

# A Study of the Relationship Between Learning Commitment and Professional Identity of Master Level Students

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**Abstract** Taking master level students of University H as the survey object, this paper explores the concepts and theories of professional identity and learning investment, analyzes the status quo, differences and relevance of master level students' learning investment, and puts forward countermeasures and suggestions to improve the level of professional identity and learning investment of master level students. It is found that the levels of professional identity and learning investment of master level students are at the medium level, and are affected by gender, grade, and other factors; there is a significant positive correlation between professional identity and learning investment of master level students. In order to enhance the sense of professional identity and improve the level of study commitment of master level students, it is suggested to strengthen professional education and enhance professional cognition; create an academic atmosphere and stimulate learning interest; carry out academic activities and improve professional behavior, and so on.

**Keywords** Learning engagement; Professional identity; Master level students

**Cite This** Wang Z.H. A Study of the Relationship Between Learning Commitment and Professional Identity of Master Level Students.

**Article** Education Theory: Teaching and Learning. 2024,3(2):35-44. <https://doi.org/10.55571/ettl.2024057>

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**Received: April 20, 2024 / Accepted: April 28 2024 / Published: April 30, 2024**

## Introduction

Higher education in China has expanded rapidly over the past few decades. The construction of a large number of colleges and universities and increased enrollment programs have made it possible for more and more students to receive higher education. Many problems have also arisen in higher education. According to statistics, the number of master's degree applicants in China has continued to grow, reaching 4.57 million in 2022, an increase of 800,000 from 2021. As an important source of high-level talents, master level students' professional identity and learning commitment level directly affect their professional development and academic achievement. This study analyzes the relationship between the level of study commitment and professional identity of master level students from the perspective of individual students.

Professional identity and learning commitment are important factors affecting the quality and effectiveness of

master's degree education, as well as key elements of master level students' personal development and career planning. The concept of "identity" was first proposed by psychologist Freud. He believed that "identity" is a kind of psychological process in which an individual imitates a group and eventually internalizes it into his own behavioral pattern. The concept of "professional identity" was first put forward by Erikson, who believes that professional identity is an important element of self-identity and self-development, and is the process of individual identity search to choose a profession. Foreign scholars generally believe that professional identity is similar to occupational identity. Generally speaking, professional identity refers to a person's sense of identity and sense of belonging to the professional field he or she is engaged in. It involves the identification of professional knowledge, skills and values, as well as the identification of professional identity and role.

Professional identity is the individual's cognitive, emotional and behavioral congruence with the professional field he or she is engaged in or preparing to engage in, and his or her identification with and sense of belonging to the professional role. Learning engagement is the positive emotions, active behavior and continuous dedication shown by individuals in the learning process, and the pursuit and realization of their learning goals. Professional identity and learning input are mutually influential and promote each other. A high level of professional identity can stimulate individuals' interest and motivation in learning, and improve their learning effect and satisfaction; a high level of learning input can enhance individuals' professional knowledge and skills, and improve their professional self-confidence and sense of value. Learning engagement is a relatively new concept, firstly proposed by the American educator Astin (1984), who defined learning engagement as "the time and energy invested by students in the learning process". Later, many scholars have explored and expanded the concept of learning engagement to include emotional, cognitive, behavioral and other aspects. In this paper, we adopt the definition proposed by Wang Yuying, that is, "Learning engagement refers to the positive emotions, active behaviors, and sustained dedication shown by individuals in the learning process". Wang Yuying categorizes learning engagement into three dimensions: vitality, dedication and absorption. Vigor refers to the positive emotions, proactive attitudes and self-confidence that individuals show in the learning process; dedication refers to the time, energy and resources that individuals put into the learning process; and absorption refers to the knowledge, skills and experience that individuals acquire in the learning process.

To summarize, this study intends to select master level students as the research object to explore the current situation between students' professional identity and learning commitment, and systematically plan the internal logic between the two.

## **Research methodology**

### **Subject of the study**

Through the questionnaire survey method, this study tries to explore the general characteristics of master level students' learning investment and the differences of master level students' learning investment in different backgrounds, and to explore the relationship between master level students' learning investment and professional identity, so as to provide strategies for the improvement of master level students' learning investment. master level students in the University of Heilongjiang H are the subjects of the study, and 605 valid questionnaires were recovered by questionnaire star.

### **Research tools**

#### *Questionnaire for master level students' Study Commitment*

The Learning Engagement Scale used in this study was developed by Schaufeli et al. and translated by Fang Laitan et al. and later revised by Wenqin Cui for the study . This part of the questionnaire consists of 15 questions in three dimensions: vigor, dedication, and concentration. There are 5 questions in the vigor dimension, 6 questions in the dedication dimension, and 4 questions in the concentration dimension. The questionnaires were all scored on a 5-point Likert scale, with 5 meaning very much in line, 4 meaning in line, 3 meaning unsure, 2 meaning not in line, and 1 meaning very much not in line. The questions were coded for the convenience of the study, with questions 1-5 for basic information; 6-10 for the vitality dimension; 11-16 for the dedication dimension; and 17-20 for the concentration dimension.

In this study, the learning engagement scale was tested for reliability and validity, and the consistency of the question items of each scale was detected by the Cronbach's alpha coefficient, and the higher the correlation of the indicator, the higher the reliability. As shown in Table 1.

**Table 1** Criteria for detecting Cronbach's alpha coefficient of the learning engagement questionnaire

Alpha coefficient	>0.9	0.8-0.9	0.7-0.8	<0.7
reliability	(of an unmarried couple) be close	Rather or relatively good	Acceptable level	Not much value

Through the test, the Cronbach's alpha coefficient of the scale is 0.945, of which the vigor alpha coefficient is 0.962, the dedication alpha coefficient is 0.885, and the concentration alpha coefficient is 0.817, and each factor is significantly correlated with the total scale, and the correlation coefficients with the other factors are smaller than the correlation coefficients of the total scale. Therefore, the scale has good reliability, as shown in Table 2.

**Table 2** Chronbach's alpha coefficients for the dimensions of the learning engagement questionnaire and the total questionnaire.

dimension	vigor	dedication	concentration	summary table
Chronbach's alpha	0.962	0.885	0.817	0.945

In the validity analysis, this study used correlation analysis to explore the correlation coefficient between each factor and the total scale, and judged the validity of the whole questionnaire according to whether it was correlated or not. The results show that the Sig.(2-tailed) of the three factors of "vigor", "dedication" and "concentration" is 0.000 ( $p < 0.01$ ), which shows that the indicators are significantly correlated with the total scale. ( $p < 0.01$ ), it can be seen that the indicators are significantly correlated with the total scale, therefore, the structure of the scale is reasonable.

**Table 3** Correlation test table for overall level of learning inputs and factors

		vigor	dedication	concentration	Learning inputs
vigor	Pearson Correlation	1	.809**	.794**	.928**
	Sig. (2-tailed)	/	.000	.000	.000
dedication	Pearson Correlation	.809**	1	.806**	.946**
	Sig. (2-tailed)	.000	/	.000	.000
concentration	Pearson Correlation	.794**	.806**	1	.920**
	Sig. (2-tailed)	.000	.000	/	.000
Learning inputs	Pearson Correlation	.928**	.946**	.920**	1
	Sig. (2-tailed)	.000	.000	.000	/

*Professional Identity Questionnaire for master level students*

In this study, a questionnaire developed by Qin Panbo about professional identity was used to examine the four dimensions of students' professional cognitive, affective and behavioral and aptness. The scale is divided into four dimensions, 21 questions - 22 entitled professional aptness dimension; 23 questions - 26 entitled professional cognitive dimension; 27 questions - 31 entitled professional affective dimension; 32 questions - 36 entitled professional behavioral dimension. The Cronbach's alpha coefficient of this part of the questionnaire was tested to be 0.944. Correlation analysis was used to explore the correlation coefficients between each factor and the total scale, and to judge the validity of the whole questionnaire according to whether it is correlated or not. The results showed that the correlation coefficients of the four factors, namely, "professional appropriateness", "professional cognition", "professional emotion" and "professional behavior", were 0.944. The Sig.(2-tailed) of the four factors is 0.000, ( $p < 0.01$ ), which shows that each index and the total scale are significantly correlated, as shown in Table 4.

**Table 4** Correlation test table for overall level of professional identity and factors

		professional and appropriate	Professional Awareness	Professional Emotions	Professional behavior	professional and appropriate
professional and appropriate	Pearson Correlation Sig. (2-tailed)	1 /	.710** .000	.761** .000	.724** .000	.872** .000
Professional Awareness	Pearson Correlation Sig. (2-tailed)	.710** .000	1 /	.682** .000	.660** .000	.850** .000
Professional Emotions	Pearson Correlation Sig. (2-tailed)	.761** .000	.682** .000	1 /	.756** .000	.914** .000
Professional behavior	Pearson Correlation Sig. (2-tailed)	.724** .000	.660** .000	.920** .000	1 /	.899** .000
professional and appropriate	Pearson Correlation Sig. (2-tailed)	.872** .000	.850** .000	.914** .000	.899** .000	1 /

**Data results and analysis**

The data were analyzed using independent samples t-test and multifactorial ANOVA to test the differences in the non-demographic variables of the professional identity of master level students and to explore the current status of their learning.

### Basic information on the study inputs of master level students

The learning engagement scale for master level students consists of a 15-question questionnaire with a total score of 75. Referring to previous scholars' classification criteria, learning engagement is considered to be at a high level when the mean score of the learning engagement items is  $\geq 4$ , and it is considered to be at an intermediate level when  $3 \leq \text{mean score of the items} \leq 4$ , and it is considered to be at a low level when the mean score of the items is  $< 3$ . This study analyzes the overall sample of learning input and the mean and standard deviation of the three dimensions by descriptive statistics.

In order to explore the differences in the academic commitment of master level students in terms of gender, grade, and specialization, this study will use independent samples t-test to explore each of them.

**Table 5** Descriptive statistics of master level students' learning engagement status

(math.) factor	average value	(statistics) standard deviation	theoretical medium
vigor	3.25	1.014	3
dedication	3.17	1.024	3
concentration	3.12	1.139	3
totals	3.18	0.981	3

The results of previous studies on the status of learning commitment of master level students are not the same. Gao Tianqin of Jiangsu Normal University believes that master level students, the situation of low learning investment and low learning goals . Nanjing Normal University conducted a survey on master level students and concluded that overall master level students' learning investment is at a medium level. As far as the data of this study is concerned, the overall status of master level students' learning investment is at a medium level, and the learning investment needs to be improved. As shown in Table 5, the mean scores of each factor of learning engagement are greater than 3.0, which is higher than the theoretical mean, indicating that the vigor, dedication, and concentration of the sampled students are at a good level. Among them, the mean value of vigor is 3.25, and the overall state of vigor > dedication > concentration indicates that master level students have a high degree of vigor in study commitment and are willing to spend time on study. The reasons for the overall study commitment being at a moderate level may be as follows:

Firstly, master level students face a sense of stress and difficulty. Learning tasks at the master's level are usually more complex and demanding than at the undergraduate level and may require more time and energy commitment. Some postgraduate students may feel anxious and stressed, which may affect their learning engagement. Secondly, some students may lack self-management and planning skills and effective learning methods. master level students are more independent and autonomous in their studies, and they do not find effective learning methods suitable for them, which reduces their motivation and commitment to learning. Thirdly, lack of interest and fun in learning. It is difficult to maintain long-term learning commitment if one lacks interest in one's major or fails to find fun in learning.

### *Differences in Study Commitment of master level students by Gender*

**Table 6** Statistics on study input of master level students by gender

distinguishing between the sexes		Mean	Std.Deviation	t	Sig. (2-tailed)
vigor	male	3.478	0.958	2.175	0.032
	female	3.054	1.028		
dedication	male	3.45	0.939	2.656	0.009
	female	2.93	1.042		
concentration	male	3.32	1.112	1.674	0.097
	female	2.95	1.145		
Learning inputs	male	3.42	0.910	2.380	0.019
	female	2.97	1.001		

(P < 0.05 indicates significance, same below)

From the total table of learning engagement, there is a significant difference between male and female students of master's degree, ( $p=0.019 < 0.05$ ), in general male students are more engaged in learning than female students. There is a significant difference between male and female students in the three dimensions of learning engagement in the dimensions of vitality and dedication, and the test value of the difference between male students in the dimensions of vitality and dedication is 0.032 and 0.009 are less than 0.05. Therefore, there is a significant difference between different genders of master level students in the dimensions of vitality and dedication and male students have a higher degree of learning engagement than female students, as shown in Table 6.

The reason why male students' engagement in studies is higher than female students' at master's level may be influenced by a number of factors, such as the fact that in certain social and cultural contexts, males may be subject to more social expectations and pressures and are encouraged to pursue career development and academic achievements. Such expectations and pressures may motivate male students to devote more effort to their studies in order to fulfill the expectations of society. Second, males may exhibit greater self-confidence and self-efficacy. This self-confidence and self-efficacy may make male students more confident in dealing with academic challenges and more inclined to be proactive and engaged in their studies. However, it is important to emphasize that this gender difference does not apply to everyone. There are many female graduate students who also demonstrate high levels of academic engagement and excellent academic performance. Therefore, we cannot simply correlate academic engagement directly with gender, but should take into account more individual differences and factors.

*Analysis of differences in learning engagement of master level students in different grades*

In order to test the differences in the academic engagement of master level students in different grades, this study was explored using one-way ANOVA.

**Table 7** Statistics on the study input of master level students in different grades

grade	M	SD	F	sig	LSD	
vigor	First year postgraduate students	2.986	1.048	2.617	0.078	Seminar1 > Seminar2
	Second year of postgraduate studies	3.421	1.024			
	Third year of postgraduate studies	3.442	0.861			
dedication	First year postgraduate	2.88	1.53	3.156	0.04	Seminar1 > Seminar2

	students					Seminar2 > Seminar3
	Second year of postgraduate studies	3.35	0.939			Seminar1 > Seminar3
	Third year of postgraduate studies	3.39	0.812			
concentration	First year postgraduate students	2.70	1.26	6.199	0.003	Seminar1 > Seminar2 Seminar2 > Seminar3
	Second year of postgraduate studies	3.29	1.035			Seminar1 > Seminar3
	Third year of postgraduate studies	3.57	0.826			
Learning inputs	First year postgraduate students	2.87	1.085	4.250	0.017	Seminar1 > Seminar2 Seminar2 > Seminar3
	Second year of postgraduate studies	3.36	0.908			Seminar1 > Seminar3
	Third year of postgraduate studies	3.46	0.761			

According to the chart in general, there is a significant difference between different grades of master level students and learning engagement with a sig value of  $0.017 < 0.05$  and overall learning engagement of R&D 1 > R&D 2 > R&D 3. On the vitality dimension, the sig value for different grades of master's students was  $0.078 > 0.05$ , therefore, there was no significant difference between different master's students on the vitality dimension. On the dedication dimension, there is a significant difference between master level students and their grades. On the concentration dimension, the sig value was  $0.003 < 0.05$ , which indicates that there is a significant difference between master's students of different grades, as shown in Table 7.

Possible reasons for the differences in the level of engagement in learning among master's students at different levels include, first, at the first year of study, students are first exposed to the novelty and challenge of study and research tasks at the master's level. Over time, this novelty gradually fades, which may lead to diminishing students' enthusiasm and engagement in learning. Second, academic stress and fatigue. master level students need to face a heavy load of courses, research projects and thesis writing, which leads to a diminishing level of commitment to learning. Finally, the third stage of research is the sprint stage of graduate school, which needs to finish writing and defending the thesis, and at the same time, consider the employment or further study, which are also important but may not require as much innovation and exploration compared with the first two stages, so the study commitment in the third stage is relatively low.

*Analysis of differences in study commitment of master level students who are class officers or not*

**Table 8** Statistics on the difference in academic commitment of master level students who are class officers or not

	Whether or not you are a class cadre	Mean	Std.Deviation	t	Sig. (2-tailed)
vigor	be	3.365	1.145	0.501	0.617
	clogged	2.230	0.993		
dedication	be	3.23	1.167	0.287	0.775
	clogged	3.16	1.001		
concentration	be	3.00	1.205	-0.469	0.640
	clogged	3.14	1.132		
Learning inputs	be	3.22	1.095	1.47	0.883

clogged 3.18 0.964

The independent samples t-test was used for this part and the results are shown in Table 8. The overall master level students' learning engagement sig value is 0.883 > 0.05, which indicates that there is no significant difference between whether or not they serve as class officers and their learning engagement, and, there is no significant difference on the three dimensions of learning engagement. In terms of mean scores, master level students who served as class officers were slightly higher than those who served as class officers.

Serving as a class officer usually entails additional managerial and organizational tasks, which may take away some of the study time. As a result, some students may need to make trade-offs between class work and studies. In turn, this may lead to a decrease in the level of commitment to learning. However, individuals who make adequate arrangements will have better learning efficiency, and there is not necessarily a strong relationship between being a class officer and learning engagement.

*Differential analysis of the commitment to learning among master level students whose current major is in the same first level as their undergraduate degree*

**Table 9** Statistics on the difference in the commitment to study among master level students whether their current major is in the same first level as their undergraduate degree

Whether or not the master's degree is the same as the bachelor's degree		Mean	Std.Deviation	t	Sig. (2-tailed)
vigor	be	3.279	1.018	0.292	0.771
	clogged	3.22	1.019		
dedication	be	3.25	1.029	0.889	0.178
	clogged	3.07	1.020		
concentration	be	3.22	1.151	1.002	0.319
	clogged	3.00	1.126		
Learning inputs	be	3.25	0.990	0.781	0.436
	clogged	3.10	0.974		

The sig value is 0.435 > 0.05, which indicates that there is no significant difference between whether the present major and the undergraduate degree belong to the same discipline as the agreed discipline and learning engagement, and also, there is no significant difference on the three dimensions of learning engagement. In terms of the mean scores, the master level students who were slightly more engaged in learning in whether the present major belonged to the same discipline as the undergraduate were higher than the master level students who were not in agreement.

The reasons why whether or not to cross majors does not have a significant effect on learning engagement may be the following: first, the degree of learning engagement is more related to one's academic ability and interest in the field of study. Even when intermajoring, if students have a high level of interest in the knowledge and field they are studying and have the appropriate academic ability, they will still show a high level of academic engagement. Second, it also depends on self-adjustment and adaptability. Interdisciplinarity may require some adjustment and learning of subject knowledge and skills to adapt to the new learning requirements. However, some students may have strong self-adjustment and adaptive abilities to quickly adapt to new disciplinary content and requirements and maintain a high level of learning engagement. Third, learning engagement is influenced by personal goal clarity and motivational drive. If students are clear about their goals and have strong motivation to pursue them, they will put more effort into learning, regardless of whether they are interprofessional or not. Although interprofessionalism itself may bring some learning adjustments and challenges, the degree of learning engagement depends more on personal factors such as interest, motivation, ability and learning environment.

**Analysis of the Relationship between master level students' Learning Commitment and Professional Identity**

In order to derive the relationship between the factors of learning investment and the factors of professional

identity, the correlation analysis of the factors of professional identity and learning investment of master level students was conducted, and the results are shown in Table 10.

**Table 10** Correlation analysis of professional identity and study commitment of master level students

sports event	professional and appropriate	Professional Awareness	Professional Emotions	Professional behavior	professional and appropriate
vigor	.720**	.610**	.813**	.938**	.893**
dedication	.905**	.849**	.898**	.890**	.927**
concentration	.813**	.883**	.942**	.819**	.879**
Learning inputs	.873**	.845**	.920**	.896**	.899**

The results showed that there was a positive correlation between the total score and the four dimensions of graduate students' professional identity and the total score and the three dimensions of learning commitment. Specifically, the correlations were strong for all dimensions, and the correlation between the vigor dimension and the professional identity dimension of learning commitment was relatively a little lower.

## Conclusions and Responses

### Conclusion

Based on the above findings, the following conclusions are drawn:

Master level students have a medium level of commitment to their studies.

There are some differences in the commitment to study among different categories of master level students.

there is a significant positive correlation between professional identity and learning commitment of master level students.

### Response

#### *Utilizing individual subjective initiative to enhance professional emotions*

For master level students, they need to make timely and positive adjustments to their mindset, enhance their professional emotions, and thus increase their commitment to learning . Set clear personal and professional goals with corresponding plans and steps. Make sure that your goals are specific, measurable and achievable so that you are better able to stimulate internal motivation and willingness to pursue them. Next, look for ways and strategies to motivate yourself. This can be through setting incentives to motivate yourself or creating a sense of accountability by sharing goals and progress with others. Positive attitudes and motivation can also be maintained through positive self-talk and thought orientation. Finally, it is also important to keep learning and updating yourself in your field of specialization and to continue to grow your knowledge and skills by attending training courses, reading relevant books and articles, and participating in professional communities.

#### *Create an academic atmosphere and make full use of academic resources.*

Academic exchange is an important way to progress as a Master's student. Attend academic conferences, seminars and academic lectures to interact and discuss with peer scholars and experts. These exchanges not only provide access to new knowledge and ideas, but also build academic networks and collaborations . Academic organizations and communities: Join academic organizations and communities, such as academic associations, research teams or professional social platforms. These organizations and communities provide opportunities to interact and collaborate with peer scholars, share research results, discuss academic issues, and receive feedback and advice. Academic resource utilization: Make full use of academic resources, such as libraries, online databases, journal articles, etc. Learn to effectively search, filter and utilize academic literature, constantly update your knowledge

base, and stay on top of the latest research. Research projects and collaborations: Participate in research projects and collaborative research, and collaborate with other researchers to conduct scientific research. By collaborating with others, you can learn different research methods and ways of thinking, work together to solve complex problems, and advance academic progress. These activities not only contribute to the creation of an academic environment around you, but also to your own growth.

### *Enhance the mission of learning*

Reflect on and clarify your personal mission and values and consider the importance of learning in realizing them. Seeing learning as a way of realizing your mission will give you a sense of purpose for learning. Identify the meaning and purpose of learning and consider the significance of learning for your personal growth, professional development and contribution to society. Set clear learning goals and integrate learning with your personal goals and social responsibilities, thus enhancing your sense of mission for learning. Learning is a long-term process that requires sustained effort and persistence. Cultivate concentration and persistence, overcome difficulties and challenges in learning, and regard learning as a mission to pursue excellence and personal growth.

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