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Building up quality assurance system at university *perspective of Industrial Engineering Master Program*

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Curriculum Development
of Master's Degree Program in
Industrial Engineering for Thailand Sustainable Smart Industry

The three level of the university surroundings





- ✓ The quality of education at universities is a complex notion, and it cannot be described by a single factor
- ✓ Internal and external stakeholders perceive different characteristics affecting the quality and therefore it is difficult to indicate one universally acceptable definition of the quality of education

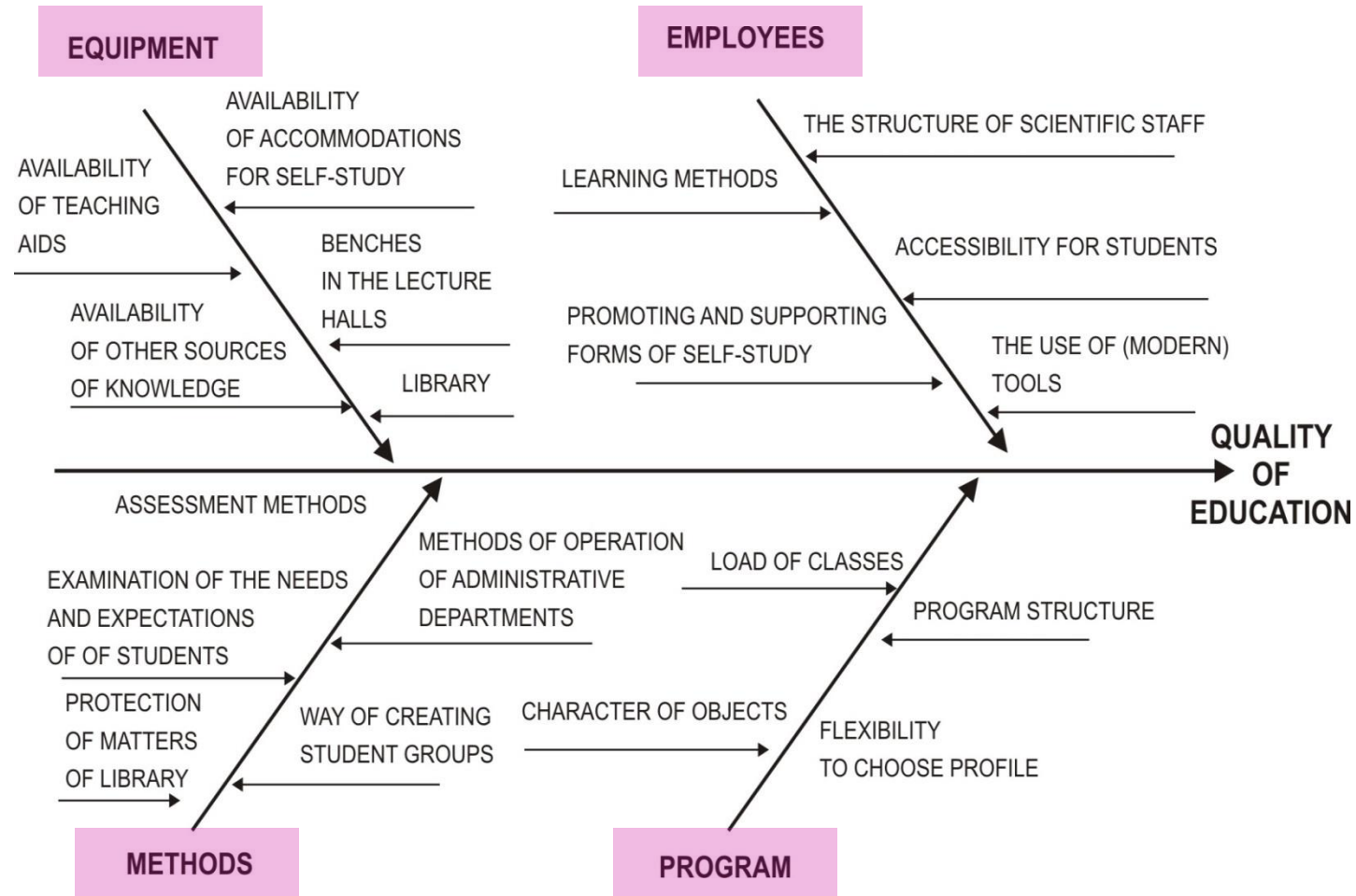




Quality of education is considered to be a service because it is a useful product immaterialy produced as a result of human labour to satisfy the needs of the market



Determinants of quality education





- ✓ In Poland you can see attempts to individualize the functions of particular universities (universities of science and education, scientific and research or education for the local market)
- ✓ Therefore it does not seem a good solution to develop a common standard or method of education



Polish experience



Standard of quality should result from the qualitative culture of organization that is the university and exactly standard should be determined by the internal quality assurance system not of university but **individual faculty's**, which very often over the years have developed a unique culture of the organization





- ✓ Factor influencing the culture of the quality of education thus providing the highest quality of educational services is the profitability of the operation (the cost-effectiveness coefficient) or the rationalism using ministerial grants
- ✓ The new financial algorithm proposed in Poland will depart from the relationship between the level of funding and the number of university students. (To be introduced Scandinavian model)
- ✓ Applied assumptions assume the highest subsidy to universities in which at one scientific worker will be accounted from 11 to 13 students. The proposed amendment will contribute significantly to change in the perception of qualitative activities at Polish universities



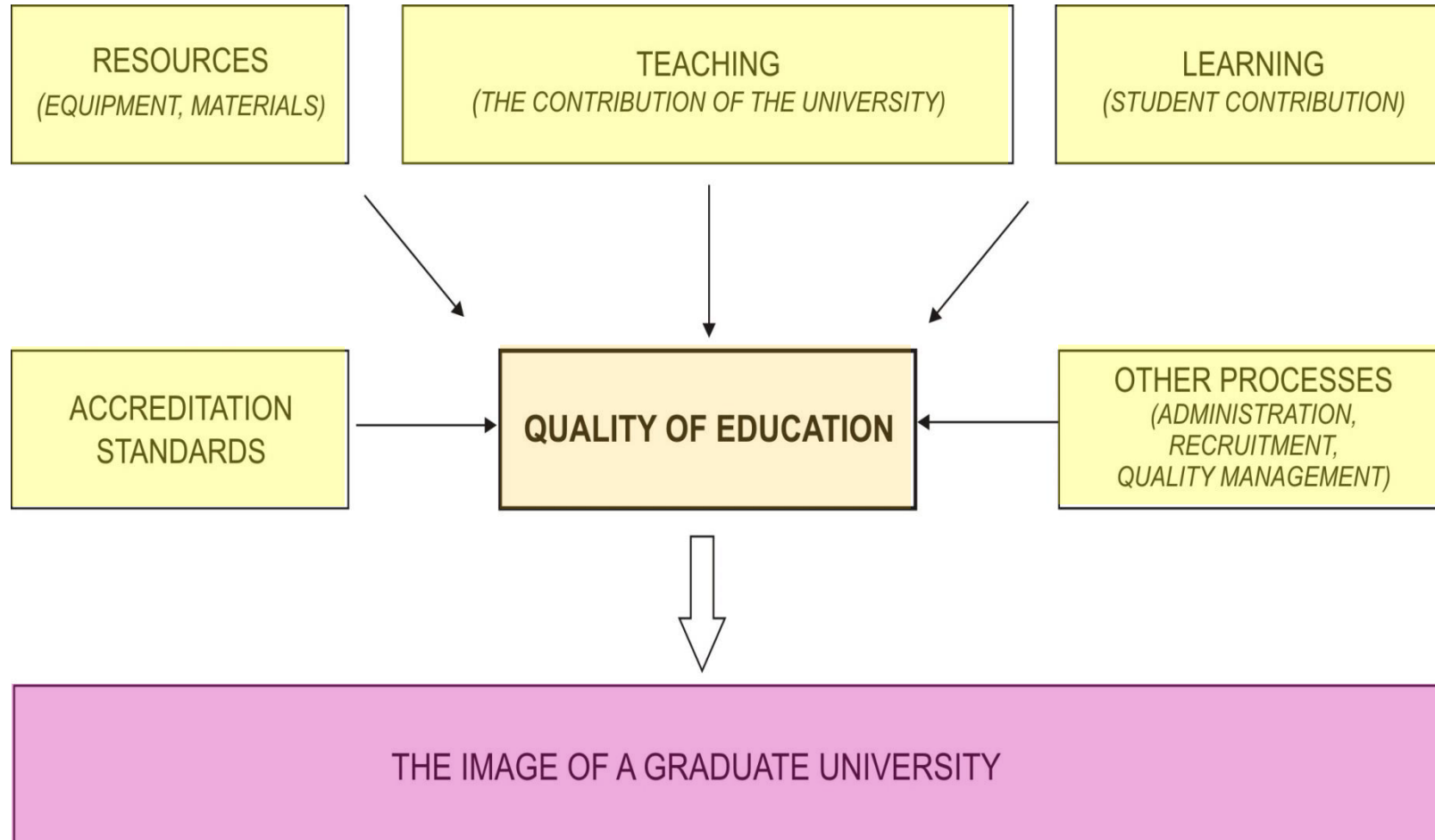
Polish experience



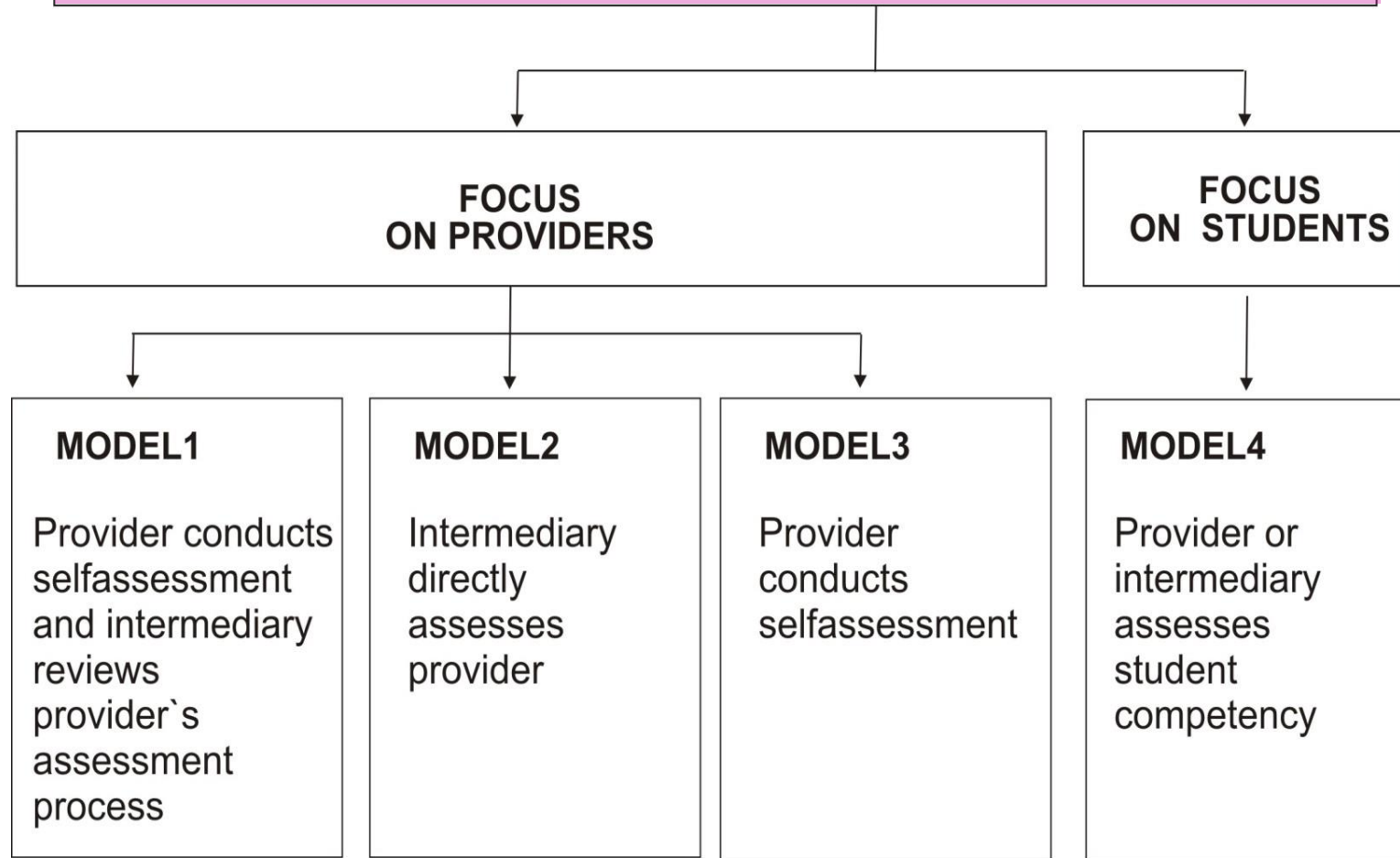
In the academic year 2015/2016 on average there were 16 students per one teacher. The requirements of the new algorithm are fulfilled by about 5% of universities in Poland. As a result of the new approach the number of students will be reduced, which consequently will result in raising the qualification requirements for high school graduates



THE FACTORS AFFECTING THE IMAGE OF THE GRADUATE OF UNIVERSITY



MODELS OF EVALUATION OF THE FUNCTIONING OF THE UNIVERSITY



In Polish conditions, to create an efficient process of improving the quality of education in Polish higher education is very difficult due to the relatively low level of funding for education per student. Another factor determining the quality of education is increased competition on the education market and demographic decline. This determines the choice of qualitative orientation of management strategy.



METHODS OF QUALITY ASSURANCE OF INSTITUTIONS OF HIGHER EDUCATION



- ✓ Licensing - involves granting university the rights to its functioning
- ✓ Evaluation of the quality - is based on the judgment/certificate about the level of quality of education
- ✓ Accreditation - consists in ensuring that the university meets the standards, which guarantee the quality of education
- ✓ Overview - this method involves the review of internal mechanisms to ensure the quality of education at the university and its improvement



FEATURES OF QUALITY ASSURANCE AT THE UNIVERSITY



	RANGE	INFLUENCE ON QUALITY	STAKEHOLDER ENGAGEMENT	OBJECTIVE
LICENSING	GENERALLY COMPULSORY	LITTLE	LITTLE	LICENSE TO OPERATE
QUALITY ASSESSMENT	OFTEN COMPULSORY	PERCEPTIBLE	LITTLE	A COMPARISON OF QUALITY, FUNDING
ACCREDITATION	COMPULSORY PAC OTHER VOLUNTARY	SIGNIFICANT	BIG	THRESHOLD QUALITY ASSURANCE
OVERVIEW	VOLUNTARY	VERY BIG	VERY BIG	CONTINUOUS QUALITY IMPROVEMENT





Institutions of higher education by creating pro-qualitative strategy should:



- ✓ Analyse abreast the changes of surrounding of the university, market requirements, legislation, etc.
- ✓ Take actions on the basis of anticipated changes and not on the basis of the present state.
- ✓ Manage the process of learning by objectives.
- ✓ Introduce solutions that facilitate the education process - to undergoing changes in its environment.





Quality culture at the Czestochowa University of Technology has the following functions:



- ✓ Obliges to develop competencies that increase the chance for effective monitoring of macro environment, which enables intelligent selection of strategies, new training methods, fields, objects which allows you to optimize quality of the offered educational services.
- ✓ Promotes the development of a competitive advantage based on soft factors related to the man.
- ✓ Promotes modification of the relationship between academic staff, potential employers, alumni and students, which should reflect in the growth of productivity and efficiency.



The determinants of the quality of the university are characterized, among other things by:



- ✓ Meeting the requirements of internal and external stakeholders,
- ✓ The fulfilment of legal requirements related to the provision of educational services,
- ✓
- ✓
- ✓
- ✓
- ✓ Raising of qualifications by employees.



Do we need it?

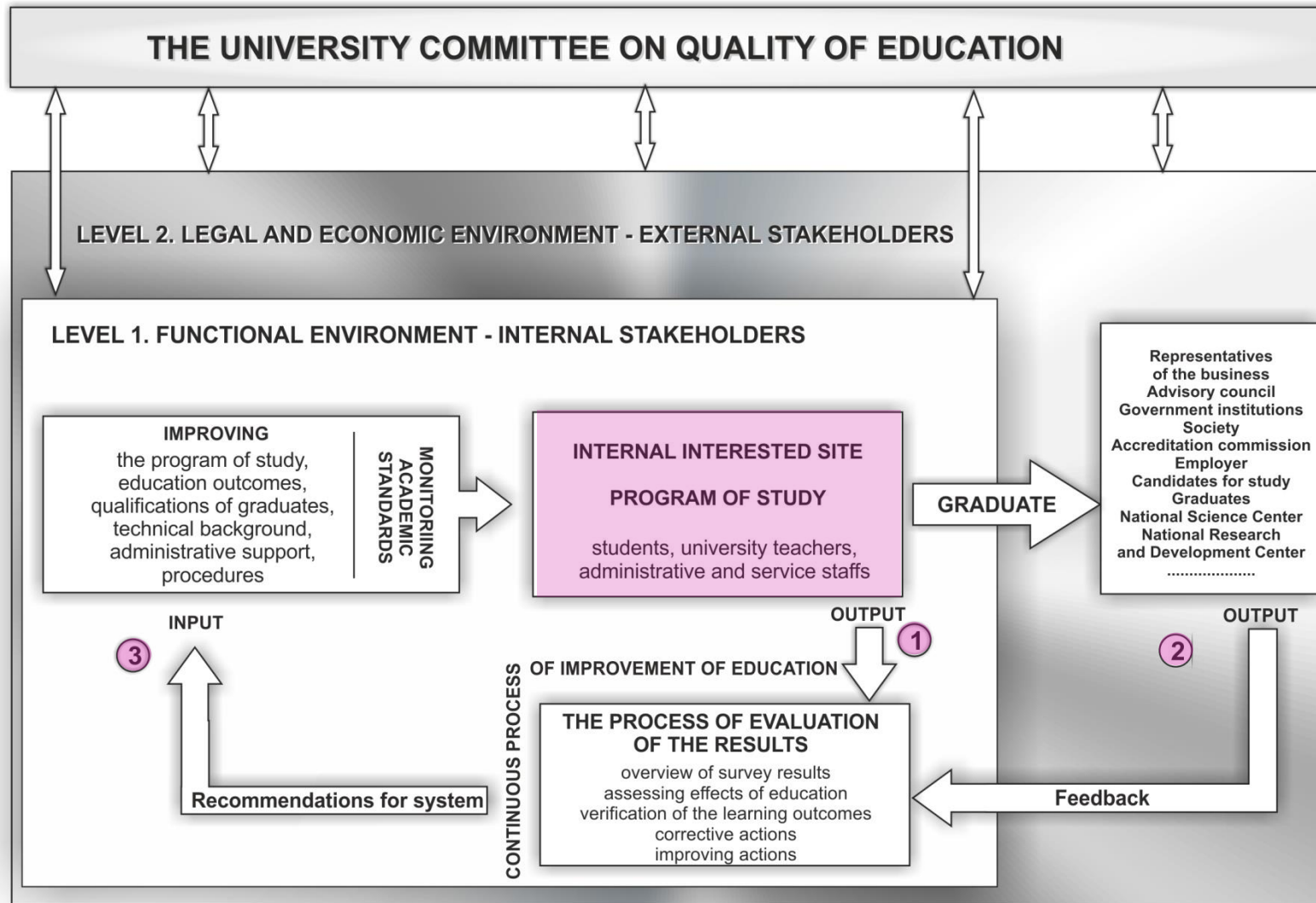


Within the analysis of quantitative measures concerning the activities of the Management Faculty of Częstochowa University of Technology in the academic year 2015/2016 were used:

- assessment from credits and exams stored in the protocols of credit and examination,
- ratio of records of examination of particular subjects in the first dates,
- percentage of students having conditional credit and repeating year/semester in %,
- assessment obtained from the diploma examination,
- the share of ratings very good on the diploma in the total number of assessments in %,
- interest of awarded/distinguished theses by external stakeholders to the number of works submitted to their evaluation,
- the number of works rejected by the system of anti-plagiarism,
- the number of publications involving students (publications having the ISBN or ISSN),
- the number of students participating in scientific conferences and symposia,
- the number of students active in scientific circles,
- the number of students enrolled in programs of the mobility (e.g. Erasmus),
- the percentage of students with an average equal to or greater than 4 (Meter MJ).



Internal Stakeholder engagement		External Stakeholder engagement		
Students	Employees	Employers	Graduates	Government bodies
<ol style="list-style-type: none"> 1. Approachable way of presenting information 2. Devoted lecturers 3. Well-prepared educational materials 4. The ability to create positive and facilitating atmosphere for students to acquire knowledge. 5. The possibility of taking part in research and projects. 6. The possibility to obtain additional knowledge in student research clubs, etc. 7. Easy access to academic staff. 8. Infrastructure of a university. 	<ol style="list-style-type: none"> 1. Regular income 2. Safe working environment 3. The number of hours in the workload 4. The subjects in a teaching contract 5. Flexible working hours 6. The number of days in a paid leave 7. The possibility to take part in conferences 8. The possibility of improvement 9. Clear promotion rules 10. The possibility of promotion 11. Access to laboratories, library, legal and technical advice 	<ol style="list-style-type: none"> 1. Large professional knowledge and skills of students 2. Good preparation for a given job – internship 3. The prestige of a university 4. Participation in creating new degree courses (defining the expected educational results) 5. Innovative teaching 6. The amount of practical training, projects, and workshops 7. Good cooperation with the Careers Office 8. Cooperation with the university in terms of research and development 	<ol style="list-style-type: none"> 1. The prospect of further career (qualified employment) 2. Remuneration 3. The demand of graduates in a job market 4. Short spell of searching for a job after graduation 5. Overall positive evaluation of the curriculum and internship 6. Evaluation of the cooperation between a university and entrepreneurs 7. The participation of an academic institution in research and projects for companies 	<ol style="list-style-type: none"> 1. Good teaching facilities, a library, etc. 2. Conducting research connected with a given degree course 3. Equipment 4. Subsidies and scholarships 5. Publications with a high number of points 6. The number of patents 7. The number of foreign students (internationalization level) 8. Eligibility to give academic degrees 9. Rules and regulations compatible with the law



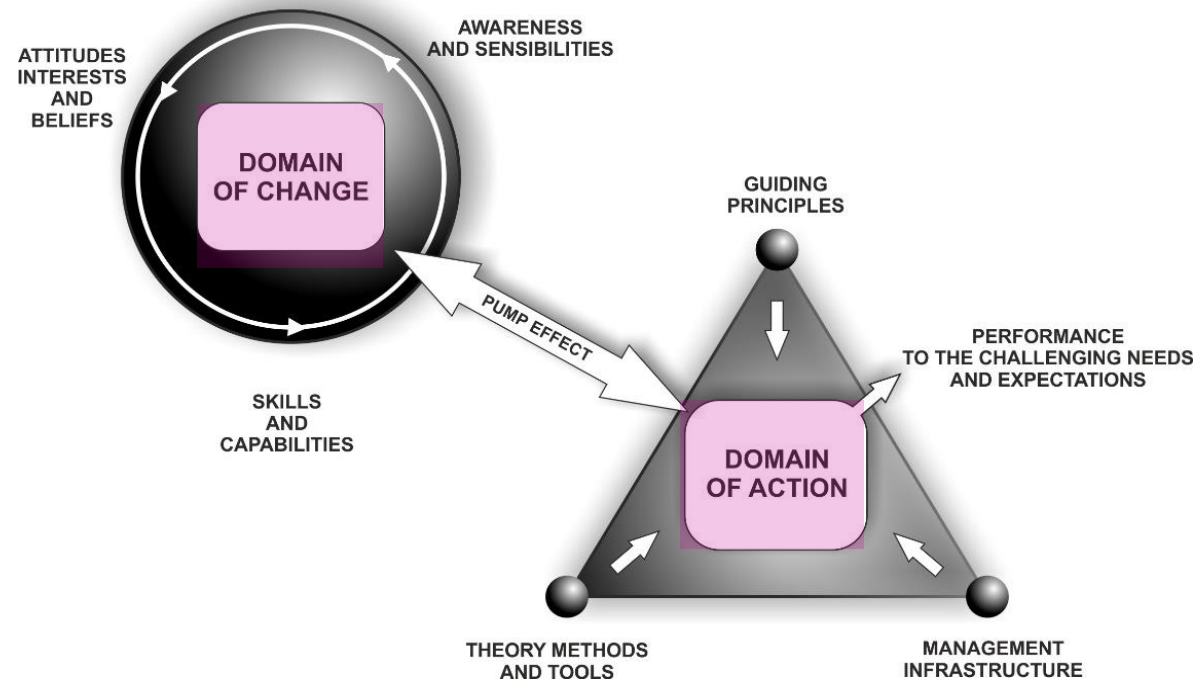
- 1** Survey results of students (every semester)
 Results of educational observations
 Results of compatibility of lectures content, exams with learning outcomes
 Reports of activities of scientific circles
 Requests of representative of the student government in the Faculty Council
 Results of functioning of the anti-plagiarism program
 Results of periodic assessment of academic teachers
- 2** Results of surveys of the entire course of study
 Results of surveys of employers (external interested sites)
 Information / report of the Czestochowa University of Technology Alumni Association
 Information obtained from the stock market of Graduates Promotion
 Information obtained from part time students staying in employment relationship
 Information obtained from the Business Incubator
 Information obtained from the Job Fairs organized by the Faculty of Management
- 3** Report of the Faculty Committee on quality of education
 Report of the University Committee on quality of education



- ✓ An extremely significant, and, at the same time, controversial element related to the perception of responsibility for quality of education is, according to academic teachers, the student.
- ✓ Academic teachers are of the opinion that the responsibility of students for the quality of education is of utmost importance, hence, it should be highlighted and considered crucial. Academic staff also underlines the issue of unequal share of responsibility for the education process. It is claimed that, year by year, academic teachers are obliged to improve and enhance their skills and competence, while requirements imposed on students flatline or even are lowered.
- ✓ In my opinion, the issue of quality should be approached differently, namely, through integration strategy respected by all the stakeholders groups.



The use of the so called pump is supposed to trigger quality integration of particular stakeholders groups. In the prospect of demographic decline, integration strategy acquires a new meaning.



Quality =

Fulfilling the expectations of the future employer by providing the competences and skills to the student.

Future

Short learning cycles tailored to the needs of future employers.
Often co-created together with employers

dual studies?



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Thank You



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