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The Follow-Up Investigation of Education Quality for Graduate in Applied Universities

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Abstract

A questionnaire survey was conducted among graduates majoring in physics and electronic information engineering. This paper analyzes the distribution of employment industry, job satisfaction, professional counterpart, employment service, talent training and employment quality. It is found that there are deficiencies in the training of employment guidance and teaching practice. The results show that the follow-up investigation of the education quality for the graduate is of great significance for talent training. It provides a theoretical basis for promoting the reform of talent training mode and the revision of the training plan. It puts forward some countermeasures and suggestions to further improve and improve the education quality for graduates.

Subject Areas

Higher Education

Keywords

Graduates, Education Quality, Follow-Up Investigation

1. Introduction

In order to fully understand the education quality, employment status and development of graduates, further improve the talent education scheme and improve the education quality for graduates, a follow-up investigation on education quality of graduates is carried out in the form of a questionnaire survey. The questionnaire website is
https://www.wjx.cn/wjx/design/previewmobile.aspx?activity=116299734&s=1.

It can enlighten students' employment guidance and guide them to establish a correct outlook on employment, further promote the reform of talent training, so as to extend the experience to the revision and optimization of talent educa-

tion scheme, continue to improve the talent training system, make good plans for students' career, and provide scientific guidance for students' employment. Therefore, the follow-up investigation of graduates' education quality has important practical significance.

2. Basic Information of Investigation

The respondents of this survey are the 2020 undergraduate graduates of electronic information engineering and physics. The number of 2020 undergraduate graduates of electronic information engineering and physics is 105. A total of 96 valid questionnaires were collected, including 55 males, accounting for 57.29% and 41 females, accounting for 42.71%. Among the students, 13 are from cities, accounting for 13.54%, 20 are from counties, accounting for 20.83%, and 63 are from villages and towns, accounting for 65.63%. 47 students majored in electronic information engineering, accounting for 48.96%, and 49 students majored in physics, accounting for 51.04%. There are 58 people working in Jiangxi Province, accounting for 60.42%, and 38 people outside Jiangxi Province, accounting for 39.58%. There are 5 students with a good family economy, accounting for 5.21%, 55 students in general, accounting for 57.29%, and 36 students poor, accounting for 37.5%, as shown in Table 1.

3. Employment Analysis

It can be seen from Table 2 that 31 people majoring in physics are engaged in education, accounting for 63.27%, and 18 people engaged in other (Entrepreneurship), accounting for 36.73%. 27 students majoring in electronic information engineering continued to study and work in enterprises, accounting for 57.44%, and 17 students majoring in other (Entrepreneurship), accounting for 36.17%. From the perspective of the work industry, it is highly consistent with the specialty.

4. Employment Services

It can be seen from Table 3 that the employment services of physics are mainly

Table 1. Basic information of respondents.

Question	Option	Freq.	Percentage	Question	Option	Freq.	Percentage
Sex	Male	55	57.29%	Workplace	Jiangxi Province	58	60.42%
	Female	41	42.71%		Other	38	39.58%
Hometown	City	13	13.54%	Family affluence	Good	5	5.21%
	County	20	20.83%		General	55	57.29%
	Village and town	63	65.63%		Poor	36	37.50%
Major	Electronic information engineering	47	48.96%	Major	Physics	49	51.04%

Table 2. Distribution of employment industries.

Item	Physics	Electronic information engineering
Further study (postgraduate, etc.)	13 (26.53%)	15 (31.91%)
Schools (kindergartens, primary and secondary schools)	11 (22.45%)	0 (0.00%)
Educational training institutions	7 (14.29%)	1 (2.13%)
Enterprises (private enterprises, state-owned enterprises, foreign capital)	0 (0.00%)	12 (25.53%)
Civil servant	0 (0.00%)	2 (4.26%)
Others (Entrepreneurship)	18 (36.73%)	17 (36.17%)
Total	49	47

Table 3. Employment services of physics.

The school organizes job fairs	Career development planning	Publish recruitment demand and salary information	Job counseling	Total
37 (75.51%)	24 (48.98%)	20 (40.82%)	13 (26.53%)	
Coaching interview skills	Tutor resume writing	Recommended work	No job counseling	49
15 (30.61%)	9 (18.37%)	4 (8.16%)	5 (10.20%)	

job fairs organized by the university (75.51%), career development planning (48.98%) and publishing recruitment information (40.82%). It can be seen from Table 4 that the employment services of electronic information engineering are mainly job fairs organized by the university (76.6%), recruitment information release (59.57%) and career development planning (46.81%). Students hope that the school will strengthen the release of employment information, on-site recruitment organization and career planning guidance. The school should provide more and high-quality employment information, optimize the organization of the recruitment site, including introducing high-quality enterprises, providing high-quality posts, and strengthening the guidance of students' career planning. Students are generally satisfied with the employment guidance and service of the school.

5. Graduate Feedback

It can be seen from Table 5 that students majoring in electronic information engineering have high evaluation on the talent training work of the school, and the top satisfaction is teachers' ethics, moral education, mental health education and teaching management level. It can be seen from Table 6 that students majoring in physics have high evaluation on the talent training work of the school, and the top satisfaction is teachers' ethics, moral education, mental health education, teaching management level, teaching teachers' level, school spirit and study style [1] [2] [3].

Table 4. Employment services of electronic information engineering.

The school organizes job fairs	Career development planning	Publish recruitment demand and salary information	Job counseling	Total
36 (76.60%)	22 (46.81%)	28 (59.57%)	13 (27.66%)	
Coaching interview skills	Tutor resume writing	Recommended work	No job counseling	47
9 (19.15%)	6 (12.77%)	6 (12.77%)	5 (10.64%)	

Table 5. Objective evaluation of students majoring in electronic information engineering on talent training of the University.

Item	Very satisfied	Satisfied	Commonly	Not very satisfied	Dissatisfied	Total
Talent training program	12 (25.53%)	22 (46.81%)	13 (27.66%)	0 (0.00%)	0 (0.00%)	47
Overall curriculum system	12 (25.53%)	21 (44.68%)	14 (29.79%)	0 (0.00%)	0 (0.00%)	47
Coincidence between core courses and work	12 (25.53%)	20 (42.55%)	15 (31.91%)	0 (0.00%)	0 (0.00%)	47
Teaching methods	12 (25.53%)	22 (46.81%)	13 (27.66%)	0 (0.00%)	0 (0.00%)	47
Experimental training conditions	11 (23.40%)	21 (44.68%)	15 (31.91%)	0 (0.00%)	0 (0.00%)	47
Practice implementation	12 (25.53%)	20 (42.55%)	15 (31.91%)	0 (0.00%)	0 (0.00%)	47
Teaching teacher level	14 (29.79%)	23 (48.94%)	10 (21.28%)	0 (0.00%)	0 (0.00%)	47
Teachers' morality and style	14 (29.79%)	24 (51.06%)	9 (19.15%)	0 (0.00%)	0 (0.00%)	47
Moral education	16 (34.04%)	22 (46.81%)	9 (19.15%)	0 (0.00%)	0 (0.00%)	47
Mental health education	15 (31.91%)	23 (48.94%)	9 (19.15%)	0 (0.00%)	0 (0.00%)	47
School spirit and study style	16 (34.04%)	20 (42.55%)	11 (23.40%)	0 (0.00%)	0 (0.00%)	47
School running conditions	15 (31.91%)	21 (44.68%)	11 (23.40%)	0 (0.00%)	0 (0.00%)	47
Teaching management level	15 (31.91%)	22 (46.81%)	10 (21.28%)	0 (0.00%)	0 (0.00%)	47
Teaching facilities	13 (27.66%)	23 (48.94%)	11 (23.40%)	0 (0.00%)	0 (0.00%)	47

Table 6. Objective evaluation of students majoring in physics on talent training in the school.

Item	Very satisfied	Satisfied	Commonly	Not very satisfied	Dissatisfied	Total
Talent training program	12 (24.49%)	18 (36.73%)	17 (34.69%)	2 (4.08%)	0 (0.00%)	49
Overall curriculum system	11 (22.45%)	19 (38.78%)	19 (38.78%)	0 (0.00%)	0 (0.00%)	49
Coincidence between core courses and work	12 (24.49%)	21 (42.86%)	15 (30.61%)	1 (2.04%)	0 (0.00%)	49
Teaching methods	13 (26.53%)	19 (38.78%)	17 (34.69%)	0 (0.00%)	0 (0.00%)	49
Experimental training conditions	13 (26.53%)	18 (36.73%)	18 (36.73%)	0 (0.00%)	0 (0.00%)	49
Practice implementation	13 (26.53%)	19 (38.78%)	16 (32.65%)	1 (2.04%)	0 (0.00%)	49
Teaching teacher level	15 (30.61%)	19 (38.78%)	15 (30.61%)	0 (0.00%)	0 (0.00%)	49

Continued

Teachers' morality and style	17 (34.69%)	22 (44.90%)	10 (20.41%)	0 (0.00%)	0 (0.00%)	49
Moral education	14 (28.57%)	21 (42.86%)	14 (28.57%)	0 (0.00%)	0 (0.00%)	49
Mental health education	15 (30.61%)	20 (40.82%)	14 (28.57%)	0 (0.00%)	0 (0.00%)	49
School spirit and study style	14 (28.57%)	20 (40.82%)	15 (30.61%)	0 (0.00%)	0 (0.00%)	49
School running conditions	13 (26.53%)	20 (40.82%)	16 (32.65%)	0 (0.00%)	0 (0.00%)	49
Teaching management level	14 (28.57%)	20 (40.82%)	15 (30.61%)	0 (0.00%)	0 (0.00%)	49
Teaching facilities	14 (28.57%)	19 (38.78%)	16 (32.65%)	0 (0.00%)	0 (0.00%)	49

It can be seen from Table 7 that students majoring in physics think that the most important quality is ability quality, and students majoring in electronic information engineering think that the most important quality is psychological quality. It can be seen from Table 8 that physics believe that the most important ability is professional skills, while electronic information engineering students believe that the most important ability is practical ability.

It can be seen from Table 9 that 70% of the students majoring in electronic information engineering believe that their professional skills are obtained through the talent training of our university, and 50% of the students believe that their other abilities are also obtained through the talent training of our university. It can be seen from Table 10 that 70% of the students majoring in physics believe that their professional skills are obtained through the talent training of our university, and 50% of the students believe that their other abilities are also obtained through the talent training of our university.

It can be seen from Table 11 that during school, nearly 70% of students believe that the teachers who have the greatest impact on students' education are professional teachers, whether physics or electronic information engineering. Table 12 shows that during school, nearly 70% of students, whether physics or electronic information engineering, believe that the biggest teaching link for the improvement and development of students' ability is experimental training teaching, followed by internship. It can be seen from Table 13 that 70% of physics students think that the time arrangement of experimental training and practice is more appropriate. Fifty percent of electronic information engineering students think that the time arrangement of experimental training and practice is more appropriate. As can be seen from Table 14, whether physics or electronic information engineering, students believe that the key factor affecting the teaching quality is the talent training mode, followed by the level of school teachers. It can be seen from Table 15 that students majoring in physics believe that the work that the school needs to strengthen in talent training is professional basic knowledge and organization and coordination ability. Students majoring in electronic information engineering should first strengthen their practical ability, followed by professional basic knowledge. It can be seen from Table 16 that more than 70% of the students majoring in physics or electronic information engineering are generally satisfied with the school's education and teaching work.

Table 7. Your most important qualities.

Major	Physical quality	Psychological quality	Ideological and political quality	Moral quality	Knowledge quality	Ability and quality	Total
Physics	6 (12.24%)	10 (20.41%)	5 (10.20%)	8 (16.33%)	8 (16.33%)	12 (24.49%)	49
Electronic information engineering	9 (19.15%)	15 (31.91%)	5 (10.64%)	6 (12.77%)	2 (4.26%)	10 (21.28%)	47

Table 8. Your most important competencies.

Major	Professional skills	Language expression ability	Organization and coordination ability	Practical ability	Innovation ability	Social ability	Self control ability	Total
Physics	22 (44.90%)	9 (18.37%)	6 (12.24%)	4 (8.16%)	2 (4.08%)	4 (8.16%)	2 (4.08%)	49
Electronic information engineering	14 (29.79%)	9 (19.15%)	5 (10.64%)	15 (31.91%)	0 (0.00%)	3 (6.38%)	1 (2.13%)	47

Table 9. The ability of students majoring in electronic information engineering obtained through talent training in our university.

Item	Entire	Most	Half	Smaller part	Not a quarter	Total
Professional skills	8 (17.02%)	25 (53.19%)	12 (25.53%)	2 (4.26%)	0 (0.00%)	47
Language expression ability	6 (12.77%)	22 (46.81%)	16 (34.04%)	3 (6.38%)	0 (0.00%)	47
Organization and coordination ability	6 (12.77%)	21 (44.68%)	19 (40.43%)	1 (2.13%)	0 (0.00%)	47
Practical ability	6 (12.77%)	26 (55.32%)	14 (29.79%)	1 (2.13%)	0 (0.00%)	47
Innovation ability	7 (14.89%)	21 (44.68%)	17 (36.17%)	2 (4.26%)	0 (0.00%)	47
Social ability	7 (14.89%)	17 (36.17%)	19 (40.43%)	4 (8.51%)	0 (0.00%)	47
Self control ability	6 (12.77%)	18 (38.30%)	21 (44.68%)	2 (4.26%)	0 (0.00%)	47

Table 10. The ability of students majoring in physics obtained through talent training in our university.

Item	Entire	Most	Half	Smaller part	Not a quarter	Total
Professional skills	11 (22.45%)	24 (48.98%)	14 (28.57%)	0 (0.00%)	0 (0.00%)	49
Language expression ability	8 (16.33%)	22 (44.90%)	15 (30.61%)	4 (8.16%)	0 (0.00%)	49
Organization and coordination ability	9 (18.37%)	22 (44.90%)	14 (28.57%)	3 (6.12%)	1 (2.04%)	49
Practical ability	10 (20.41%)	21 (42.86%)	16 (32.65%)	2 (4.08%)	0 (0.00%)	49
Innovation ability	7 (14.29%)	21 (42.86%)	17 (34.69%)	4 (8.16%)	0 (0.00%)	49
Social ability	8 (16.33%)	22 (44.90%)	16 (32.65%)	2 (4.08%)	1 (2.04%)	49
Self control ability	7 (14.29%)	22 (44.90%)	18 (36.73%)	1 (2.04%)	1 (2.04%)	49

Table 11. Teachers who have the greatest impact on your education during school.

Major	Speciality teachers	Basic Course	Counselor	Other teachers	Total
Physics	33 (67.35%)	4 (8.16%)	7 (14.29%)	5 (10.20%)	49
Electronic information engineering	32 (68.09%)	1 (2.13%)	5 (10.64%)	9 (19.15%)	47

Table 12. What teaching links do you think are the most important to the improvement and development of students' ability during school.

Major	Theory Teaching	Experimental training teaching	Graduation thesis	Educational practice or engineering practice	Total
Physics	9 (18.37%)	16 (32.65%)	3 (6.12%)	21 (42.86%)	49
Electronic information engineering	7 (14.89%)	25 (53.19%)	5 (10.64%)	10 (21.28%)	47

Table 13. Arrangement of students' experimental training and practice time during school.

Major	Very appropriate	More appropriate	Commonly	More inappropriate	Very inappropriate	Total
Physics	11 (22.45%)	24 (48.98%)	12 (24.49%)	2 (4.08%)	0 (0.00%)	49
Electronic information engineering	10 (21.28%)	12 (25.53%)	19 (40.43%)	3 (6.38%)	3 (6.38%)	47

Table 14. Do you think what are the key factors affecting teaching quality.

Major	Teachers' level	Talent training mode	Quality of new students	Teaching management level	Other	Total
Physics	13 (26.53%)	16 (32.65%)	5 (10.20%)	11 (22.45%)	4 (8.16%)	49
Electronic information engineering	12 (25.53%)	25 (53.19%)	2 (4.26%)	5 (10.64%)	3 (6.38%)	47

Table 15. What do you think the school needs to strengthen in talent training.

	Professional basic knowledge	Ideological and political quality	Practical ability	Faculty for adapting environments	Organization and coordination ability	Total
Physics	29 (59.18%)	21 (42.86%)	30 (61.22%)	15 (30.61%)	24 (48.98%)	
	Language expression ability	Problem solving ability	Foreign language and computer application ability	Creative consciousness and ability	Other	49
	23 (46.94%)	13 (26.53%)	12 (24.49%)	16 (32.65%)	6 (12.24%)	

Continued

	Professional basic knowledge	Ideological and political quality	Practical ability	Faculty for adapting environments	Organization and coordination ability	Total
Electronic information engineering	28 (59.57%)	19 (40.43%)	33 (70.21%)	19 (40.43%)	23 (48.94%)	
	Language expression ability	Problem solving ability	Foreign language and computer application ability	Creative consciousness and ability	Other	47
	19 (40.43%)	17 (36.17%)	10 (21.28%)	18 (38.30%)	4 (8.51%)	

Table 16. Satisfaction of school education and teaching.

Major	Very satisfied	Satisfied	Commonly	Not very satisfied	Dissatisfied	Total
Physics	12 (24.49%)	23 (46.94%)	14 (28.57%)	0 (0.00%)	0 (0.00%)	49
Electronic information engineering	11 (23.40%)	26 (55.32%)	10 (21.28%)	0 (0.00%)	0 (0.00%)	47

6. Problems in Talent Training

1) Electronic information engineering and physics have high requirements for experimental training. In view of the constraints of the experimental training course by the objective conditions such as insufficient experimental equipment and insufficient experimental site, what's more, the experimental training course should be divided into groups, resulting in the inappropriate arrangement of experimental training time.

2) The practical teaching of experimental training should present a low-level, medium-level and high-level progressive type, and the talent training scheme should be optimized. The practical teaching should start from the lower grade students and be arranged as early as possible, so as to have the time and energy to engage in progressive teaching.

3) As science and engineering majors have high requirements for the practical ability of teachers, and the practical ability of teachers needs to be further improved.

7. Improvement Measures and Suggestions on Professional Talent Training

1) Relevant professional teachers are required to enter the enterprise for temporary training. Promote the integration of industry and education, schools and enterprises should cooperate deeply, send teachers to enterprises to carry out temporary training, and introduce industry experts to guide professional teaching. At the same time, teachers should also assist enterprises in professional training or undertake certain scientific research work, help enterprise employees improve their teaching level, enhance enterprise influence and service quality.

2) The training base is an important place for training course teaching and an

important guarantee for talent training. With the help of school enterprise cooperation and the application of various professional training bases at all levels, strengthen the construction of training bases, make the training bases inside and outside the school from specialized to refined, keep pace with the times, and reflect the scientificity, demonstration and guidance of the construction of training bases.

3) Enhance employ-ability

Through the follow-up survey of graduates, fully understand the needs of employers and students, build a better curriculum system, guide the reform of curriculum content, integrate the cultivation of humanistic quality into the professional knowledge system, reform the classroom teaching organization, build a good learning atmosphere and learning environment, create a better and better employment environment for school graduates and improve their employ-ability.

8. Application of Survey Results in Talent Training Program Formulation and Talent Training

1) Society and market demand determine the training objectives and positioning of professional students. It is unrealistic to talk about the reform of talent training program without industry. We should strengthen students' professional cognition, focus on cultivating students' professional consciousness and strengthen students' daily behavior management. Therefore, professional personnel training should be in line with the industry, and teaching standards and student management should be connected with industry management standards. The focus of talent training should not only be on the cultivation of professional skills, but also on the cultivation of professional identity, professional quality, professional ethics, service consciousness, language communication and cultural and artistic aesthetics. Education and teaching should not be limited to books and classrooms, but also make full use of information resources, combine inside and outside the classroom and inside and outside the school, give full play to the role of associations and the second classroom, and show the professional talent training concept by organizing students to participate in various activities, inviting excellent graduates and experts to the school to carry out lectures and exchange activities.

2) The follow-up survey results of graduates can reflect the quality of professional talent training, whether the ideological quality, professional ability and professional knowledge of graduates can meet the needs of employers, and whether they can adapt to the pace of regional economic development is related to the sustainable development of the major. Therefore, the follow-up survey of graduates can promote the construction of the major, enhance professional competitiveness and the ability to serve the regional economy.

9. Discussion

The sample size of this study is insufficient, and it will be improved in the future.

The samples are not very representative, and typical samples will be selected in the future.

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Conflicts of Interest

The author declares no conflicts of interest.

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