

## QUALITY ASSURANCE OF POSTGRADUATE EDUCATION BASED ON THE THIRD PARTY SAMPLING INSPECTION OF THESES IN SHANGHAI

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### **Abstract**

*Theses are an important basis for postgraduate students to apply for a degree, and direct reflection about the quality of postgraduate education. The third party sampling inspection is one of the measures to ensure the quality of postgraduate education. According to the Shanghai sampling inspection principles of master's theses, the Shanghai Education Evaluation Institute (SEEI) has set the sampling rules and developed the evaluation index system. The inspection process can be tracked and the results can be analyzed relying on the Shanghai degree and postgraduate education information platform. The informatization of theses sampling inspection improves the efficiency of theses evaluation, promotes the scientificity and fairness of theses evaluation, and ensures the quality of postgraduate education.*

**Keywords:** *Theses, sampling inspection, informatization, quality assurance*

### **Introduction**

As the enrollment and training scale of Chinese postgraduate students continues expanding, the quality of postgraduate education has aroused more and more attention. It is an important task to ensure and continuously improve the quality of postgraduate education<sup>[1]</sup>. In China, theses are not only an important basis for postgraduate students to apply for a degree, but also direct reflection about the quality of postgraduate education. Theses are a final result of postgraduate training and can be used to evaluate the quality of postgraduate education<sup>[2]</sup>. In order to ensure the quality of postgraduate education, China started the sampling inspection of doctoral and master's theses after their graduation since 2014. According to the "Sampling Inspection Principles of Doctoral and Master's Theses" issued by the Ministry of Education of the People's Republic of China and the Academic Degrees Committee of the State Council (No. [2014] 5) and "Notice on Completing Sampling Inspection of Master's Theses" issued by the Education Steering Committee Office of the State Council (No. [2014]30), the sampling inspection of doctoral theses is organized by the Academic Degrees Committee Office of the

State Council, and the sampling inspection of master's theses is organized by provincial academic degree committees. In November 2014, the Shanghai Academic Degrees Committee and the Shanghai Education Committee jointly issued the "Shanghai Sampling Inspection Principles of Master's Theses ([2014] No. 9)", and the Shanghai Academic Degrees Committee Office issued the "Notice on Completing Sampling Inspection of Master's Theses in 2014 ([2014] No. 16)", leading to the launch of master's theses sampling inspection in Shanghai. Based on the national policy and local situation, Shanghai carried out the sampling inspection of master's theses. Entrusted by the Shanghai Academic Degree Committee Office, SEEI successively implemented the sampling inspection of graduated master's theses to supervise the quality of the master degree' awarding in Shanghai.

#### **Determination of sampling principles**

According to the "Shanghai Sampling Inspection Principles of Master's Theses", sampling inspection of master's theses in Shanghai is conducted through general sampling and emphasis sampling. The general sampling refers to each discipline using random sampling with sampling ratio about 5%. For disciplines with few degrees awarded, at least one master's degree thesis shall be assessed for three consecutive years <sup>[2]</sup>. The emphasis sampling enhances the sampling ratio and inspection effort, mainly focusing on the institutions, disciplines and supervisors where quality problems are prone to or already emerged. The emphasis sampling with sampling ratio up to 10% mainly focused on the following cases: new enrollments since the first degree awarded within three years, enrollments emerged questions within three years, supervisors guiding four or more postgraduate students obtaining master's degree at the same year, on-job candidates obtaining a master's degree, candidates with the postponement of more than one year, international students and other cases that need attention. 100% sampling inspection for master's theses is applied to supervisors whose doctoral student' thesis has been identified as "unqualified thesis" during national doctoral theses sampling inspection within three years. Master's theses applying for confidentiality are 100% sampling inspected after declassification.

#### **Development of evaluation standards**

In China, master degree is divided into two types, academic and professional. The training objectives and theses requirements are different for the two different types of master degree. Entrusted by the Shanghai Academic Degree Committee Office, SEEI organized evaluation experts analyzing the "Basic Requirements for PhDs and Master Degrees" issued by the Academic Degrees Office of the State Council and the "Basic Requirements and Evaluation Index System for Master Degree Theses in Shanghai". After careful discussion and repeated argument, the evaluation index system of the theses sampling inspection was carried out with the document of "Evaluation Elements for Sampling Inspection of Master Theses in Shanghai" for Natural Science Academic Degrees, Humanities and Social Sciences Academic Degrees, Natural Science Professional Degrees, Humanities and Social Sciences Professional Degrees, respectively.

***Table 1. Evaluation Elements for Sampling Inspection of Master's Theses in Shanghai  
(For Natural Sciences Academic Degrees)***

Evaluation index	Evaluation elements
Topics and reviews	The theoretical significance and practical value of the research; the degree of understanding the development status and academic developments in the discipline and related disciplines at home and abroad.
Innovation and thesis value	The value of new ideas and methods; the impact or effect of the results on technological progress, economic construction, national security and so on.
Scientific research ability and basic knowledge	The solidity of theoretical foundation embodied in the theses; the systemic character of the specialized knowledge in the subject and related disciplines; the ability to analyze and solve problems; the scientificity of the research methods and application of advanced technologies, equipment and information for the research.
Essay norms	The norms of citation, the preciseness of study; the accuracy of the language, the rigor of logic, the format of writing and charts.

Table 1 shows the evaluation index system of Natural Science Academic Degrees. The evaluation is mainly based on the four indexes including the topics and reviews, innovation and thesis value, scientific research ability and basic knowledge, essay norms.

#### **Tracking of sampling inspection process**

In 2013, the Shanghai Academic Degrees Committee Office started the construction of degree and postgraduate education information platform, where the quality evaluation of theses is one of the most important modules. To ensure the quality of sampling inspection work for master's theses in Shanghai, the supervisors (experts) database, degree grant information database, doctoral and master's theses database are developed.

The sampling inspection of master theses in Shanghai includes: theses sampling, matching and delivering to experts, expert evaluating, determining the theses need to review, experts reviewing theses and summary of the evaluation results. The process of the theses sampling follows: firstly, the project manager randomly selects the theses according to certain rules; secondly, the theses to be evaluated are imported into the system; finally, the system matches the theses with experts according to the theses' titles and keywords and the experts' specialty and research directions, then the theses are automatically sent to relevant experts. After starting the evaluation, the following situations may occur: some theses are distributed to 3 experts by the system along with alarming messages at the same time, reminding the experts to reply within 48 hours. If all 3 experts agree to evaluate, 10 days will be left for experts to submit their evaluation results; if less than 3 experts reply, the system will re-distribute the theses to other qualified experts; some theses are assigned to less than 3 experts when automatic matching cannot be completed, then manual matching session is introduced. The project manager checks the assignment daily, masters the progress of the assignment, and keeps aware of the distributive problems and resolves them promptly.

#### **Identification of sampling results**

The rules for identification of the sampling inspection results are as follows:

- (1) If all three experts judge it as qualified, the thesis is thereby qualified;
- (2) If two or more experts judge it as unqualified, the thesis is thereby unqualified;
- (3) If one expert judges it as unqualified, then two more experts are distributed to review the thesis. For the two reassignment experts, as long as one expert judges it as unqualified, the thesis is thereby unqualified; if two experts judge it as qualified, the thesis is thereby qualified.

Table 2 shows the results of sampling inspection for the past three years. The sampling ratio was beyond 5%, and there were unqualified theses every year.

**Table 2. Results of sampling inspection for the past three year**

Graduation time	2013.9.1~2014.8.31	2014.9.1~2015.8.31	2015.9.1~2016.8.31	Total
Number of Graduation masters	39768	42843	42337	12498
Number of theses for Sampling	2007	2328	2125	6460
Sampling ratio (%)	5.05	5.43	5.02	5.17
Number of disqualified theses	81	76	32	189

#### **Use of sampling inspection results**

SEEI submits the results of sampling inspection to Shanghai Academic Degrees Committee Office. The Shanghai Academic Degrees Committee Office feeds back expert comments to degree-awarded institutes and the results of sampling inspection are also submitted to the Academic Degrees Committee Office of the State Council. The Shanghai Academic Degrees Office announced the sampling inspection results of each degree-awarded institute in city-wild scope, and the announced information includes the total number of sampling, number of unqualified theses and so on. Inquiry on quality is addressed to institutes

that have unqualified theses with high ratio or numbers for consecutive two years. For the institutes with poor inspection results, the corresponding administrative procedures shall be carried out by means of follow-up sampling (such as increasing the number of sampling) and special follow-up evaluation, and corresponding warnings, if needed, shall be given according to the inspection results. In the qualification assessment of master enrollments, the sampling inspection results of master theses are an important indicator. For the master enrollments with high ratio or numbers of the unqualified theses, warning of time-limit rectification shall be given according to relevant procedures. If the institutes still cannot meet the requirements after rectification, the academic level is then regarded as disqualified enrollments, and the revocation of authorization for degree-awarded shall be executed. The degree-awarded institute shall take the expert comments on theses inspection as an important basis for the qualification evaluation of supervisor's enrollment and the allocation of postgraduate education resources.

### Conclusion

Based on the informatization construction of Shanghai degree and postgraduate education, and the practice of Shanghai sampling inspection of master theses, the achievements are as follows: (1) Establishment of degree and postgraduate education information base. The theses information database and expert database have been set up, which established a resource pool of supervisors and experts covering Shanghai and even the whole nation. (2) Optimization of theses inspection procedure. Uploading theses, selecting experts, pushing inspection materials, experts online evaluating theses and submitting the assessment results can be completed through the information platform and the project manager can monitor real-time evaluation progress and analyze the sampling inspection results online. (3) Improvement of the efficiency of the theses sampling inspection. The introduction of online process reduces the manpower and time cost of sending materials between institutes, the burden of postgraduate management department, and improves the efficiency of the sampling inspection of postgraduate theses. (4) Improvement of the scientificity and fairness of the theses sampling inspection. By batch and centralized delivery to experts, the comparability and accuracy of the evaluation are enhanced; Experts directly receiving the theses through the network have no intermediate transfer, which is conducive for experts to objectively and fairly evaluate theses. In summary, delivery of theses and evaluation forms to experts through the Internet, and online submission of the evaluation results is realized. And the informatization and paperless operation of Shanghai theses sampling inspection is also realized, which promotes the scientificity and fairness of postgraduate theses evaluation, and assures the quality of Shanghai postgraduate education.

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