International Journal of Humanities and Social Science Research
ISSN: 2455-2070, Impact Factor: (RJIF 5.22)
www.socialresearchjournals.com
Volume 2; Issue 3; March 2016; Page No. 63-67

Why postgraduates in mathematics dissatisfied with their curricula

[1] Zhaohua Qu, *[2] Zezhong Yang
[1] M.A. The School of Mathematical Sciences, Shandong Normal University, Ji'nan, China.
[2] Ph. D. The School of Mathematics Sciences, Shandong Normal University, Ji'nan, China.

Abstract
This research focused on the poor experience and cognition of postgraduates in mathematics in mainland China to their curricula, aimed at figuring out why they were dissatisfied with their curricula. We adopted an open-ended structure questionnaire and mainly investigated them from following six aspects: curricula goal, curricula structure, curricula content, curricula implementation, curricula resources and curricula evaluation. A total of 19 postgraduates in mathematics from a university in Shandong province participated in this investigation. The results indicated that the postgraduates were most dissatisfied with were curricula structure, curricula contents and curricula evaluations. For curricula structure, the reasons given by most of the postgraduates in Basic Mathematics were "The whole courses were more than enough" "The existing courses were multiple" and "The existing courses were inconsistent with the actually needed courses", while the reasons given by the majority of the postgraduates in Applied Mathematics were "The whole courses were less than enough" and "There lacked some important courses". For curricula contents, the reasons given by most of the postgraduates in Basic Mathematics were "The contents were not enough" and "Some contents were helpless", while the reasons given by the majority of the postgraduates in Applied Mathematics was "Some contents were rather difficult". But for curricula evaluations, the reasons given by the majority of postgraduates in each major were "The evaluations could not actually distinguish between postgraduates of diligent or opportunistic" and "The actual processes of curricula evaluations were not very rigorous".

Keywords: Postgraduates, Curricula, Dissatisfaction, Mathematics

1. Introduction
Dissatisfaction is a status when a person's willingness was dissatisfied with. In case of dissatisfaction, the people are usually unwilling to devote time or energy to relevant activities, especially for students. The students who felt dissatisfied with their curricula usually complain or avoid learning, sometimes even hate learning. Therefore, understanding the students felt satisfied with their curricula or not and the reason that they felt dissatisfied with their curricula when they exactly felt dissatisfied with them was of great significance for the reform of the curricula and teaching. By early referring to relevant materials (Wei, H.R. & He, J.H., 2009; Li, H. & Huang, Q.M., 2014; Jiao, W.L., 2012; Zhou, H.Y., 2015; Qian, K., 2014; Ji, Y.H., 2012; Mi, Y.Q., Zheng, J.Zh. & Zhang, Ch.Ch. et al., 2015; Nie, E.H., 2013; Wei, J.Zhu. & John N Gathegi, 2014) [1, 2, 3, 4, 5, 6, 7, 8, 9], we found there were many researches about students' satisfaction or dissatisfaction towards their curricula, however the researches on reasons why the students were dissatisfied with their curricula was quite few, and the research about why postgraduates in mathematics felt dissatisfied with their curricula still was not found. Indeed, according to our actual observation in the process of teaching, we found many postgraduates in mathematics do felt dissatisfied with their current curricula. Why did these postgraduates not feel satisfied with their curricula? To find out the reason, we investigated 19 postgraduates in mathematics.

2. Methods
2.1. Participants
We chose 19 postgraduates in mathematics randomly as participants in a university in Shandong province of China. These 19 postgraduates all had finished their curricula study, in which there were 5 male postgraduate students and 14 female postgraduate students, 8 postgraduates in Basic mathematics, 11 postgraduates in Applied Mathematics.

2.2. Instrument
The instrument we used was an open-ended structure questionnaire, which was developed in Chinese based on relevant literatures. Its items mainly involved the following six aspects: curricula goals, curricula structure, curricula contents, curricula implementation, curricula resources and curricula evaluations.

2.3. Data Collection
To obtain the detailed and full data, we interviewed each chosen postgraduate by face-to-face, recorded what they said firstly, and then organized these sound materials into text materials.

2.4. Data Analysis
We encoded the above obtained text materials with qualitative analysis software nvivo10 firstly, and then analyzed the codes in tables and calculated the percentages of each code.

3. Results
3.1. Curricula Goals
The details of reasons for dissatisfaction of curricula goals of postgraduates in mathematics were as shown in Table 1. From Table 1 we knew that there were three main reasons. Firstly, the curricula goals were general and not concrete. Secondly, the curricula goals were not specific and not special. Thirdly, the curricula goals were inconsistent with the actual situations

of majors. Nevertheless, the number of postgraduates who expressed dissatisfaction to curricula goals was relatively small. There were about 30% of the postgraduates in each major, respectively.

Table 1: the reasons for dissatisfaction of curricula goals

Reasons / Percentages / Majors	general and not concrete	not specific and not special	inconsistent with the actual situations of majors
Basic Mathematics	0.37	0.25	0.13
Applied Mathematics	0.18	0	0.36
Overall Cases	0.26	0.11	0.26

3.2. Curricula Structure

The details of reasons for dissatisfaction of curricula structure of postgraduates in mathematics were as shown in Table 2. From Table 2 we knew that five reasons were mainly referred to. Firstly, the existing courses were repeated and multiple. Secondly, there lacked some important courses. Thirdly, the whole courses were more than enough. Fourthly, the whole courses were less than enough. Fifthly, the existing courses were inconsistent with the needed courses. The majority of postgraduates were dissatisfied with curricula structure, in which there were more than 80% of the postgraduates in each major, respectively. From Table 2, we could also know that there was distinct difference in proportions of different reasons between the two majors. The reasons given by the majority of postgraduates in Basic Mathematics were the above first, third, and fifth. By contrast, the reasons given by the majority of postgraduates in Applied Mathematics were the above second and fourth.

Table 2: the reasons for dissatisfaction of curricula structure

Reasons / Percentages / Majors	The existing courses were repeated and multiple	A lack of some important courses	The whole courses were more than enough	The whole courses were less than enough	The existing courses were inconsistent with the needed courses
Basic Mathematics	0.75	0.25	0.75	0.13	0.88
Applied Mathematics	0.09	0.82	0.27	0.64	0.27
Overall Cases	0.37	0.58	0.47	0.42	0.53

3.3. Curricula Contents

The details of reasons for dissatisfaction of curricula contents of postgraduates in mathematics were as shown in Table 3. From Table 3 we knew that there were five main reasons. Firstly, the contents were not enough. Secondly, some contents were helpless. Thirdly, some contents lacked timeliness. Fourthly, the contents were weakly linked up to relevant knowledge at the stage of undergraduate. Fifthly, some contents were rather difficult. Also quite a few postgraduates showed dissatisfaction to curricula contents, in which there were more than 70% of the postgraduates in both Basic Mathematics and Applied Mathematics, respectively. From Table 3, it also could be found that the reasons given by the majority of postgraduates in Basic Mathematics who were not satisfied with their curricula contents were the above first and second. By contrast, the reason given by the majority of postgraduates in Applied Mathematics who were not satisfied with their curricula contents was the above fifth.

Table 3: the reasons for dissatisfaction of curricula contents

Reasons / Percentages / Majors	The contents were not enough	Some contents were helpless	Some contents lacked timeliness	The contents were weakly linked up to knowledge at the stage of undergraduate	Some contents were rather difficult
Basic Mathematics	0.75	0.63	0.37	0	0.37
Applied Mathematics	0.09	0.36	0.18	0.36	0.73
Overall Cases	0.37	0.47	0.26	0.21	0.58

3.4. Curricula Implementation

The details of reasons for dissatisfaction of curricula implementation of postgraduates in mathematics were as shown in Table 4. From Table 4 we knew that six reasons were referred to. Firstly, some teachers were accustomed to echoing what the books say, that is, teaching off the blackboard. Secondly, the lessons given by postgraduates rather than their teachers were too much. Thirdly, there had few effective seminars. Fourthly, there was a lack of communications among postgraduates and teachers. Fifthly, the writings on the blackboard of some teachers were illegible. Lastly, the classroom teaching time for different courses was unreasonable. The classroom teaching time for some courses was more than enough, whereas that for some other courses was less than enough. More than 80% of the postgraduates in each major were not satisfied with the curricula implementation. Nevertheless, the reasons given by the majority of postgraduates in both majors were the above second and fourth.

Table 4: the reasons for dissatisfaction of curricula implementation

Reasons / Percent ages / Majors	Echoing what the books say	Too much lessons given by postgraduates	Few effective seminars	a lack of communications among postgraduates and teachers	Illegible writings on the blackboard of some teachers	Unreasonable classroom teaching time for different courses
Basic Mathematics	0.37	0.88	0.37	0.63	0.37	0.63
Applied Mathematics	0.27	0.82	0.09	0.73	0.18	0.36
Overall Cases	0.32	0.84	0.21	0.68	0.26	0.47

3.5. Curricula Resources

The details of reasons for dissatisfaction of curricula resources of postgraduates in mathematics were as shown in Table 5. From Table 5 we knew that five reasons were referred to. Firstly, the contents of some textbooks were out of date. Secondly, some school-based textbooks lacked high qualities. Thirdly, there were a few really worthwhile reference materials, such as books and magazines, which were related to certain major and were available for postgraduates to borrow and read. Fourthly, there were few portals provided by school to foreign professional resources. Fifthly, the textbooks and courseware et al. had low printing qualities. In general, most of the postgraduates were dissatisfied with curricula resources, in which there were almost 90% of the postgraduates in both Basic Mathematics and Applied Mathematics, respectively. Nevertheless, it should be noted that the focused reason given by almost all of the postgraduates was the above last one. In addition, it could be found that the reasons given by most of the postgraduates in Basic Mathematics also included the above second and fourth.

Table 5: the reasons for dissatisfaction of curricula resources

Reasons / Percent ages / Majors	Out-of-date textbooks	A lack of high qualities of some school-based textbooks	A few really worthwhile reference materials	A few portals provided by school to foreign professional resources	The textbooks and courseware et al. with low printing qualities
Basic Mathematics	0.37	0.63	0.37	0.63	0.88
Applied Mathematics	0.18	0.18	0.09	0.27	0.91
Overall Cases	0.26	0.37	0.21	0.42	0.89

3.6. Curricula Evaluations

The details of reasons for dissatisfaction of curricula evaluations of postgraduates in mathematics were as shown in Table 6. From Table 6 we knew that there were three main reasons. Firstly, the evaluations could not actually distinguish between postgraduates of diligent or opportunistic. Secondly, the evaluations were not taken seriously. Thirdly, the actual processes of curricula evaluations were not very rigorous. Also, not a few of the postgraduates in mathematics, the postgraduates in both Basic Mathematics and Applied Mathematical included, showed dissatisfaction with the current curricula evaluations, whose percentages of satisfaction of their curricula evaluations were respectively more than 70.

Table 6: the reasons for dissatisfaction of curricula evaluations

Reasons / Percentages / Majors	The evaluations could not actually distinguish between postgraduates of diligent or opportunistic	The evaluations were not taken seriously	The actual processes of curricula evaluations were not very rigorous
Basic Mathematics	0.75	0.37	0.75
Applied Mathematics	0.73	0.45	0.91
Overall Cases	0.74	0.42	0.84

4. Discussions

From the above data, we knew that the postgraduates in mathematics showed widespread but varying dissatisfaction with their current curricula goals, structure, contents, implementation, resources, and evaluations. The reasons for dissatisfaction of the above six aspects given by these postgraduates were tremendous and distributed.

The number of postgraduates who were dissatisfied with the goals of curricula and the number of reasons for dissatisfaction given by these postgraduates were all small. This might because of their superficial understandings of these curricula goals.

The numbers of reasons for dissatisfaction of both curricula structure and curricula contents were large. Yet, the reasons given by postgraduates in the same major were almost consistent. From this perspective, their reasons for dissatisfaction of curricula were somehow credible and authentic. Taking the cases of curricula structure as an example, the percentages of the reasons “The whole courses were more than enough” “The existing courses were multiple” and “The existing courses were inconsistent with the actually needed courses” given by postgraduates in Basic Mathematics were all more than 70, whereas the percentages of the above reasons given by postgraduates in Applied Mathematics were all less than 30. Otherwise, the percentages of the reasons “The whole courses were less than enough” and “There lacked some important courses” given by postgraduates in Basic Mathematics were all significantly less than that given by postgraduates in Applied Mathematics. As a matter of fact, in the process of our investigation, most of the postgraduates in Basic Mathematics stated that not only was their professional knowledge difficult to be understood, but also uneasy to be applied to a thesis, let alone the future jobs. Most of the postgraduates in Applied Mathematics stated that although

they majored in applied mathematics, they learned more about fundamental mathematics actually, and what they run though computers were usually fixed and old exercises on the textbook, which seemingly could not enlighten them to solve practical problems and inspire them to write a thesis containing new ideas. This point indicated that most of the postgraduates in mathematics were not sufficiently prepared mathematically for postgraduate courses. Indeed, with the increasing rate of admission to universities and high education pursuance, tremendous graduates chose to apply for National Master's Entrance Test and to have the master's degree, in which there were quite a few graduates who weren't willing to. Particularly, the graduates in mathematics usually lacked enthusiasms for sophisticated mathematics. The majority of graduates in mathematics had been disciplined according to the pattern of mathematics problem solving since they were at the elementary schools. Even most of them were accustomed to the above learning method and passed all kinds of examinations, the entrance examinations for postgraduates included, this way during universities, in which there were few graduates in mathematics who attended to work assiduously at advanced and sophisticated mathematics. Once they came into the stage of postgraduate, the situations changed, where they need to ponder and solve some specific mathematical problems, and write academic papers on relevant issues. So, most of them felt their abilities were challenged and didn't know what to do with.

Most postgraduates in mathematics were dissatisfied with their curricula implementation because of too many lessons taught by postgraduates themselves rather than their teachers. This somehow indicated few communications among postgraduates and their teacher. Indeed, the postgraduates' knowledge and insights were not very profound. From this perspective, too many lessons taught by postgraduates would be not beneficial for them to grasp knowledge and widen thoughts and make them more creative, which might decrease their enthusiasms and confidences for mathematical studies and the opportunities for changing ideas among students and the teacher in class.

The dissatisfaction of curricula resources of the postgraduates in mathematics, particularly the postgraduates in Basic Mathematics, rested with a lack of high qualities of some school-based textbooks and a few portals provided by school to foreign professional resources. Ultimately, the postgraduates need broader and profounder professional knowledge than undergraduates. It would be not enough for their professional developments to just be offered some school-based textbooks and limited portals to foreign resources.

For dissatisfaction of curricula evaluations, the reasons given by the postgraduates in both Basic Mathematics and Applied Mathematics were focused and consistent. They thought the evaluations could not actually distinguish between postgraduates of diligent or opportunistic with their studies and the actual processes of curricula evaluations were not very rigorous. Indeed, current curricula evaluations of postgraduates generally adopted the forms of holding examinations and writing academic papers on specialized subjects. Although the standards of evaluations were elaborate and rigorous, the actual processes of evaluations were not rigorously performed based on them. There seemingly had no obvious distinction between postgraduates of different levels.

5. Conclusions and Suggestions

It is of great value and significance to have a full and deep understanding of the whys and whereas of dissatisfaction of curricula of postgraduates. According to the investigation of 19 postgraduates in mathematics and the results above, we knew that the reasons for dissatisfaction of the curricula given by these postgraduates were tremendous and distributed. Relatively, what the most of the postgraduates in mathematics were not satisfied with and the reasons for dissatisfaction were concentrated on were the current curricula structure, curricula contents, and curricula evaluations.

Although the current curricula of postgraduates in mathematics were developed based on the modern mathematics, its category of courses had almost not been varied since it formed in the eighties and nineties. The same applied to its contents. The curricula contents generally consisted of tremendous and boring mathematics notions, principles and formulas et al. So it was usually difficult to learn. Even to postgraduates in Applied Mathematics, the knowledge representing application of mathematics and what they could practice were very few or no. Nowadays, quite a few postgraduates hoped to find good jobs with a bachelor' degree rather than devote themselves to scholarships. Therefore, we thought the formulations of curricula contents should contain moderate applied contents with characteristics of the times, besides the basic contents of the subject, in order to meet the needs of postgraduates with different aspirations. In addition, with the expansion of postgraduates, the knowledge levels and abilities of the postgraduates became increasingly uneven, but especially the postgraduates in mathematics. Not a few postgraduates in mathematics passed the entrance examination for postgraduates by rote learning. So many of them usually did not understand what the teachers said and wrote absolutely or at all, let alone explored and brought forward new ideas and wrote papers on relevant issues according to what they have learned. Therefore, we thought the formulations of curricula contents should also take distinguishing difficulties into consideration in order to meet postgraduates with different knowledge levels. In addition, we thought what should not be ignored was to appropriately and moderately integrate the mathematics history and mathematics stories into relevant contents, which was essential and important for the postgraduates to understand the origin and development of what they have learned and construct a complete and clear knowledge structure.

Current curricula evaluations of postgraduates generally adopted the forms of holding examinations and writing academic paper on specialized issues. Although the standards of evaluations were elaborate and rigorous, the actual processes of evaluations were not rigorously performed based on them. There seemingly had no obvious distinction between postgraduates of different levels.

Given these above points, we thought it was critical and necessary to largely take the structure, contents and evaluations of curricula into consideration when the overall reform on curricula of the postgraduates in mathematics starts. Maybe there were other reasons why the graduate students in mathematics felt not satisfied with the structure, contents and evaluations of curricula. Anyway, to reform the traditional teaching contents and pay more attention to evaluations and make the contents more modern, more in line with the cognitive law of students, and make the evaluations more

distinguishing, effective, and reasonable can undoubtedly improve the current situations of curricula and enhance the postgraduates' recognition for the curricula contents and evaluations.

6. References

1. Wei HR, He JH. A Survey on the Satisfaction Degree of Curriculum Provision of Undergraduates from Normal University. Human Resource Management, 2009; 4:118-120.
2. Li H, Huang QM. Research on the Present Situation of the Satisfaction degree of Curriculum Provision of Graduate Students from Science Colleges and Universities -- Taking Chongqing University as an Example. Curriculum and Teaching Materials, 2014; 5:72-74.
3. Jiao WL. The Research on Satisfaction among Graduate Students of Educational Technology. Nanjing: Nanjing University, 2012; 1-61.
4. Zhou HY. The Dimension of College Curriculum Construction -- Based on the Survey on the Satisfaction Degree of Curriculum of College Graduates in Shandong Province. Educational Research, 2015; 10:37-46.
5. Qian K. A Survey on the Satisfaction Degree of Curriculum Setting in Colleges and Universities -- Based on the Data Analysis of the Training of Students' Employment Abilities. Thematic Investigation University (Academic Edition) 2014; 40(5):56-69.
6. Ji YH. A Study on the Satisfaction Degree of English curriculum setting of Students in Higher Vocational Colleges. Overseas English 2012; 10:63-64.
7. Mi YQ, Zheng JZh, Zhang ChCh *et al*. A Survey on the Satisfaction Degree of Curriculum Setting of Undergraduates in Health Affairs Management. China Higher Medical Education, 2015; 10:73-74.
8. Nie EH. Empirical Research on the Core Curriculum Satisfaction of Archives Science Undergraduate. Archives Science Bulletin, 2013; 1:66-70.
9. Wei JZh, John N Gathegi. Curriculum Satisfaction Among Library and Information Science Graduates in China: An Exploratory Survey. The International Information and Library Review, 2014; 46(1):11-20.