







Constructing the terminological framework for research: case study on internal quality assurance system building at HEI

Construyendo el marco terminológico para la investigación: estudio de caso sobre la establecimiento del sistema de garantía interna de calidad en HEI

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Recibido: 10 de mayo de 2022

Aceptado: 13 de agosto de 2022

Resumen

El artículo se centra en temas de construcción del aparato terminológico de estudios que reflejen la garantía de calidad de la educación a nivel local. Basado en la recopilación de opiniones de expertos y académicos, se destacan la esencia del área temática (la formación de un sistema de garantía interna de la calidad en la universidad) y los requisitos para la construcción del sistema terminológico. La construcción de alta calidad del término sistema es la base de la investigación teórica cualitativa, del desarrollo y la aplicación práctica del sistema interno de garantía de la calidad en la universidad. Los modelos de sistemas de términos se presentan en: términos básicos, y términos suplementarios. La tecnología cómo construir el sistema del término contiene las etapas siguientes: 1) identificar las áreas problemáticas, aclarando el tema y los objetivos del estudio; 2) muestreo y análisis del contenido de los términos básicos y complementarios; 3) racionalizar y estructurar las relaciones entre los términos básicos y complementarios; 4) especificar y verificar la calidad del sistema de términos para el cumplimiento del estudio. Los profesionales reciben apoyo terminológico para el caso de la construcción de un sistema interno de garantía de calidad en sus universidades.

Palabras clave: calidad de la educación superior, garantía de calidad, sistema de garantía interna de la calidad, sistema terminológico, tecnología paso a paso

Abstract

The article focuses on issues of constructing the terminological apparatus of studies that reflect quality assurance of education at the local level. Based on collection of opinions in internal quality assurance from experts and scholars, authors highlight the essence of subject area

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(setting-up IQAS in HEI) and requirements for constructing an appropriate term system. High-quality constructing the term system is the basis of qualitative theoretical research, of development and practical implementation of IQAS in HEI. Models of term systems are presented in: core terms, and supplementary terms. Technology how to construct term system contains the following stages: 1) identifying the problem areas, clarifying subject and objectives of study; 2) sampling and analysis of content of core and supplementary terms; 3) streamlining and structuring the relationships between core and supplementary terms; 4) specifying and verifying the quality of term system for compliance with the study. Researchers and practitioners are provided with terminological support for building IQAS in their HEIs.

Keywords: quality of higher education, quality assurance, internal quality assurance system, terminological system, step-by-step technology

Introduction

A prominent feature of 2020th studies in quality management of higher education (Krymets, et al., 2022; Manarbek, et al., 2020) attests to sustained interest in category of «quality in higher education» (Grudowski & Szczepańska, 2021; Kravchenko & Saienko, 2020), in «quality assurance» (Eaton, 2021; Neema-Abooki, 2021) and tools and means, by which its support is provided (Hadzhikoleva, et al., 2022; Li, 2021), in particular «internal quality assurance system» (Mursidi, et al., 2020; Noda, et al., 2021), which have become an integral part of quality management at the HEIs. Because of cross-cultural aspect, it requires careful attention to categories and concepts of the subject area. Also, it is related to the necessity of clarifying the main definitions within the context of national higher education systems development, and their integration into the European Higher Education Area. But more than often, this analysis is limited to considering the content of individual concepts. However, contemporary studies agree that is also important to consider the connections between these concepts and integrate them into the term system (as «meta-language» (Knyazeva, 2011) that prevalently refers to a specific science or field of knowledge, and understandable for scientists in subject area, and for any interested persons (Ardashkin, 2007). It should be noted that the level of scientific knowledge in one or another scientific field is reflected precisely by the state of the conceptual development of the subject, the conceptual apparatus, and the presence of a term system (Shty`ka & Kravchenko, 2009). In addition, the terminology of an individual study combines terms and relationships between them in the subject area, including studies in building an internal quality assurance system in a higher education institution (hereinafter – IQAS in HEI) might be considered.

Literature review

Analysis of contemporary studies allows us to distinguish works that are consider essence of term systems. Thus, De Keizer, Abu-Hanna and Zwetsloot-Schonk (2000) provided framework for understanding terminological systems including “at least two components. First a terminology and typology of terminological systems and second a uniform (formal) representation of the structure of the terminological system”, Dubichinsky, Meteshkin and Fedorchenko (2006), Lejchik (2007), Makhnitskaya (2008) revealed the concept of “term system”, and determined its hierarchical structure. Mostly in scientific works, the term system is considered as a certain set of terms, which has a hierarchical structure and reflects a specific field of knowledge. “A terminological system should enable the use of attributes to define or further specify concepts. Relationships between concepts should be explicitly represented by a label designating the meaning of the relationship, and constraints to restrict the interpretation of the relationship” (De Keizer & Abu-Hanna, 2000). A number of works reveal approaches to the technique or technology how to construct term systems. So, Najhanova (2005), Golubev and Grin'ko (2011) proposed algorithms for designing term system of research: firstly, to define the problems, subject and task of research; secondly, to carry out the selection, definition, analysis and arrangement of terms; and finally, to check the correctness of the developed term system.

We note that instead of the terminological systems are most often used terminology, thesaurus, vocabulary/glossary, classification, nomenclature, etc., which is typical for works focused on quality of education in general, and focused on how to assure and enhance the quality of higher education in particular.

Considerable attention to the research on the quality of higher education had been paid by Crozier et al. (2006), Mudra (2015), Moroz and Moroz (2017), Schindler et al. (2015) whose publications focus on the analysis, systematization, and synthesis of relevant terminology. The systematic review of academic literature on quality initiatives in higher education for 2008-2018 years conducted by Bloch et al. (2021) showed its categorization “into three major areas: the role of institutional conditions for quality work, types of quality work practices, and notions of quality and quality outcomes”. Moroz and Moroz (2017) represented categorical content of quality of higher education in the context of scientific views of representatives of post-Soviet scientific schools. Shuika (2016) based on an analysis of theoretical works of foreign and domestic scientists identified “that there is no unique interpretation of the concept of quality of higher education”.

Ukrainian experience to systematize the terminology at national level (from national laws and relevant secondary legal acts, basic concepts of international regulatory and recommendation documents) holistically represented in the following editions: National educational glossary: higher education (2011), 2nd edition of National educational glossary: higher education (2014), and National educational and scientific glossary (2018). Analysis of these works revealed that share of key terms related to the quality of education and quality assurance in 2011 edition, in 2014 edition, and 2018 edition is insignificant – more than 25% (among 138 terms), more than 30% (among 174 terms), and more than 15% (among 490 terms) accordingly.

European experience to order the basic terms and definitions in our subject area represented by Vlăsceanu et al. (2007) in glossary where the terminology is “structured to present key terms (in alphabetical order), each one associated, when the case arises, with specific, derived terms. Each key term presentation is followed by certain related terms (the meanings of which assist in its further clarification) and by the specific sources of information”.

But even such an elaborate attempt to organize the terminology in subject area does not help to get rid of the glossary approach problem instead of implementing a terminological framework (where “relationships (and characteristics) can be used to order and define concepts in a system” (De Keizer, et al., 2000), as well as of another huge problem related to the permanent process of artificial design of new versions of concepts (by adding other words/using synonyms) not creating new essence of quality assurance, well it could be solved “only by agreeing on specific core definitions of the most important terms” (Vlăsceanu, et al., 2007).

Preliminary research shows that subject of our research is constantly developing and becoming more complicated (see below), but the way to work on processing appropriate terminology support remains the same – compiling original or extended glossaries/vocabularies.

The analysis of scientific literature shows a certain dynamics of research from the search for different approaches to the definition of the concept of “quality assurance” (Opre & Opre, 2006; Vlăsceanu, et al., 2007) to highlighting the theoretical and practical aspects of higher education quality management (Kleijnen, et al., 2011; Banta, et al., 2014), theoretical modelling of IQAS in HEIs (Yessenbayeva & Kakenov, 2014; Mursidi, et al., 2019; Mursidi, et al., 2020), and building/establishing IQAS in HEI (Cardoso, et al., 2017; Dias, et al., 2019), by organizing appropriate structural units (Jingura & Kamusoko, 2019; Seyfried & Pohlenz, 2018), by modelling software ecosystem that supported external and internal quality assurance procedures developed by Hadzhikoleva et al. (2022). Using process management as a mechanism to

describe, maintain and improve the quality assurance system of an HEI (Kettunen, 2012) helps step-by-step to establish IQA process of developing an assessment program – from the research and planning phase to implementation (Banta, et al., 2014), or via adapted from the plan-do-check-act process for quality improvement (Lucander & Christersson, 2020), considering impact of quality assurance and what impacts improvement (Westerheijden, et al., 2007; Zajdel & Michalcewicz-Kaniowska, 2017).

Obviously, all the experience of building IQAS (Dias, et al., 2019) and implementing IQAS in HEIs within different countries, in particular – in Eastern Africa (Khamis & Scully, 2020), Southern Africa (Neema-Abooki, 2021), Western Africa (Ekpoh & Asuquo, 2020), in European Union (Gover & Toukkola, 2015; Yermolenko & Hryhorieva, 2018), including Poland (Mazurkiewicz, et al., 2017) and Portugal (Manatos, et al., 2015; Tavares, et al., 2016), and Latin America (Mavil, 2013), in Indonesia (Haris, 2013; Lubis, et al., 2020), in Japan and Taiwan (Noda, et al., 2021), in Vietnam (Do, et al., 2020), in Ukraine (Finikov & Tereshuk, 2021; Vitkin, et al., 2009) and in other countries requires careful attitude to administering numerous existing and newly created categories and concepts of the subject area. Therefore, the constructing an appropriate term system is an important element of research on building the IQAS in HEIs.

The paper consists of the following sections. The Methodology section represents the goals of this study and the main research methods at each stage of the research. Content of Results section defines the concept of high-quality term system and its features, and step-by-step technology how to design the term system (also showing the results (term systems of the 1st and 2nd group terms for research). Last sections discuss distinctive features of offered technology, its limitations, and further perspectives, and puts forward some derivations based on specified technology on how to design the term system.

This study has three goals. Firstly, it focuses on the allocation of basic and additional categories and concepts that fully cover the subject area. Secondly, it aims to offer a step-by-step technology for building a term system, which shows the revealing content at all stages of its creation. Thirdly, to develop a model of term system.

Methodology

Goal determination of our work comes from the literature sources that are devoted to the construction of terminological systems and research on building an internal quality assurance systems in HEI. Literature review (of more than 80 publications on the specified issue) by keywords identified number of prerequisites to conduct our research. Namely, the

literature review showed the insufficiency of works and the necessity to highlight the technology to build up terminologies to do research and develop systems of internal quality assurance of higher education at the local level.

We designed our research in several stages including: 1) analysis and generalization of approaches to the construction of term systems; 2) determination of the algorithm for constructing the terminological framework for research (case study on building an internal quality assurance system at HEI); 3) analysis and generalization of approaches to define the main categories and concepts for ensuring the quality of education in HEI; 4) development of a theoretical model of the term system for research on building an internal quality assurance system at HEI).

At first stage, in order to analyze and generalize approaches to construct the terminological systems, the authors have singled out ukrainian and foreign publications over the last 15 years from various fields of science. The Shty`ka and Kravchenko (2009)'s methodological approach of was chosen as the leading methodology to build the term system, in which: 1) the main features of the term system are highlighted: integrity, stability, structuredness; 2) the groups of terms are defined: core, derived, borrowed from other fields of science; 3) types of hierarchical relationships between categories, concepts and terms with type "Genus – Species", "Whole – Part of", "Sign – value of sign" and other substantial relations between terms are established.

Determining the algorithm for constructing the term system for research on building IQAS in HEI was based on the extrapolation and improving Golubev and Grin'ko (2011) research results, in which the authors proposed technology for developing a term system for researching resources of intellectual capital resources of an enterprise. At second stage, this technology was improved, supplemented and extrapolated to the subject area (building IQAS in HEI).

At third stage, based on provident Ukrainian and European studies authors have analyzed and summarized approaches to define the main categories and concepts of quality assurance in HEIs (for future term system). Due to the analysis by keywords of more than 80 articles and proceedings indexed in different science metric databases, reports, national and foreign regulations (represented in References), we were able: to establish the definitions of the main categories "quality of higher education", "quality assurance of education", "quality assurance system", "internal quality assurance system" and others; to determine the types of connections between the main and additional terms.

The results of the first three stages of this work, our previous studies on the conceptual foundations of the development of internal quality assurance system at HEI (Poliakova, 2018; Bilokonenko, 2018), experience of foreign and national HEIs (previously represented in detail in the literature review) and own experience how to establish these systems at the local level were used to develop a theoretical model of the term system for research. Thus, in previous Poliakova work (2018) step-by-step technology how to design and to establish IQAS at HEI has been proposed (from IQAS goal-setting (at target stage), designing (modelling) IQAS (at prognostic stage), organizational stage of IQAS, operating stage of IQAS to the monitoring and self-assessment of IQAS, its correction by improving (at audit stage). Hypothetical Modelling of Internal Quality Assurance System developed by Mursidi et al. (2020) can be recommended as an alternative approach to design IQAS in HEIs.

In order to evaluate the level of IQAS at HEI and the quality of its operating we developed a system of indicators and evaluation indices taking into account the ESG Standards (Poliakova, 2018; Bilokonenko, 2018). During the theoretical modeling two models of the term system were built: term system of the 1st (core) group of terms that present the main categories and concepts of the subject area, and term system of the 2nd group of additional terms that specify the subject area, and cover the processes and results of solving the problem under study. Design of the second model was based on the analysis and summary of foreign HEIs practices (Gover, et al., 2015; Yermolenko & Hryhorieva, 2018) and national HEIs practices (Finikov & Tereshuk, 2021; QUAERE, 2016). In particular, the processes, procedures, and hierarchy of the organizational structure of the IQAS in HEI were taken into account and clarified.

Instrument (research methods)

The research methods are: analysis, generalization of research results on the quality of HE in science and international practice, theoretical modelling of the terminology systems. Theoretical analysis we have used to extract scientific experience in constructing term system. Problem-oriented analysis has been used to study the theoretical issues and best practical experience in building the IQAS in HEIs, and to distinguish previously unsolved parts of this problem. Systematizing, synthesis and classification of approaches has been used to define the basic concepts and categories in research on IQA in HEIs. Using content analysis core terms have been identified and studied. Simulation, abstraction and specificity has been used in order to constructing term system taking account core and supplementary terms.

Results

The concept of term system and its construction

“A good understanding of terminological systems is essential before one can assess whether an existing terminological system is appropriate for use in certain circumstances, or when one has to develop a new system” (De Keizer, et al., 2000).

The terminological system (or term system):

refers to a relatively closed, quantitatively limited set of terms, which reflects the conceptual system of a particular subject area at the appropriate stage of its development (DSTU (National Standard of Ukraine) 3966-2009, 2009);

“is at least a terminology with possibly additional characteristics, e.g., it is also a classification when the terminology consists of generic relations between concept” (De Keizer, et al., 2000), where “relationships between concepts can be distinguished in hierarchical relationships (“Is_a” and “Is_part_of” relationships) and non-hierarchical relationships (e.g. “caused_by”)” (de Keizer & Abu-Hanna, 2000).

According to Lejchik* (2007), DSTU 3966-2009 (2009), Golubev and Grin'ko (2011) the essential features that characterize the quality of the term system and the adequacy of modern scientific achievements in the subject area are: 1) integrity (the system is to cover the whole complex of knowledge subject area); 2) completeness (the term system is to ensure that the necessary and sufficient number of terms are available to indicate any objects and processes in the subject area); 3) stability (the term system is to have a certain stable structure that reflects the basis of the theory, while being open as it can be supplemented and modified in process of scientific search) ; 4) content structure (the system is to have an appropriate structure that reflects the relationships between terms (“form-aspect”, “entire-part”, “cause-effect”, “object-feature” and other logical connections of meaningful nature).

*except Completeness.

Constructing term system of research on building the IQAS in HEIs

Stages of construction terminological system of research on building the IQAS in HEIs, based on previous studies (in particular (Golubev & Grin'ko, 2011), are the following.

The first stage of constructing the term system is to identify the problematic area of research, to clarify the subject, object, research objectives. The problematic area of research is: to develop targets, conceptual, methodological and technological framework of design of HEIs internal quality assurance systems (Poliakova, 2018). The object of our study is IQA in HEIs. The research subject is the theoretical and methodological bases for design of IQAS in HEIs. The research objectives are: 1) investigating and formalizing the domestic and foreign

experience, IQAS design and development; 2) developing the concept, integrative model and step-by-step technology how to build IQAS considering the ESG standards (ESG, 2015); 3) rationale and working on proper indicators; 4) constructing the technology for monitoring and self-assessment of IQA facilities; 5) rationale on structure and content of educational environment which aimed at IQA; 6) setting-up the regulatory and instructive, organizational and methodological, information and analytical support (hereinafter – support for establishing IQAS in HEI).

At the second stage we are selecting and analyzing terms related to this study and designing the field of terms of subject area. Firstly, it is necessary to identify the sources which contain necessary terms. This could be a normative framework, dictionaries, specialized literature (scientific manuals, textbooks, monographs, articles etc.). Then, according to the subject area, the terms are chosen together with their definitions and as a result a terminological field, which is a set of terms of a particular scientific discipline or special area of practical activity, is obtained.

By constructing the term system, two groups of terms are mostly used – famous (fixed) and those in need of clarification. Our work focuses on the following two groups of terms – core and supplementary. The first group is the basic terms that present the main categories and concepts of subject area. The second group – additional terms that specify the subject area, and cover the processes and results of solving problem under study. The latter group also includes terms that have no fixed definitions at all, and therefore require some additional investigation and determining.

Within the framework of research on building the IQAS in HEIs, the **core terminological base** consists of the terms “**quality of higher education**”, “**quality assurance of education**”, “**quality assurance system**”, “**internal quality assurance**”, “**external quality assurance**”.

Let us define the content of basic concepts of term system and perform their analysis. Modern scholars consider key concept of “**quality of higher education**” from the following perspectives:

1) as a **multidimensional model** (“social norms and requirements for the individual, the educational environment in which the development occurs, and the educational system that implements them at certain stages of human learning” (Romanenko, 2009), which combines conceptualizations of quality “into five discrete but interrelated categories”, because of “quality can be viewed as exceptional, as perfection (or consistency), as fitness for purpose, as value for money and as transformative” (Harvey & Green, 1993);

2) as a **ongoing process** “ensuring the delivery of agreed standards. These agreed standards should ensure that every educational institution where quality is assured has the potential to achieve a high quality of content and results” (European Student Handbook on QA in HE);

3) as a **result** “on the individual level – on the student experience, specifically student learning and engagement, at the organizational level – on the outcome variables the experience of integration (academic and social integration) and self reported learning gains (gains in general education, communication, interpersonal development and intellectual development), on the system level – compared micro-processes of learning, teaching and the curriculum with macro-level characteristics of regulation and funding” (Huisman, et al., 2015);

as “relevance of higher education outcomes to the needs of individuals and other stakeholders” (Stankevych, 2015).

“Quality assurance is a term imported into higher education from the world of business (and predominantly from the sector of manufacturing) as is the related term ‘quality control’. In France “quality management” has been used often in place of “quality assurance in the translation of the ESG, with the intention of instilling a sense of responsibility to the academics to manage quality for themselves. An interesting point was raised by a Russian delegate indicating that in their system the term following ‘quality’ depended on the audience addressed i.e. quality assurance for broader society, quality control for regulators and quality enhancement for the higher education sector” (Crozier, et al., 2006).

The concept of “**quality assurance**” in education is considered from the following points:

1) as an **activity** (within the continuous improvement cycle) (ESG, 2015); which “focuses on both accountability and improvement, providing information and judgements (not ranking) through an agreed and consistent process and well-established criteria” (Martin & Stella, 2007);

2) as a **means** (“means by which an institution can guarantee with confidence and certainty, that the standards and quality of its educational provision are being maintained and enhanced” (European Student Handbook on QA in HE); “general policy, strategy, QA procedures in the institution, responsibilities for maintaining IQAS” (Guide to programme accreditation. Local provision abroad of Danish programmes of vocationally oriented HE, 2013);

3) as a **process or set of processes** (“process or set of processes adopted nationally and institutionally to ensure the quality of educational programmes and qualifications awarded” (ECTS Users' Guide, 2015); “applied at the institutional (internal) and national and international (external) levels for the high-quality implementation of educational/training programs and awarding of qualifications” (National educational glossary: higher education, 2014), “an

ongoing, continuous process of evaluating (assessing, monitoring, guaranteeing, maintaining, and improving) the quality of a higher education system, institutions, or programmes)” (Vlăsceanu, et al., 2007), “performed externally by QAA and accrediting bodies or internally within the institution” (QAA, 2015), “and include aspects of quality that pertain to accountability and/or continuous improvement” (Schindler, et al., 2015); “a set of processes, policies or actions” (Opre & Opre, 2006; QAA, 2015); “directed to ensuring the maintenance and enhancing of quality (Opre & Opre, 2006); “process for checking that the standards and quality of HE provision meet agreed expectations” (University of Aberdeen. QA in HE: An overview. Academic quality handbook); “process of conformity educational activities (introduction, process and results) stakeholder`s expectations or standards according to a specified minimum requirements” (NVAO, 2018); “systematic review of educational programmes to ensure that acceptable standards of education, scholarship and infrastructure are being maintained” (UNESCO, 2005);

4) as a **responsibility** “of HEIs for assuring and enhancing quality” (ECAHE, 2013).

The concept of “**Quality assurance system**” is considered from the following positions:

1) as a **set of systems** (a) “IQA, EQA, IQA of National Agency for Higher Education Quality Assurance (hereinafter – NAQA) and the independent institutions of assessment and QA of HE” (Law of Ukraine “On Higher Education”, 2014); b) “1) institutions’ own IQA systems and processes; 2) higher education review; 3) publication of information about HE; 4) external examining; 5) QA procedure for investigating concerns about standards and quality; 6) addressing unsatisfactory quality” (Higher Education Funding Council for England); c) “that provide advice on QA issues, conduct independent audits of institutional QA policies and procedures, and make recommendations about the allocation of annual quality-related funds” (National Institution for Academic Degrees and University Evaluation, 2015);

2) as complex administrative **apparatus** “that collects and processes data and ensures compliance with organizational and regulatory requirements” (National Committee for the Evaluation of Higher Education, 2004);

3) as a **tool** “maintaining high standards in quality teaching and research activities and as to tool for continuous improvement in all aspects of HEI activities” (Haris, 2013).

“**Internal quality assurance system**” is investigated:

1) as a **system** which entails “the existence of a quality policy, the creation of formal mechanisms and structures, participation of stakeholders, articulation with information systems, transparency and continuous quality improvement” (Tavares, et al., 2017); work system: 1) in which “human participants and/or machines perform work (processes and activities) using

information, technology, and other resources to produce specific products and/or services for specific internal or external customers”; 2) whose “processes, tools, methods, policies, actors and resources are devoted to retrieving, collecting, storing, processing, displaying, and transmitting all the information and documentation required to ensure (i.e. define, monitor, assess and enhance) the quality of the educational services and products delivered by a HEI in its various fields of activity, according to its own established strategic vision, mission and operational goals as well as to meet both the internal and external standards, requirements, and criteria chosen and/or derived from the environment in which it operates”; 3) in which “human participants and/or machines perform work (processes and activities) using information, technology, and other resources to produce informational quality assurance products and/or services for the internal and/or external customers of a HEI” (Sánchez-Puchol & Pastor-Collado, 2018).

2) as a formal **assessment** process “by which an institution confirms that its all educational services offered meet the standards of the best European educational practices and demonstrate continuous quality improvement” (Law on Higher Education in the Republic of Kosovo, 2015), which “guarantee that the quality of the teaching programmes is well documented, verifiable and assessable” (Università di Bologna. Quality Assurance. The Internal Quality Assurance system);

3) as **procedures and activities** (all measures aimed at “maintaining and improving the quality of HE” (Manual for EQA in Flemish Higher Education, 2013); IQA procedures (in accordance with Law of Ukraine “On Higher Education”);

4) as **policies and mechanisms** (“standards, procedures, planning and evaluation of activities should encourage, enable, or sometimes “forcing” people in a university to do the best in achieving organizations’ interest” (Daromes, et al., 2015); “planning, implementation, control and development of quality standards of HE consistently and continuously (continuous improvement/Kaizen), to increase the satisfaction of stakeholders both internal and external college and guarantee the quality of graduates in accordance with competences defined” (Daromes, 2016); “implemented in an institution or programme to ensure that it is fulfilling its own purposes and meeting the standards that apply to HE in general or to the profession or discipline in particular” (Martin & Stella, 2007); aims to “promote a process of continuous improvement in Study Programmes” (Università di Bologna. QA. The IQAS); “must be consistent with the global strategy of the HEI and supported by management of institution” (ECAHE, 2013).

The “**external quality assurance system**” is:

1) an **evaluation** (“actions of an external body, which may be a QAA or any body other than the institution that assesses its operation or that of its programmes, in order to determine

whether it is meeting the agreed or predetermined standards” (Martin & Stella, 2007); “which includes the following areas: 1) institutional evaluation; 2) research (research units) evaluation; 3) academic program and degree evaluation (bachelor, master and doctoral program); 4) validation for academic staff evaluation procedure” (National Institution for Academic Degrees and University Evaluation, 2012);

2) **procedures and measures** (“aimed at ensuring efficiency of processes and procedures for the IQA of educational activities of HEIs and the quality of HE; ensuring the existence of a system of conducting EQA procedures; ensuring the availability of released decision-making criteria in accordance with the ESG 2015; establishing accessible and comprehensible reporting; conducting periodic audits of the performance of QA systems and mechanisms to work with the received recommendations, etc.” (Law of Ukraine “On Higher Education”, 2014).

Additional group of “supplementary terms” consists of terms linked to building IQAS in HEIs, which are used in research problem-solving.

The terms that reflect the essence of the IQAS are as well: “quality policy”, “organizational structure of IQA”, “processes of IQA”, “procedures of IQA”, “conditions of IQA”, “IQA resources”, “IQA indicators”, “IQA descriptors” and others.

When constructing a term system, it is also necessary to specify if the found terms are unambiguous, if they fully cover the subject area and meet the objectives of the study. If the terms are not sufficiently developed, unclear, or incomplete, they should be clarified within studies.

The third stage refers to streamlining the terms, and structuring their interrelationships. The structure of term system is built in two stages:

- 1) determining the interconnections and correlations of the 1st (core) group of terms (Fig. 1);

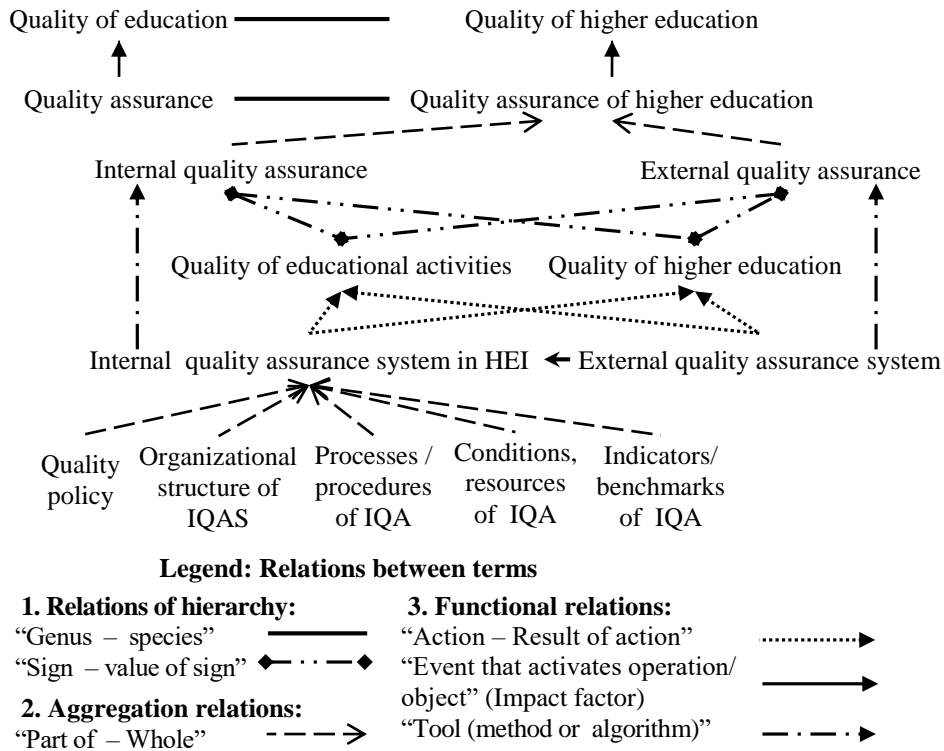


Figure 1. Term system of the 1st group terms for research in building internal quality assurance in HEIs (Source: developed by Authors)

2) clarifying the structure of term system taking account of the terms of the 2nd group (supplementary) and their interconnections, which will allow to better reflect the idea of subject of research (Fig. 2).

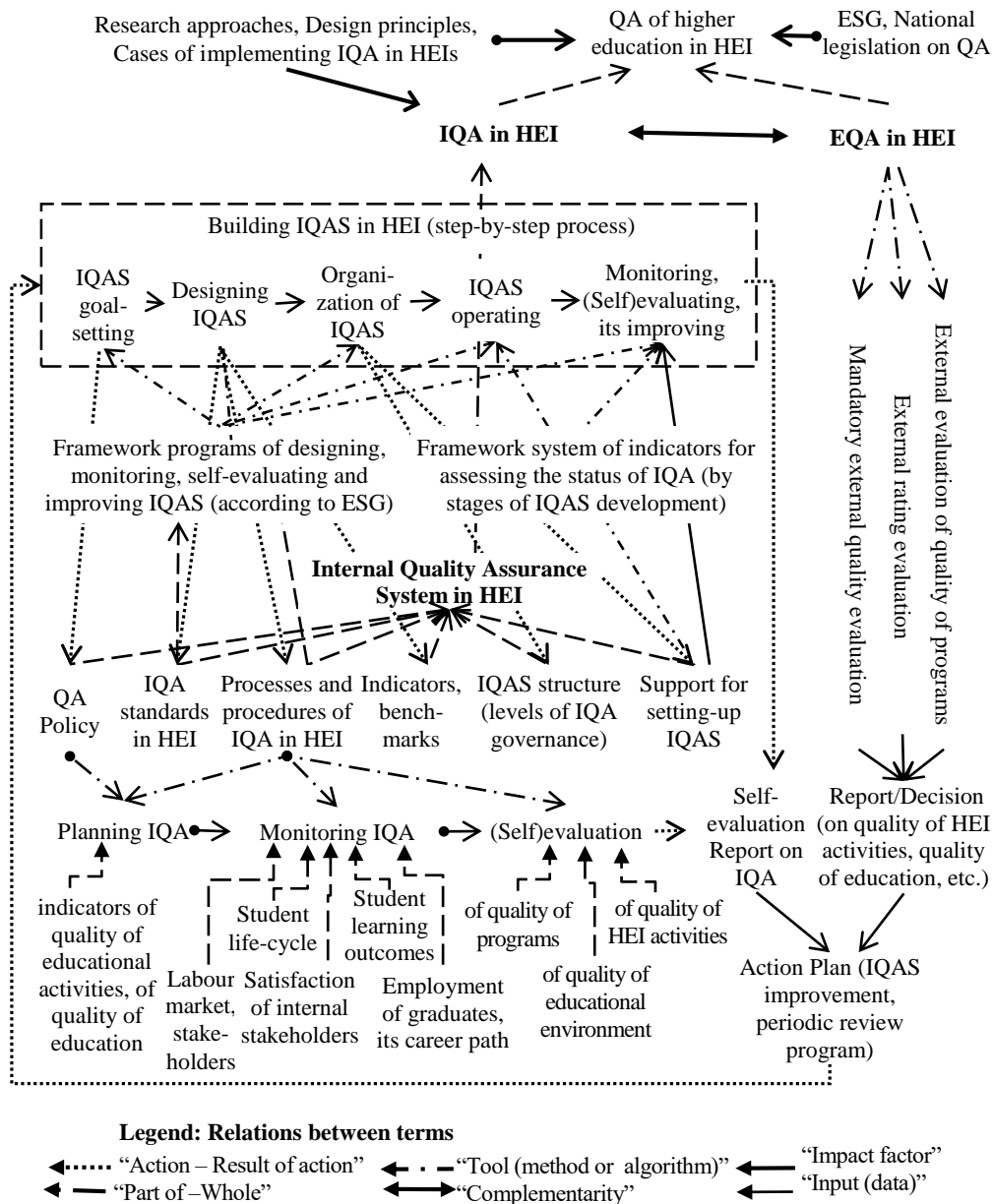


Figure 2. Term system of the 2nd group terms for research in building IQA in HEIs
(Source: developed by Authors)

Displaying the terms of the 2nd group most completely covers the subject area and is within the scope of research, reproducing the traditional and new ideas about the research subject.

In particular, due to proposals for:

1) in order to enhance constructiveness of building IQAS in HEIs with step-by-step technology (Poliakova, 2018), the element “Building IQAS in HEIs” is expanded with new instrumental elements: “Framework programs of designing, monitoring, self-evaluating and improving IQAS (according to ESG)”, “Framework system of indicators/benchmarks for

assessing the status of IQA (by stages of IQAS formation and development)”; stages that each of HEIs goes through building their IQAS, (considering the specificity, potential, drive for competitiveness), – from IQAS goal-setting (at target stage), designing (modelling) IQAS (at prognostic stage), organizational stage of IQAS, operating stage of IQAS to the monitoring and self-assessment of IQAS, its correction by improving (at audit stage);

2) clarifying content of IQAS in HEIs with the following:

the unit “IQAS in HEIs” is enhanced due to the following instrumental elements: “IQA standards in HEIs”, “Support for establishing IQAS in HEI”, “Self-evaluation report on IQA”, and “Action plan (IQAS improvement, periodic review program)”;

the unit “Processes and procedures of IQA in HEI” is expanded due to the following instrumental elements: “(strategic and current) planning IQA indicators”; “monitoring IQA” (including “monitoring the labour market and stakeholder requirements”, “monitoring Student life-cycle”, “monitoring the student learning outcomes”, “monitoring employment of graduates, its career path”, “monitoring the satisfaction of internal stakeholders”,etc.), “self-evaluation of IQA” (including “self-evaluation of quality of programs”, “self-evaluation of quality of HEI activities”, “self-evaluation of quality of educational environment” etc., or using any other basic indicators for measuring the effectiveness of the IQA system investigated by Shibui (2018);

the unit “IQAS structure” is expanded by introducing the following instrumental elements: “Management entities” and “Management bodies” (at all levels of IQA governance in HEIs) with defined functions, roles and responsibilities in IQAS in HEIs;

3) the element “EQA in HEI” is expanded with new instrumental elements: “mandatory external quality evaluation”, “external evaluation of quality of programs by an independent higher education QAA”; “external rating evaluation” (Bilokonenko, 2018), agreeing with Wächter, et al., 2015) who have studied the quality of higher education in the context of key indicators that would be examined separately with two different approaches to quality: quality assurance and rankings.

Thus, at this stage, normalization of terms and links between them was completed. (Fig. 2).

The fourth stage is to specify and verify the conformity of the term system with the study. If the term system is holistic, complete, sufficiently stable, and consistent with the purpose and study objectives, then it is ready for use. Constructing term system of research on building the IQAS in HEIs allows to solve several problems (Golubev & Grin'ko, 2011): screening and shaping the content of terms that will be used in research, which facilitates dialogue among scientists; identifying relationships between terms and, as a consequence,

constructing the landscape of entire research; identifying qualitatively new and problem aspects for further research, by examining in detail the links between different parts of studies and identifying its uncovered areas.

Discussion

The qualitative outcome of this article is the working-out of step-by-step technology on how to design the term system for specific research. We have been confident that the majority of scientific works are devoted to terminological systems in Linguistics, and these researches are related to the determining and construction of certain definitions. However, there are some researchers that have drawn attention to this tool in different fields (thus, Makhnitskaya (2008) highlighted the characteristics of term systems of the socio-economic block; Shty`ka and Kravchenko (2009) developed a methodological approach to form terminology in Public Administration, etc.).

During the study we have studied different approaches/ways to form the terminology support, which are usually applied in education sciences: terminology (Crozier, et al., 2006; Moroz & Moroz, 2017); thesaurus; vocabulary or glossary (National educational glossary, 2011, 2014, 2018; Vlăsceanu, et al., 2007); classification (Crozier, et al., 2006; Yelnykova, et al., 2010), and represented basic or extended/improved variants of administering (processing, systematizing and/or ordering) numerous existing and newly created key categories and concepts of the subject area. But all these ways, which offer scientists and practitioners sometimes (too) large number of terms, do not help to form a holistic image of the subject of research/study - because they only contain a list of terms related to concepts in a particular field (as terminology), arranged, e.g., alphabetically or systematically (as in thesaurus), based on their essential characteristics into groups of concepts (as classification) and accompanied by definitions or detailed descriptions (as dictionary/glossary), and need to be updated immediately due to the appearance not new complex terms, but only new definitions of existing categories and concepts (by adding other words/using synonyms) not creating new, significant essence of quality assurance and/or its constituents (that we have shown in previous section).

Also we have seen that natural sciences (Medicine, Chemistry) successfully process and organize more widespread and diverse terminological support, using patterns in designs of different terminological systems (de Keizer, & Abu-Hanna, 2000), that simplifies the understanding of complex categories, phenomena, processes, and ensures their holistic perception. But for some reason such an effective, and very convenient approach of organizing

terms is still being replaced by an extensive approach - creating/evolving/updating concepts / compiling glossaries in Education Science.

Our research is an example of the high-quality construction and use of terminological framework where agreeing with De Keizer et al. (2000) “each key term presentation is followed by certain related terms (the meanings of which assist in its further clarification)”, and we use relationships (and characteristics) to order and organize concepts in term system for specific studies in Education, in particular of building an internal quality assurance system in HEI. In contrast to Golubev and Grin'ko tool (2011), our technology operates with two groups of terms: core terms (main categories and concepts of subject area) and supplementary terms (local definitions that specify the subject and solve the research tasks).

However, our work not only analyzes approaches to determine the main categories and concepts of quality assurance in education but also uses the term system toolkit as the framework for qualitative theoretical research (which led to the development of the theoretical model and practical implementation internal quality assurance system in HEI). As research limitations, it is possible to note that every case on building internal quality assurance in particular HEI is unique (due to their internal quality assurance strategy, goals, how internal quality assurance processes are well designed, etc.). But we can implement our universal step-by-step technology on how to design the term system as a useful basic tool for particular HEI with any level of internal quality assurance system design.

Further research will focus 1) on improving methodology used for building terminology system (based on the developed algorithm), 2) on producing terminological basis for research and implementation of internal quality assurance system management in HEI, 3) on compiling glossary/vocabulary, nomenclature, and/or coding system for building internal quality assurance system in HEI and its administration.

Conclusions

Providing any study (in particular, building an internal quality assurance system in HEI), researchers have to define and clarify main and additional categories and concepts that fully cover the subject area. Therefore, it is essential to provide step-by-step technology on how to design the term system (with two groups of terms: core terms (main categories and concepts of subject area) and supplementary terms (local definitions that specify the subject and solving the research tasks)). The terminological framework for research developed by the authors provides insight into building an internal quality assurance system in HEI.

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