A Study on the Influence of Higher Vocational Students' Professional Identity on Learning Gain, Based on the Mediating Effect of Learning Input

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Abstract

The talent training orientation of these higher vocational colleges is no longer to cultivate research talents and general talents but to cultivate professional talents and professional talents. How to cultivate excellent professionals has become an important issue faced by higher vocational colleges after entering the new century. The talent training orientation of local higher vocational colleges is to train qualified basic education teachers, and professional and professional talents. Students studying in a higher vocational college should clarify their learning objectives, improve their learning investment, enhance their professional identity, master learning methods, and learn specialized knowledge and skills. Therefore, it is of both practical and theoretical significance to study the relationship between professional identity and the learning harvest of higher vocational students. Based on the analysis of the research results on learning input and professional performance at home and abroad, starting from the psychological and environmental levels of higher vocational students, this paper takes constructivist learning theory, self-identity theory, and ecosystem theory as the theoretical basis of the research. Through the analysis of the questionnaire survey results and combined with the interview survey, it is found that there is a positive correlation between professional identity and learning harvest, and learning input has an obvious intermediary role.

Keywords: learning input, professional identity, learning harvest, mediation

1. Introduction

At present, China's higher education is moving towards an important turning point. It no longer simply pursues the scale expansion of colleges and universities, but turns to the development of higher education quality, that is, to realize the transformation from a large educational country to a powerful educational country (Lin et al., 2020; Bai & Liu, 2018). The main task of colleges and universities has also changed from promoting economic and social progress and promoting the inheritance of human culture to cultivating high-quality talents. Higher vocational students have become a new force for the development and progress of education in our country (Chen et al., 2020). At the same time, China's private higher education is also experiencing historic changes. Under the guidance of classified management policies, higher vocational schools will implement differentiated support and management of profit-making and non-profit higher vocational schools in the future, which is both an opportunity and a challenge for higher vocational schools. In the general situation of economic transformation, society will have higher requirements for the talent training of private higher education (Greco & Kraimer, 2020). Therefore, in the context of the new era, "student-centered" requires colleges and universities to provide students with diverse and personalized high-quality educational services, so as to meet the different development needs of students and promote students' active learning and all-round development, which has become an important orientation to deepen the reform of talent training mode in the field of College Students' work (Schauster et al., 2021; Thomas & Mockler, 2018).

Looking at the quality of talent training in Colleges and universities from the perspective of professional identity is a micro perspective of the psychological level, which is also convenient to excavate the development characteristics of Higher Vocational Education from the perspective of professional connotation (Madigan et al., 2019). Just as

everyone is engaged in different occupations, they all have their internal value and social contribution, and so do majors. Whether liberal arts students or science students, they should find their own majors, identify with their majors, make efforts for them, and reflect on their personal values (Kowtha, 2018; Bernardo et al., 2022). The significance of professional learning lies in this. At present, most of the traditional evaluation methods for the quality of higher education are based on text analysis and research from the macro perspective of the school itself, paying attention to the evaluation of the external environment such as input resources and social reputation, and are very lack of micro measurement from the perspective of students. In fact, as the main body of education, it is of more practical significance for students to pay attention to and measure the quality of higher education from the perspective of students (Horvath et al., 2018). At the same time, higher vocational students in higher vocational schools have their own characteristics. At the same time, there are obvious differences in the school running concept and management mode between higher vocational schools and public universities. The low quality of higher vocational students and the lack of learning initiative is an unavoidable practical problem. Therefore, it is of great practical significance to explore the current situation and relationship between Higher Vocational Students' professional identity and learning harvest (Tomlinson & Jackson, 2021; Gold, 2021).

On the basis of learning from behaviorism and cognitivism in educational psychology, constructivist learning theory, represented by Piaget and vygowski, is expounded from the perspectives of knowledge, students, and learning. Firstly, the knowledge view of constructivist learning theory holds that knowledge is an individual's interpretation of the world (Shim, 2022). With the development of information technology and human cognition, knowledge will be redefined. Knowledge has the characteristics of dynamic development, which determines that memorizing knowledge is not the main thing but learning to think about how knowledge is produced. Because the innovation of knowledge is the driving force for the continuous change of knowledge, as the subject, students need to build a new cognitive structure in the interaction with the object (teachers, classmates, parents and Society) (Mooney & Jameson, 2018).

Secondly, it advocates students' theory of development and constructivism of learning potential. The theory emphasizes that the basic foothold of teaching is students' original knowledge and experience. Teachers need to skillfully process and transform knowledge so that students can actively "grow" new cognitive schema. As the guide of knowledge, teachers need to pay attention to students' own understanding of various phenomena, that is, individual internal cognition (Park & Schallert, 2019; Lahmi et al., 2022).

Finally, the learning view of constructivist learning theory emphasizes active construction, social interaction, and situational of learning. The theory holds that students obtain the integration of old and new knowledge through meaning construction (Simmonds & Dicks, 2018). What needs to be clear is that the process of meaning construction needs the help of important others and obtain multi-channel learning materials (Mbukusa, 2018; Piumatti et al., 2019). Teachers and students are partners. Under the guidance of interactive mode, teachers constantly enrich and update students' brain cognitive structure, so as to promote students' real individual and social development. This theory advocates that students, as active constructors of knowledge, actively process and process information under the influence of the external environment, so as to establish a meaningful connection between new knowledge and old cognition (Lin et al., 2020; Aoudia, 2022).

In this study, the term "major" refers to the discipline learned in Higher Vocational Colleges and the pre-service preparatory knowledge learning stage of engaging in a special occupation after graduation. The professional identity of students in higher vocational schools refers to the higher vocational students' understanding of their major, and then producing emotional positive or negative experiences, resulting in positive external behavior or negative learning psychology. Generally speaking, professional identity is the manifestation of professional development from the inside to the outside.

Based on the dimension division criteria of scholars' learning input, the "three-dimensional" is finally established, that is, behavioral input, emotional input, and cognitive input. The research on students' learning input in higher vocational schools also draws lessons from the three-dimensional structure model of learning input. Specifically, cognitive input refers to clear learning objectives and plans in the learning process. Behavioral input refers to the degree of participation in learning theoretical knowledge and extracurricular practical activities. Emotional input refers to the emotional attitude in the learning process.

This study puts forward the following assumptions:

H1: Higher Vocational School Students' professional identity has a significant positive impact on learning harvest

H2: Higher Vocational School Students' professional identity has a significant positive impact on learning

investment

H3: Higher Vocational School Students' learning input has a significant positive impact on learning harvest

H4: learning input plays an intermediary role in the impact of professional identity on learning harvest

2. Materials and Methods

2.1 Research Object

Taking four higher vocational colleges in a province as the research object, the main reasons for choosing these four schools for research are as follows: these four schools involve multiple school types of comprehensive, art and management, covering rich majors, which can enrich the majors of the sample.

2.2 Questionnaire Design

The author makes a questionnaire for the above variables and models, combined with the above-related articles. The questionnaire is divided into four parts. The first part is the basic information such as the gender and age of the sample users.

The second part is the professional identity questionnaire. The professional identity questionnaire is compiled according to Qin panbo in 2009 and is suitable for measuring the professional identity of higher vocational students. The expression of some words is modified. The final questionnaire has 15 questions, including 4 dimensions, namely cognition, emotion, behavior and Appropriateness. The questionnaire adopts the five-point scoring method, and the scores from "completely inconsistent" to "fully consistent" are 1-5 respectively.

The third part is the learning input questionnaire, which adopts Liu Xiujuan's learning input questionnaire. This part of the questionnaire is divided into three parts: cognitive input scale, emotional input scale and behavioral input scale. The three subscales of learning input are scored by Likert, and the scores from "completely inconsistent" to "fully consistent" are 1-5 respectively.

The fourth part is the learning harvest questionnaire. The learning harvest scale used in this study is the related items of students' learning harvest self-report involved in the Chinese version of NSSE China questionnaire. Therefore, the learning harvest of students' self-report refers to the learning harvest of higher vocational students. This research mainly focuses on "do the study and life of higher vocational colleges make you improve in the following aspects?" To investigate. Under this title, a total of 8 sub-questions are set, and the alternatives of each sub-question include "great improvement, great improvement, general, a little improvement and no improvement". In order to further understand the current situation of students' learning harvest, this study divides it into three dimensions: knowledge harvest, ability harvest, and self-harvest according to Professor George Ku and the definition of learning harvest in this study.

2.3 Reliability and Validity Analysis

2.3.1 Reliability Analysis

Reliability analysis uses Cronbach's alpha coefficient to measure the consistency of questionnaire variables in each measurement item. If the coefficient is greater than 0.7, the reliability is better (Shrestha, 2021).

The model of this paper includes 10 influencing factors: cognition, emotion, behavior, appropriateness, professional identity; Cognitive input scale, emotional input scale and behavioral input scale; The measurement results of knowledge gain, ability gain and self-gain are shown in the table below (Table 1):

It is observed from table1 that the Cronbach coefficients of X1 professional identity, X2 learning input, and X3 learning harvest are above 0.7, meaning that the variables hold acceptable internal consistency reliability.

CITC is also above 0.5, revealing that the measurement elements satisfy the research needs. From the view of "deleting the Cronbach value of this item", deleting any item won't raise the Cronbach value, which demonstrates that the variable holds desirable reliability.

Table 1. Reliability Test

Variable	Item	Corrected item and total correlation	Clone alpha after deleting item	Cronbach's alpha	Number
Professional identity	X11	0.749	0.822	0.871	15
	X12	0.783	0.789		
	X13	0.728	0.840		
	X14	0.681	0.754		
Learning input	X21	0.787	0.789	0.872	14
	X22	0.773	0.805		
	X23	0.711	0.865		
Learning harvest	X31	0.817	0.774	0.875	8
	X32	0.707	0.876		
	X33	0.762	0.822		

2.3.2 Validity Analysis

The questionnaire is usually measured by content validity and structure validity. Among them, content validity refers to the suitability and logical consistency between the items and the measured variables. The questionnaire used in this study is based on the literature review, which shows the relationship or correlation between the variables, and further modifies and improves the wording and expression of the items according to the pre-survey results. Therefore, it can be considered that the scale has the required content validity. The focus of this study is to study structural validity, which refers to the ability of items to measure the measured variables. This study uses the collected data to test the exploratory factor analysis (EFA) to prove the structural validity of the scale.

Exploratory factor analysis was carried out by SPSS 25.0. Kmo and Bartlett's spherical test was carried out on the scale. The results are shown in the table below (Table 2).

Table 2. Exploratory Factor Analysis Kmo and Bartlett's Spherical Test

Kmo and Bartlett test		
Kmo sampling suitability quantity		0.887
Bartlett sphericity test	Approximate chi-square	3936.067
	freedom	276
	Significance	0.000

Given Table 2, kmo = 0.887, above 0.7, Bartlett's spherical test value is regarded as significant (SIG. < 0.001), revealing that the questionnaire data satisfies the premise needs of factor analysis. as a consequence, for more analysis, the principal component analysis procedure is utilized in factor extraction, and the common factor is derived through taking the characteristic root above 1 as the factor, and the orthogonal rotation with maximum variance is applied for factor analysis in factor rotation. The results of the analysis are presented in Table 3.

It can be seen from the above table that the factor analysis outcomes acquired a total of 10 factors, and the total interpretation ability reached 79.456%, above 50%, demonstrating that the selected 10 factors are well represented.

Table 3. Exploratory Factor Analysis Principal Component Analysis

					Factor analysis results					
					Factor					
	1	2	3	4	5	6	7	8	9	10
X11	0.907									
X12		0.882								
X13			0.880							
X14				0.843						
X21					0.821					
X22						0.795				
X23							0.877			
X31								0.834		
X32									0.826	
X33										0.844
characteristic value	2.547	2.503	2.470	2.427	2.424	2.287	2.267	2.145	2.691	2.832
Percentage variance	10.613	10.431	10.291	10.111	10.100	9.531	9.444	8.937	8.742	8.592
Cumulative%	10.613	21.044	31.334	41.445	51.544	61.075	70.519	79.456	84.763	89.812

2.4 Distribution and Recovery

286 questionnaires were distributed on the spot, of which 275 were valid, with an effective recovery rate of 96.15%.

2.5 Descriptive Analysis

The average value of cognitive professional identity is 3.7474 > the average value of emotional professional identity is 3.6800 > the average value of behavioral professional identity is 3.5735 > and the average value of appropriate professional identity is 3.39540.

Table 4. Descriptive Statistical Analysis of Professional Identity

		Average cognitive professional identity	Emotional professional identity average	Average behavioral professional identity	Average adaptive professional identity
N	Effective	270	270	270	270
	Missing	0	0	0	0
Mean		3.7474	3.6800	3.5735	3.3954
Ste.Deviation		0.60829	0.78222	0.74081	0.77209
Max.		1.40	1.40	1.00	1.00
Min.		5.00	5.00	5.00	5.00

Table 5. Descriptive Statistical Analysis of Learning Input

		Average cognitive professional identity	Emotional professional identity average	Average behavioral professional identity
N	Effective	270	270	270
	Missing	0	0	0
Mean		3.2315	3.7072	2.8257
Ste. Deviation		0.71236	0.55001	0.58172
Max.		1.00	1.86	1.06
Min.		5.00	5.00	5.00

According to the average value in Tables 3-6, the average score of the single item of cognitive involvement is 3.231, the average score of the single item of emotional involvement is 3.707, and the average score of the single item of behavioral involvement is 2.826. It can be seen that the higher vocational college students have the highest degree of emotional investment in learning, which shows that the higher vocational college students show a positive emotional attitude towards the school environment and the learning atmosphere between professional teachers and students in the learning process. The low degree of behavior investment further examines the low degree of the behavior of higher vocational students participating in professional learning inside and outside the classroom.

Table 6. Descriptive Statistical Analysis of Learning Gains

Category	Mean	Ste. Deviation
Knowledge harvest	2.94	0.96
Capacity harvest	2.94	0.91
Self harvest	2.97	1.06
Learning gains	2.95	0.92

In terms of the learning harvest of higher vocational students, the average harvest of knowledge is 2.94, the average harvest of ability is 2.94, and the harvest of self-growth is 2.97, indicating that the harvest of self is the highest, followed by the harvest of knowledge and ability. Therefore, the learning harvest of higher vocational students is at the medium level.

3. Results and Discussion

3.1 Model Analysis

Table 7. Model Fitting Test

Fitting index	Fitting standard	Fitting results
CMIN	-	207.804
DF	-	173
CMIN/DF	<3	1.201
RMR	<0.08	0.06
GFI	>0.09	0.934
AGFI	>0.09	0.912
PGFI	>0.05	0.699
NFI	>0.09	0.940
RFI	>0.09	0.927
IFI	>0.09	0.989
TLI	>0.09	0.987
CFI	>0.09	0.989
RMSEA	<0.08	0.027

It can be seen from the above table (Table 7) that Cmin / DF is 1.201, which is less than 3 standards, GFI, AGFI, NFI, RFI, IFI, TLI and CFI all meet the standards of more than 0.9, and pgfi > 0.05; RMR is 0.06, less than 0.08, RMSEA is 0.027, less than 0.08, and all fitting indexes meet the research standards. Therefore, it can be considered that the matching degree of this model is good.

3.2 Path Inspection

Table 8. Path Inspection

route			Standardized path coefficient	Non-standardized path coefficient	S.E.	C.R.	P	Establishment
Knowledge harvest	<-	Cognitive identity	0.238	0.223	0.070	3.164	0.002	Establish
Knowledge harvest	<-	Emotional identity	0.209	0.220	0.083	2.653	0.008	Establish
Knowledge harvest	<-	Behavioral identity	0.172	0.156	0.067	2.332	0.020	Establish
Knowledge harvest	<-	Appropriateness identity	0.243	0.264	0.086	3.060	0.002	Establish
Capacity harvest	<-	Cognitive identity	0.168	0.152	0.069	2.208	0.027	Establish
Capacity harvest	<-	Emotional identity	0.259	0.263	0.082	3.208	0.001	Establish
Capacity harvest	<-	Behavioral identity	0.181	0.158	0.066	2.409	0.016	Establish
Capacity harvest	<-	Appropriateness identity	0.214	0.225	0.085	2.662	0.008	Establish
Self-harvest	<-	Knowledge harvest	0.227	0.243	0.079	3.068	0.002	Establish
Self-harvest	<-	Capacity harvest	0.366	0.405	0.083	4.850	***	Establish

***,p<0.001

From the above table (Table 8), we can see that cognitive identity has a great impact on knowledge harvest (β= 0.238, P < 0.05) has a significant positive effect, and the hypothesis is true; The effect of emotional identity on knowledge acquisition (β= 0.209, P < 0.05) has a significant positive effect, and the hypothesis is true; The effect of behavioral identity on knowledge acquisition (β= 0.172, P < 0.05) has a significant positive effect, and the hypothesis is true; The effect of appropriateness identification on knowledge acquisition (β= 0.243, P < 0.05)

The effect of cognitive identity on ability gain (β= 0.168, P < 0.05) has a significant positive effect, and the hypothesis is true; The effect of emotional identity on ability gain (β= 0.259, P < 0.05) has a significant positive effect, and the hypothesis is true; The effect of behavioral identity on ability gain (β= 0.181, P < 0.05) has a significant positive effect, and the hypothesis is true; The effect of appropriateness identification on ability harvest (β= 0.214, P < 0.05) has a significant positive effect, and the hypothesis is true

Knowledge gain versus self-gain (β= 0.227, P < 0.05) has a significant positive effect, and the hypothesis is true; Ability gain versus self-gain (β= 0.366, P < 0.05).

3.3 Intermediary Effect Test

Table 9. Analysis of the Mediating Effect of Learning Input on the Impact of Cognitive Identity on Learning Harvest

Model		Non-standardized coefficient		standardized coefficient	t	Significance	Collinearity statistics		Adjusted R-square	F
		B	Standard error	Beta			tolerance	VIF		
1	(C)	3.547	0.053		66.726	0.000			0.236	43.435***
	X11Cognitive identity	0.406	0.054	0.402	7.494	0.000	0.968	1.033		
	X2Learning input	0.222	0.054	0.220	4.109	0.000	0.968	1.033		
2	(C)	3.526	0.053		66.115	0.000			0.250	31.452***
	X11Cognitive identity	0.414	0.054	0.410	7.697	0.000	0.964	1.037		
	X2Learning input	0.228	0.054	0.226	4.249	0.000	0.966	1.035		
	X11X2	0.114	0.047	0.128	2.432	0.016	0.993	1.007		
	a. dependent variable：X3Learning harvest									

***,p<0.001

From model 1 in the above table (Table 9), we can see that cognitive identity has a great impact on learning gains (β= 0.220, P < 0.001) and has a significant positive effect, and the hypothesis is true; Model 2 shows that cognitive identity * learning input has a significant impact on learning gain (β= 0.128, P < 0.05), indicating that learning input has a positive mediating effect in the impact of cognitive identity on learning harvest. These findings are in good agreement with the results of Gold's (2021) study, which is devoted to the examination of cognitive and sociocultural perspectives and also approaches and implications for learning, teaching, and assessment.

Table 10. Analysis of the Mediating Effect of Learning Input on the Impact of Emotional Identity on Learning Harvest

Model		Non-standardized coefficient		Standardized coefficient	t	Significance	Collinearity statistics		Adjusted R-square	F
		B	Standard error	Beta			tolerance	VIF		
1	(C)	3.547	0.053		67.211	0.000			0.247	46.053***
	X12Emotional identity	0.419	0.054	0.415	7.807	0.000	0.972	1.029		
	X2Learning input	0.225	0.054	0.223	4.196	0.000	0.972	1.029		
2	(C)	3.549	0.053		66.557	0.000			0.245	30.640***
	X12Emotional identity	0.414	0.055	0.411	7.480	0.000	0.915	1.093		
	X2Learning input	0.223	0.054	0.222	4.147	0.000	0.965	1.036		
	X12X2	-0.014	0.042	-0.018	-0.337	0.736	0.927	1.079		
	a. dependent variable：X3Learning harvest									

***,p<0.001

From the model in the above table (Table 10), we can see that emotional identity has a great impact on learning gains（ β= 0.415, P < 0.001) has a significant positive effect, and the hypothesis is true; The model can be obtained that affective identity * learning input has an impact on learning gain（ β=- 0.018, P > 0.05), indicating that learning input has no mediating effect on the impact of emotional identity on learning harvest, and the hypothesis is not tenable.

Table 11. Analysis of the Mediating Effect of Learning Input on the Impact of Behavioral Identity on Learning Harvest

model		Non-standardized coefficient		Standardized coefficient	t	Significance	Collinearity statistics		Adjusted R-square	F
		B	Standard error	Beta			tolerance	VIF		
1	(C)	3.547	0.053		66.610	0.000				
	X13Behavioral identity	0.400	0.054	0.397	7.418	0.000	0.978	1.022	0.234	42.812***
	X2Learning input	0.236	0.054	0.234	4.374	0.000	0.978	1.022		
2	(C)	3.530	0.053		66.302	0.000				
	X13Behavioral identity	0.408	0.054	0.405	7.620	0.000	0.974	1.026	0.247	30.962***
	X2Learning input	0.247	0.054	0.245	4.601	0.000	0.971	1.030		
	X13X2	0.113	0.047	0.127	2.401	0.017	0.987	1.013		
	a. dependent variable：X3Learning harvest									

***,p<0.001

From the model in the above table (Table 11), we can see that behavioral identity has a great impact on learning gains (β= 0.397, P < 0.001) has a significant positive effect, and the hypothesis is true; Model 2 can be obtained that behavioral identity * learning input has an impact on learning gain (β= 0.127, P < 0.05), indicating that learning input has a positive mediating effect in the impact of behavioral identity on learning harvest. Likewise, in a similar study, Bernardo et al. (2022), investigated the correlation between behavioral competencies and learning abilities in Filipino students.

Table 12. Analysis of the Mediating Effect of Learning Input on the Impact Of Appropriateness Identity on Learning Harvest

model		Non-standardized coefficient		standardized coefficient	t	Significance	Collinearity statistics		Adjusted R-square	F
		B	Standard error	Beta			tolerance	VIF		
1	(C)	3.547	0.053		67.323	0.000				
	X14Appropriateness identity	0.419	0.053	0.415	7.878	0.000	0.984	1.016	0.250	46.660***
	X2Learning input	0.243	0.053	0.240	4.560	0.000	0.984	1.016		
2	(C)	3.543	0.053		66.775	0.000				
	X14Appropriateness identity	0.425	0.054	0.422	7.866	0.000	0.955	1.047	0.248	31.187***
	X2Learning input	0.244	0.053	0.242	4.582	0.000	0.982	1.018		
	X14X2	0.031	0.047	0.035	0.661	0.509	0.966	1.035		
	a. dependent variable：X3Learning harvest									

***,p<0.001

From the model in Table 12, we can see that appropriateness recognition has a great impact on learning gains (β= 0.415, P < 0.001) has a significant positive effect, and the hypothesis is true; The model can be obtained that appropriateness identification * learning input has an impact on learning harvest (β= 0.035, P > 0.05), indicating that learning input has no mediating effect on the impact of appropriateness identity on learning harvest, and the hypothesis is not tenable. This is compatible with the findings of Aoudia (2022), who analyzed the appropriateness of the international accreditation frameworks of education.

Given the results provided, one can comprehensively understand the majors through different channels, including the focus of professional training direction, curriculum arrangement and employment development prospects. College entrance examination students need to measure their interests, specialties, and personality characteristics from multiple angles on the basis of understanding and clarifying their college entrance examination volunteers after comprehensive consideration (Bai & Liu, 2018). At the same time, when filling in the voluntary report, we should give priority to personal opinions, supplemented by the opinions of parents and teachers. For the situation that the registered major is not suitable after admission, you can adjust the major by participating in relevant examinations (Shrestha, 2021). In line with the study of Schauster et al. (2021), in the case of failing to adjust their majors, higher vocational students should actively carry out self-psychological adjustment, strive to invest in professional learning, and improve their ability to deal with the severe employment situation.

Furthermore, screening students who agree with their major during enrollment is conducive to effectively guiding and managing students' professional learning, so that individuals can form positive professional behavior on the basis of making full use of school resources (Piumatti et al., 2019; Shrestha, 2021). Given the results of this study and the suggestion made by Lahmi et al. (2022), for the transferred students and students with unstable professional identities, the school should timely carry out professional ideological education, training, and learning guidance for such higher vocational students, especially grasp the critical period when higher vocational students first enter the school. After that, the school can also carry out education on relevant majors regularly and strengthen professional values at different stages of higher vocational education.

4. Conclusion

In order to deeply investigate the current situation of professional identity, learning input, and learning gain of higher vocational students, based on relevant research at home and abroad, this study expounds the concepts of learning input and professional identity, takes constructivist learning theory and self-identity theory as the theoretical basis of the study, constructs the evaluation dimension of learning input and professional identity, prepares a questionnaire, sends the questionnaire to higher vocational students, and analyzes the results of the questionnaire, Summarize the current situation and existing problems of professional learning of higher vocational students, and finally put forward the strategies to improve the quality of professional learning. On the one hand, aiming at the current situation and problems of professional learning, this study analyzes the internal and external factors affecting the professional learning of higher vocational college students, and puts forward suggestions to improve the overall learning investment from the perspective of professional identity, which is conducive to improving the professional learning ability of Higher Vocational College students and optimizing the overall effect of professional learning; On the other hand, combined with the special mission and sense of responsibility of publicly funded students in higher vocational colleges, this paper puts forward relevant strategies to cultivate public-funded students' teachers' professional identity from the two aspects of students themselves and the school, so as to promote the learning investment of their majors.

Moreover, combined with the training objectives of different majors, from the perspective of learning for application, higher vocational professional education is based on the development of applied talents. Applied talents are committed to transforming abstract theories into specific operational ideas or product configurations. Emphasize the application and practicality of knowledge. For higher vocational students who want to become teachers, schools should provide a platform to encourage them to participate in teacher skills competitions and teacher training activities. For the majors in higher vocational colleges, we should uphold the principle of pragmatism. The school needs to be guided by social needs and constantly optimize the professional structure. Specifically, it needs to innovatively set up new majors that meet social needs, reduce enrollment or stop enrolling majors that do not meet social needs. Furthermore, it is not only the individual adaptability of students to their majors but also the social adaptability of specialty settings.

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