

Standard Interview Questions for Educational Program Accreditation in the Association for Engineering Education of Russia

Siberian Transport University

S.I. Gerasimov

Saint Petersburg Electrotechnical University "LETI"

S.O. Shaposhnikov

National Research Tomsk Polytechnic University

E.Y. Yatkina

Key words: *interview, program objectives, learning outcomes.*

The authors analyze standard questions asked by AEER experts to students, teachers, employers, faculty authorities while visiting universities to evaluate the achievements of educational program learning outcomes.



S.I. Gerasimov



S.O. Shaposhnikov



E.Y. Yatkina

Nowadays international requirements for recognition of final higher engineering education documents are increasing in all the countries involved in the integrating processes [1]. It becomes obvious that the formal integration achieved by prior conventions is not enough for increasing education quality. It is necessary not only to recognize the educational results (diploma, degree, qualification), but also to give credit (to credo) to the process (teaching process, internship, project work). It is necessary to interfere and influence the internal processes of Universities, that is on the basic educational triad: "what to teach, how to teach, and who teaches" [2]. One of the ways to evaluate the university's activities in educational quality improvement is professional-and-public accreditation of educational programs. Association of Engineering Education in Russia was one of the first organizations that started professional research of

that problem [3]. Accreditation Center is a department of the Association for Engineering Education of Russia (AEER). It fulfills the initial analysis of educational programs, analyzes self-study report of universities, organizes experts' visits to the universities, and makes reports on educational program evaluation for AEER Accreditation Board [4].

Experts of the AEER Accreditation Center (AC AEER) are the basis of AC efficiency and the icon of modern engineering education in Russia. More than 200 certified professionals – deans, heads of divisions and departments, professors, associate professors, industry and authority representatives provide benefit to their jobs participating in AEER activities [5].

Most of the AC AEER experts start their career as a member of a team examining educational programs during their visits to universities.

AEER Accreditation Criteria

The Accreditation Center provides the higher education institution with the latest version of the criteria and self-study questionnaires for the university to carry out a self-study process according to the AEER requirements [4]. These criteria correspond with the requirements of all international accreditation agencies included into ENAEE and Washington Accord [6, 7]. If all nine requirements are met, a program is awarded with EUR-ACE® quality label (accredited engineer). In fact, before and during his/her visiting the university the expert gives a reasoned answer to the questions presented in the right column of the table [8].

On-site visit

It starts with the experts' meeting at a hotel and ends when all the members of the examination team leave a higher education institution (HEI) after completing all the work according to the plan.

At this stage the aims of the expert teams are:

1. To give qualitative and quantitative evaluation of the factors that cannot be reflected in the written documentaries.
2. To make a study of documents and reports prepared by the HEI for accreditation.

Table 1. AEER Criteria, Brief Content

Criterion	Content
1. Program objectives	Are the program objectives in full correspondence with the institution mission and the needs of potential consumers?
2. Program content	Do the learning outcomes correspond with the program criteria and objectives?
3. Students and study process	Обеспечивает ли учебный процесс достижение результатов обучения? Имеют ли студенты, зачисляемые на образовательную программу, информацию о планируемых результатах обучения и возможности их достижения в нормативное время?
4. Faculty	Does the faculty meet the requirements to ensure the achievement of the corresponding learning outcomes?
5. Professional qualifications	
6. Facilities	Are classrooms, laboratories, and associated equipment modern and adequate enough to meet the program objectives?
7. Information infrastructures	Are computer labs, libraries and other information accesses adequate enough to meet the requirements of the program objectives?
8. Finance and management	Are the financial resources, administration and management of the program (faculty/department) efficient enough to meet the program objectives?
9. Graduates	Do the graduates' job positions and careers correspond with their qualification?

3. The industry representative should pay special attention to the graduates' ability to perform their professional functions and the degree of their skills and competencies development to meet modern requirements of potential consumers.

4. To make a report for HEI on its strengths and weaknesses.

Participants:

1. HEI representatives including university and faculty leaders, faculty involved in the accredited program implementation, and supporting staff.

2. Students admitted for the program.

3. Members of the examination team.

The educational program audit involves meetings of the examination team members with:

- Students.
- Faculty.

The experts interview students in the absences of faculty and university/faculty leaders.

The experts interview faculty in the absence of university/faculty leaders.

During such meetings the experts can ask the following typical interview questions.

Head of the department which offers the educational program under consideration

- Is there a plan of the program improving? (Ask a copy if it was not included in the self-study documents or given materials).
- What are the program objectives and do they differ from the objectives stated in the self-study documents?
- What are the learning outcomes and do they differ from those stated in the self-study documents?
- Do the learning outcomes meet the AEER criteria? Are there any changes with regard to the self-study materials?

- What is your role in program goal setting and definition of learning outcomes?
- What is your involvement in the evaluation of the goal and learning outcomes achievement?
- Does the program curriculum ensure the learning outcomes achievement?
- How do the learning outcomes ensure the achievement of the program objectives?
- What changes have been made in the program as a result of your evaluation?
- How do you know that the graduates have achieved the required learning outcomes?
- In what way are you involved in the program changes?
- How can the faculty (teaching staff) ensure the goal and learning outcomes achievement?
- How successful are your graduates: job positions, starting salary, job career, etc.?
- How active are your employers?
- What program changes have been made to meet their requirements and suggestions?
- What are strengths and weaknesses of your and supporting departments?
- Are you planning any global changes in the curriculum? What and when?
- What needs and requirements should be ensured for the curriculum development?
- Do you manage the budget? In what way?
- Do you recommend on salaries of your department faculty and their job promotion?
- How much time is available for your faculty for their professional development?
- What does your faculty do during summer months?

- Who is responsible for confirming that the graduates fulfilled all the requirements before being awarded with the diplomas?
- What is the procedure of ECTS credits recognition in case of academic mobility, discipline change, etc.?

Faculty

- What program objectives and learning outcomes are developed or achieved by means of your subject?
- Are you involved in evaluating and updating of program objectives and learning outcomes? What way?
- Is any help in professional development available for you?
- How much time do you spend on professional development?
- What professional associations do you belong to? Are you really an active member of professional associations? Do you support professional society or are you an official establishment?
- What do you do for obtaining necessary laboratory equipment?
- Are lectures and laboratory classes taught by one instructor? If not how do they interact?
- Is the salary structure really satisfying? What bonuses and benefits are included?
- What unique or unusual teaching methods are used in your department?
- How do employers influence the educational program?
- What is the procedure of the curriculum change?
- Do you have regular contacts with the industry /employers? What way?
- What changes should be done to improve the program?

- Do the supporting departments ensure the required education level for your students?
- Is office and technical service at your full disposal?
- How much time do you spend in class? In lectures? In laboratories?
- What is the average number of teaching hours per week for your position (full time)?
- What is your teaching qualification level in the program? Evaluate yourself.
- What is your experience in the industry related to the program?
- Are you involved in planning constant improvement of the program?
- How does this improvement plan influence the curriculum?
- Do you have and use this plan in your work? How?

Employers/Industry representatives

- How often do the employers meet with the head of the department?
- What do they meet for?
- Do the employers give advice to the department on program objective development, the ways to achieve and evaluate them?
- Do the employers consider current and potential technical requirements that the program graduates are to face?
- Are the employers involved in the development of the program objectives? How do they do it if involved?
- Are you involved in evaluation of the program results?
- Have there been any changes in the educational program due to employers' participation in program improvement? If yes, what were these changes?
- Is there a written plan for continuous improvement of the educational program?

- What is the employers' role in that plan?
 - Are the curricula of the educational program available for the employers? If yes, how often do they study them?
 - In what way do the learning outcomes ensure the achievement of the educational program objectives?
 - What are the strengths and weaknesses of the educational programs?
 - What are the basic conditions that ensure the curriculum development?
 - What changes should be done to improve the educational program?
 - How important is your experience as an industry representative for this educational program?
 - Has your company employed the graduates of this program lately?
 - Do the graduates meet your requirements?
 - результат вовлечения работодателей в процесс ее совершенствования? Если да, в чем заключались эти изменения?
 - Существует ли в письменном виде план постоянного совершенствования образовательной программы?
- Students – in group or individually**
- Do you know what skills you will acquire by the end of the University course?
 - How were you informed about the expected learning outcomes?
 - Are you developing the required skills?
 - Are the instructors really competent in the subjects they teach?
- Are they available and useful for you in any session time?
 - Why did you choose this University and this program?
 - Are the labs well equipped?
 - Is the laboratory equipment in good condition?
 - Does the program allow you to acquire sufficient practical experience?
 - Are you going to continue your study after finishing the program? Where? When?
 - Are you going to start working after the program? Where? When?
 - What kind of job can you get as a graduate of this program? What will be the starting salary?
 - What is your general concept of the program?
 - Would you recommend this program to your friend?
 - If you (or you parents) pay for your education, can you say that this program is worth paying?

Conclusion

The federal law "About the Education in the Russian federation" considers the process of educational program accreditation as the most effective factor of education quality improvement. It is vitally important to develop systems of continuous improvement of University programs by means of independent accreditation by domestic and international professional societies. Formal result of the external expertise can be regarded as a consumers' credit of trust to the program, but the main result is a real increase in the program quality.

REFERENCES

1. International Collaboration in the Sphere of Quality. Experience of Association of Engineering Education in Russia./ S.I. Gerasimov, Y.P. Pokholkov, A.I. Chuchalin, E.Y. Yatkina // Accreditation in Education.- 2012. - №8. - P. 32-33. (only in Russian)
2. Belyayev A. Educational Gap: Technological Education at the Turn of the XXI Century./ A. Belyayev, A. Livshits. – Tomsk: STT, 2003. – 503 p. (only in Russian)
3. Gerasimov S.I. Development of Professional-and-Public Accreditation Systems for Educational Programs in Russia and Abroad/ S.I. Gerasimov, S.O. Shaposhnikov// Quality. Innovation. Education. – 2012. - №12. – pp. 36-43. (only in Russian)
4. Accreditation Center of Association of Engineering Education in Russia [Electronic resource]: official site. – Moscow, 2003-2013. – URL:<http://www.aeer.ru> (reference date 08.07.2013).
5. Gerasimov S.I. Competence Model for Experts from Accreditation Center of Association of Engineering Education in Russia/ S.I. Gerasimov, E.Y. Yatkina // Engineering Education. – 2011. - №7. – P. 58-67.
6. European Network for Accreditation of Engineering Education [Electronic resource]: the offic. site. – Brussels, 2013. – URL: <http://www.enaee.eu>, free. – Tit. from the screen (usage date: 10.06.2013).
7. International Engineering Alliance [Electronic resource]: the offic. site. – Wellington, 2013. – URL: <http://www.washingtonaccord.org>, free. – Tit. from the screen (usage date: 08.06.2013).
8. Chuchalin A.I. Competences of Engineering Program Graduates: National and International Standards/ A.I. Chuchalin, S.I. Gerasimov// Higher Education in Russia. – 2012. - №10. – P. 3-14. (only in Russian).