Research on the Influence of Professional Associations on College Students' Academic Self-efficacy—Based on the Questionnaire Survey in Beijing

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Abstract. The cultivation of academic self-efficacy helps to improve students' ability to set and achieve academic goals, and has become a hot topic in the field of education. From the perspective of the second classroom, this study investigated 460 college students from 22 Beijing universities and used regression analysis to analyze the relationship between professional associations and academic self-efficacy. The results show that: (1) There is a significant positive correlation between the participation of professional associations and the academic self-efficacy. (2) There is a significant positive correlation between students' participation in professional-related competitions, guidance of teacher allocation and economic incentives and academic self-efficacy.

Introduction

The first classroom in colleges and universities mainly focuses on teaching professional knowledge and solving problems. As one of the contents of the second class, professional associations have distinct characteristics of academic research and theoretical connection with practice. And pay more attention to the cultivation of students' personality development and academic self-efficacy improvement. Moreover, academic self-efficacy is an important cognitive factor for students to participate in learning activities. The cultivation of good academic self-efficacy helps students improve their ability and achieve academic goals, and at the same time allows students to experience the sense of success. Therefore, professional associations as a second classroom learning more closely in touch with the professional part of training personnel in achieving the goal, to further enhance the quality of personnel training, it is highly necessary to become one of the means of our attention and effective use.

This study aims to reposition the role of professional associations in talent training through empirical research, explore the influencing factors of professional societies on students' self-efficacy, and propose suggestions for schools on the management mechanism of professional associations to further improve the quality of talent training.

Literature Review

Research on Academic Self-efficacy

Bandura, a famous American psychologist, first put forward the concept of self-efficacy in 1977, that is, individuals' perception or belief of their ability to effectively control various aspects of their lives. Bandura clearly pointed out in the theory of self-efficacy that due to the differences in fields, the required abilities are also diverse, so self-efficacy must be linked to a specific area. Academic self-efficacy, which is the embodiment of self-efficacy theory in the study area. With the emphasis on non-intellectual factors and the development of learning potential academic self-efficacy has become a hot topic in the field of educational psychology.

Definition of Academic Self-efficacy. Academic self-efficacy, which generally refers to individuals' judgment and confidence of their ability to successfully complete academic tasks
(Bandura, 1977), is a very important process of individual self-cognition[1]. It is generally believed that academic self-efficacy consists of learning ability self-efficacy and learning behavior self-efficacy. Learning ability self-efficacy is the assessment of whether students have the ability to complete their studies, achieve good grades and avoid academic failure; Self-efficacy of learning behavior, namely, students' assessment of whether their learning behavior can achieve learning goals, is the prediction of individual behavior results. In recent years, domestic scholars have put forward their own opinions on academic self-efficacy from the perspective of academic achievement. Gao Shenchun (1998) believed that academic self-efficacy is the subjective evaluation and judgment of students' learning ability in the learning process [2]. Xing yun (2006) held that academic self-efficacy refers to students' ability and belief judgment of whether they can successfully achieve learning goals, as well as their confidence and ability sense of whether they can implement learning behaviors[3].

In this study, we will continue to use the domestic scholars and Bian Yufang definition of academic self-efficacy, namely the students' academic ability beliefs, including their assessment of their confidence in using their abilities or skills to complete learning tasks, and their judgment and confidence in using certain learning methods to achieve learning goals (Bian Yufang, 2004).

**Measurement of Academic Self-efficacy.** With the deepening of academic research in this field, the measurement of academic self-efficacy has been paid more and more attention by experts. Schwarzer, a famous German psychologist, developed the general self-efficacy scale (GSES) in 1981, which consists of 10 questions and adopts likert scale 4. The higher the score, the higher the individual's self-efficacy [5]. Morgan-Jinks student effectiveness scale (MJSES) was compiled in 1999, including three subdivisions: talent, effort and situation[6].

After referring to the academic self-efficacy questionnaire compiled by Pintrich and GeGroot in 1990, Liang Yusong, a Chinese scholar, developed the academic self-efficacy questionnaire for Chinese college students which is suitable for China's national conditions. The scale contains two dimensions, self-efficacy of learning ability and self-efficacy of learning action. There are 22 questions in total, and Likert rating is adopted. After extensive testing, the scale has a good reliability and validity, and has been widely used in academia, so this study will use it as a measurement tool.

**Influencing Factors of Academic Self-efficacy.** Similar to the research on self-efficacy, academic self-efficacy is generally believed to be an individual's subjective judgment of academic ability. However, such subjective judgment does not appear out of nowhere. It must be based on objective facts or existing experience. In general, the factors that affect students' academic self-efficacy can be summarized into the following four aspects: Personal experience of success or failure, vicarious experience, verbal persuasion, emotional and physical states.

**Research Status of Academic Self-efficacy.** A large number of scholars recognized that learning self-efficacy would affect students' professional interest and motivation [8] (Bandura 1997).

**Research on Professional Associations**

College association is also called university association or college student association. It is an informal group which is different from the student union that college students organize voluntarily based on their common hobbies and interests, and finally approved by the university according to certain procedures. As a branch of colleges and universities associations, professional association refer to student mass organizations that are formed voluntarily based on professional knowledge and interests, mainly to disseminate professional knowledge and information, carries on the specialized knowledge skill utilization and the promotion. The formation of interest makes up for the lack of interest in college students' professional study. Most of the activities are practical activities, which can help improve students' ability to solve social problems related to their major, make them realize their professional value, and further strengthen their professional learning interest.

As professional associations in China are emerging student organizations in recent years, there
are few relatively relevant researches. The existing researches can be divided into two
categories: The first type of research is about the role that professional associations played as the
main part of the second class in the cultivation of talents in universities. For example, professional
associations play an increasingly important role in cultivating professional and innovative talents in
universities [11] (zhao Lu, Lin Mao, Ma Tao, 2014). On the one hand, it can help students better
understand professional knowledge through regular academic activities; on the other hand, it can
courage students to conduct in-depth learning and make innovative attempts in professional fields
by holding large academic competitions. The second kind of research is about how to improve the
behavior of professional associations in universities to better serve students. For example, association
activities are closely linked with professional courses and become an effective extension of
professional courses, providing a favorable platform for members to communicate and discuss their
professional knowledge after class. Of course, professional associations must highlight their
professional activities, and must invite experts and scholars to give lectures, study reports, seminars,
skills training and other operational courses. However, it is far from enough to merely visit
exhibitions, listen to lectures and other activities. It is also necessary to stick to the theme and
feature of "speciality", break the routine and innovate the activity form, strive to create its own
characteristics and advantages, and create a brand [12] (Ding Zhenhua, 2018).

Selection of Research Objects and Indicators

Research Object

This study aims to understand the establishment and construction of professional associations in
universities and colleges in Beijing, and explore the relationship between the organization of
professional associations and the improvement of students' academic self-efficacy. So as to better
put forward suggestions for the construction of professional associations and serve the goal of talent
cultivation in colleges and universities. From January 29 to February 4, 2018, questionnaires were
distributed online and 460 questionnaires were collected, involving 22 universities in Beijing. The
basic information of the research variables is shown in table 1.

| The main variables | Frequency (person) | Percentage (%) | The main variables | Frequency (person) | Percentage (%) |
|--------------------|--------------------|----------------|--------------------|--------------------|----------------|
| **gender**         |                    |                | **Only child or not** |                    |                |
| male               | 166                | 36.1           | Yes                | 354                | 77             |
| Female             | 294                | 63.9           | no                 | 106                | 23             |
| **Family location**|                    |                | **Major**          |                    |                |
| Countryside        | 76                 | 16.5           | Literature and History | 48                 | 10.4           |
| Town, county       | 102                | 22.2           | Science and Engineering | 70                 | 15.2           |
| Cities above county level | 282 | 61.3 | Economics and Management | 342 | 74.3 |
| **Grade**          |                    |                | **Political Status** |                    |                |
| Freshman           | 241                | 52.4           | league member      | 411                | 89.3           |
| Sophomore          | 178                | 38.7           | Party member       | 22                 | 4.8            |
| Junior             | 29                 | 6.3            | the masses         | 25                 | 5.4            |
| Senior             | 12                 | 2.6            | Other parties      | 2                  | 0.4            |
Have you ever joined a professional association?

|   | Yes | No |
|---|-----|----|
| Yes | 117 | 343 |
| No  | 254 | 5.2 |

Whether it is your first choice

|   | Yes | No |
|---|-----|----|
| Yes | 206 | 5.2 |
| No  | 254 | 5.2 |

Willingness to change major

|   | Yes | No |
|---|-----|----|
| Yes | 144 | 68.7 |
| No  | 316 | 68.7 |

Scale Reliability and Validity

In this study, the academic self-efficacy questionnaire of Chinese college students adapted to the national conditions of China was used, and the reliability coefficient of the scale was 0.921. This indicates that the scale used in this study has good reliability and can be used for subsequent data analysis.

Data Analysis

Professional Associations Participate in Promoting the Improvement of Academic Self-efficacy

After controlling for gender, only child, family location, willingness to change major, type of major, grade, service level of the association and reasons for participating in the association, this survey found that the participation of the professional association was significantly positively correlated with academic self-efficacy and its dimensions.

Table 2. Multiple Regression Analysis of Students' Self-efficacy by Professional Associations.

| Dependent variable | Learning ability Self-efficacy | Learning behavior Self-efficacy | Academic self-efficacy |
|--------------------|-------------------------------|-------------------------------|------------------------|
| **Independent variable** |  |  |  |
| Professional associations participation | 0.087* | 0.099** | 0.102** |
| **Control variable** |  |  |  |
| gender | -0.109** | -0.075 | -0.103** |
| Major | 0.041 | -0.010 | 0.019 |
| Only child or not want to change major or not | 0.053 | 0.010 | 0.036 |
| Family location | -0.129* | -0.076 | -0.115** |
| Grade | 0.080 | 0.111* | 0.104** |
| Reasons for participate in association | -0.019 | -0.016 | -0.019 |
| Position level | -0.192* | -0.041 | -0.134 |
| Adjusted R Square | 0.192 | 0.0001 | 0.113 |
| N | 460 | 460 | 460 |

First, professional associations themselves have autonomy. As a student organization formed by students themselves, professional associations have unique leisureliness, flexibility and autonomy compared with the first class, providing a favorable platform for students to communicate with each
other, and helping students to better improve their academic self-efficacy through words, emotions and other factors.

Table 3. Multiple Regression Analysis of Professional Associations on Students' Academic Self-efficacy.

| Dependent variable | Professional Commitment |
|---------------------|-------------------------|
|                     | Model 1  | Model 2  | Model 3  | Model 4  | Model 5  | Model 6  | Model 7  | Model 8  | Model 9  | Model 10 |
| Control variables   |          |          |          |          |          |          |          |          |          |          |
| Gender              | -0.044   | -0.057   | -0.052   | -0.065   | -0.061   | -0.055   | -0.050   | -0.054   | -0.057   | -0.053   |
| Major               | 0.022    | 0.004    | 0.005    | -0.002   | -0.005   | 0.007    | 0.013    | 0.015    | 0.010    | 0.003    |
| Only child          | -0.030   | -0.034   | -0.036   | -0.053   | 0.055    | -0.033   | -0.039   | -0.031   | -0.040   | -0.040   |
| Grade               | 0.107*   | 0.113*   | 0.112*   | 0.124    | 0.106    | 0.109    | 0.128    | 0.111    | 0.098    | 0.107    |
| Position level      | 0.177    | 0.176    | 0.163    | 0.163    | 0.159    | 0.163    | 0.144    | 0.167    | 0.136    | 0.157    |
| Dependent variables |          |          |          |          |          |          |          |          |          |          |
| Economic incentives | -0.162   |          |          |          |          |          |          |          |          |          |
| Honorable mention   | 0.070    |          |          |          |          |          |          |          |          |          |
| School-level competition |        |          |          |          |          |          |          |          |          |          |
| Provincial competition |        |          |          |          |          |          |          |          |          |          |
| International competition |    |          |          |          |          |          |          |          |          |          |
| International competition instructor | |          |          |          |          |          |          |          |          |          |
| Practical activity  |          |          |          |          |          |          |          |          |          |          |
| Types of activities |          |          |          |          |          |          |          |          |          |          |
| Number of activities |          |          |          |          |          |          |          |          |          |          |
| Adjusted R Square   |          |          |          |          |          |          |          |          |          |          |
| N                   | 117      | 117      | 117      | 117      | 117      | 117      | 117      | 117      | 117      | 117      |

Secondly, professional associations are platforms for the exchange of experience. Students participating in professional associations include all grades. Peers can communicate with each other. Senior students can impart rich professional learning experience to junior students and give encouragement. Meanwhile, junior students usually see senior students as a role model. Students have very similar learning experiences with each other, and their self-efficacy may be affected by the success of role models.

Therefore, as an important supplement to students' first class, professional associations can better help students to realize themselves, improve their ability to set goals, further improve their sense of academic self-efficacy, and then effectively improve students' professional academic achievement, exercise related skills, and form a benign development in academic field.

Factors Related Professional Associations for Students' Academic Self-efficacy Impact Assessment

First, Large-scale competitions or activities are a good platform for students to understand their major, understand their own strength and improve their ability. participating in competitions can
enable students to gain an intuitive experience of success or failure, further enhance their confidence, enhance their ability to set goals, and thus improve their academic self-efficacy.

Secondly, professional community instructors are an important factor in the improvement of academic self-efficacy. The regression results show that the teachers have a significant impact on students' academic self-efficacy. This is because the instructor's own rich experience and professional achievements promote students to develop obvious learning enthusiasm due to alternative experience; At the same time, instructors in professional societies set goals suitable for students' own conditions in the course of professional societies' activities and competitions. Help them related tasks, experience academic progress and success, and further improve self-efficacy; since the relaxed and equal communication environment and free learning experience help individuals to build a pleasant learning mood, professional associations can continuously stimulate students' learning motivation and maintain their sense of academic efficiency.

Third, professional practice activities did not improve academic self-efficacy. In terms of professional community activities, the regression results showed that the organizational and professional related practical activities and the number of activities had no significant effect on the improvement of academic self-efficacy. Due to the lack of activity feedback mechanism, the community cannot obtain timely social evaluation of students, so students cannot form an accurate cognition of themselves. As a result, students' participation in practical activities are separated from the social feedback of themselves, which can not form the experience of success or failure, and thus cannot form self-efficacy incentive and improvement. Therefore, only systematic and continuous professional associations activities and appropriate feedback mechanism can promote students' enthusiasm to improve academic thinking, professional skills and practical ability.

Fourth, economic rewards and honorary rewards play a significantly different role. There is a positive correlation between economic reward and academic self-efficacy, but honor reward has no significant effect on improving students' academic self-efficacy. Through the interview, we found that many colleges and universities provide too many economic rewards and have little incentive to honor awards. In fact, any kind of reward is a recognition of students' successful experience, while economic reward makes students more motivated because it can fulfill their own needs. However, if the rewards of honor cannot be linked with the more commonly recognized general rewards such as postgraduate recommendation, merit evaluation and scholarship evaluation, they cannot meet the relevant needs of students and lose their due incentive effect.

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