of each item are distinct in two groups. Delete the indistinct one. After analyzing, the two groups don't reach the obvious level in "information acquisition". Delete them. The result is Table 2.

**Build model for competency:** To definite the structure of competency, on basis of 20 competency factors though effectiveness degree test, design and conduct questionnaires. Randomly select 150 questionnaires to conduct explorative analysis. Use the remaining 185 questionnaires to conduct proof factor analysis. The situation is Table 3.

**Trust degree and effectiveness degree:** Using SPSS19.0 to conduct analysis, the result shows the whole Cronbach's  $\alpha$  is 0.824.

After deleting all the problem items, the whole trust degree doesn't increase, but decrease. So remain the various problem items. After deleting all the problem items, Cronbach's  $\alpha$  is obviously bigger than 0.732. With reference to Churchill's results, the trust degree is ideal.

This study uses factor analysis on effectiveness degree analysis. Conduct KMO and Bartlett sphere test on such results, the result is 0.798. According to the standard given by Kaiser, conduct factor analysis. Meanwhile, the associative probability of Bartlett sphere test is 0.00, less than the obvious level 0.05. Therefore refuse the zero hypotheses and consider it is proper. Through the questionnaire, the result shows the loads of various indexes are more than 0.4, meeting the statistics. The specific result is Table 4.

Abstract four factors, factor 1 variance are explained as 32.49%. Factor 2 variance is explained as 21.63%. Factor 3 variance is explained as 13.77%. Factor 4 variance is explained S as 76.90%. After the

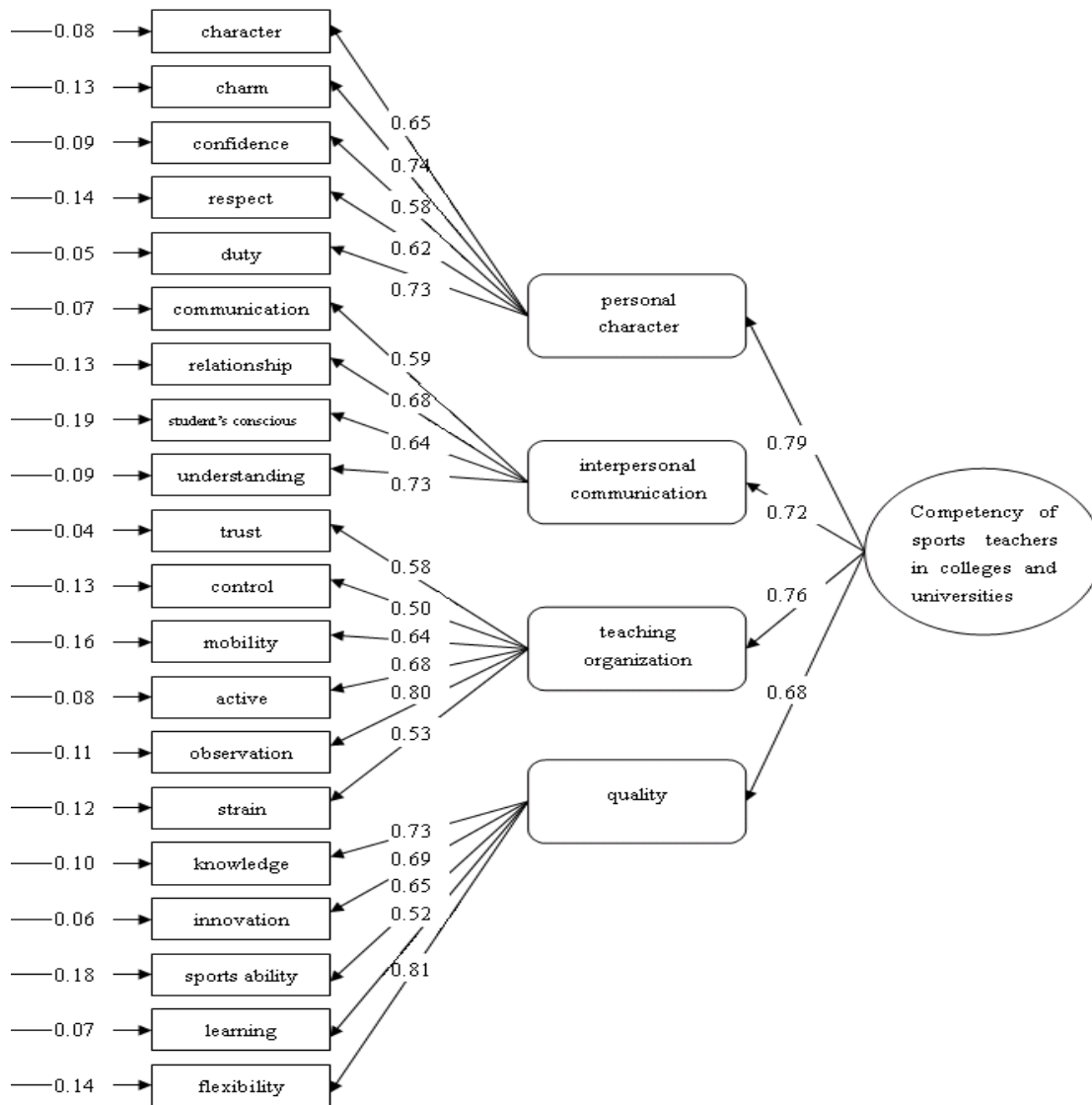


Fig. 1: Confirmatory factor analysis of competency model

effectiveness degree test, the competency questionnaire base on student recognition has strong effectiveness.

**Factor naming:** Build competency model by explorative factor analysis, the model can be classified as four dimensions. The first one is individual character of teacher, including five items: character, charm, confidence, esteem, responsibility; the second one is interpersonal communication, reflecting the communication abilities between teachers and students, including communication, relationship, student's consciousness, understanding; the third one is teaching organization, indicating teacher organization, executing teaching ability, including trust, control, mobility, active, observation, strain; the fourth one is quality, reflecting the essential knowledge for task and skill cultivations, including knowledge, innovation, sports ability, learning and flexibility.

Table 5: Confirmatory degree test on competency base on student's recognition

Evaluating index	Real value	Standard
P value	0.069	p>0.05
C <sup>2</sup> /df	1.632	C <sup>2</sup> /df £ 3.0
RMR	0.247	the smaller, the better
SRMR	0.066	SRMR p 0.080
GFI	0.873	GFI f0.85, the bigger, the better
AGFI	0.870	AGFI f0.85, the bigger, the better
NFI	0.919	NFI f 0.90
NNFI	0.881	NNFI f 0.85
CFI	0.914	CFI f 0.90
RMSEA	0.046	RMSEA p>0.05

**Confirmatory factor analysis:** Conduct confirmatory factor analysis on competency model in questionnaire by software LISREL8.70 and the parameter evaluation is Fig. 1.

Conduct the test on fitting degree of competency base on student's recognition in LISREL8.70 and the

result is Table 5. It shows the various are in the available area. It indicates the fitting degree is comparable ideal.

The result shows, the competency model built through questionnaire is reasonable. Such model with four layers, comprising of personal character, interpersonal communication, teaching organization and quality, can fine reflects the competency.

## CONCLUSION

This study, objecting as competency of sports teachers in colleges and universities, according to global relative performances, combining with career characters and trends of sports, studies the competency. The results are:

- The competency includes 20 factors such as character, understanding, innovation, learning, etc.

This study studies with literature methods and analyzes the career characters and behavior characters of sports teachers. In behavior event conversation method, through the code analysis of conversation result, clarify the factor set of competency. After pare to analysis recognizing and testing, get the competency of instructor in the entertaining club including factors like character, charm, confidence, esteem, responsibility, communication, relationship, student's consciousness, understanding, trust, control, active, etc.

- The competency model includes four dimensions, which are personal character, interpersonal communication, teaching organization and quality.

On basis of the factor set, design the questionnaire. Build the four-dimension model by explorative and confirmatory analyzing, which includes personal character, interpersonal communication, teaching organization and quality. Personal character includes "character, charm, confidence, respect and responsibility"; interpersonal communication includes

"communication, relationship, student's consciousness and understanding"; teaching organization includes "trust, control, mobility, active, observation and strain"; quality includes "knowledge, innovation, sports ability, learning, flexibility". The difference of boundary ratio values of Information acquisition doesn't reach the obvious degree. Delete them.

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