

# Educator's e-Portfolio in the Modern University

Nataliia Morze<sup>1</sup>, Liliia Varchenko-Trotsenko<sup>1</sup>

<sup>1</sup>Borys Grinchenko Kyiv University, 18/2 Bulvarno-Kudriavska Str, Kyiv, Ukraine,

n.morze@kubg.edu.ua, l.varchenko@kubg.edu.ua

**Abstract.** The most effective higher education quality indicators are openness and transparency of all the University activities results, including the results of educational and scientific work of every teacher and student.

That is why modern electronic university learning environment should provide open decentralizing component that would contain a webpage with every educational process participants' qualitative and quantitative indicators of educational activity – an e-portfolio. The motivation to filling a portfolio by every teacher can be university ranking which takes into account in certain proportion all teachers' activities and has moral and material consequences. Indicators of a portfolio should include those of a priority for university development at a certain time and be taken into account on different ratings, including international and Ukrainian. There are different ways of creating and filling an e-portfolio. One of them is the Wiki-technology use that ensures openness and transparency of the performance of the teacher, each structural unit and the university as a whole, used at Borys Grinchenko Kyiv University. E-portfolio on the university Wiki-portal should be considered a generalization of the electronic educational environment various components of the university, in particular, LMS, Moodle, creation and usage statistics of faculty e-learning courses, system of student survey about the quality of every teacher and discipline, filling institutional repository with research and methodological publications, relevant catalogues on teachers' training competition winners, participation in international scientific research projects and more.

**Keywords:** e-portfolio, institutional repository, Google Scholar, Wiki-portal, quality of education, e-learning environment of the university.

**Key Terms:** Information Communication Technology, Teaching Process, Teaching Methodology.

## **1 Introduction**

European Association for Quality Assurance in Higher Education (ENQA) has proposed the standards for determining the quality of higher education: internal and external [8], newly-created and based on the experience of Evaluation of the educational quality in the countries of the Western Europe. Standards for internal quality assurance in higher education relate to such areas of activity:

- Policy of the educational institution and the procedures for quality assurance;
- Approval, monitoring and periodic review of programs and diplomas;
- Assessment of students;
- Quality assurance of teaching staff;
- Educational resources and support for students;
- Informational systems;
- Public access to the information.

Indicated standards and recommendations set the common European format to quality assurance and for creation of a single European educational environment. Ukraine is a participant of such an environment that is why higher education institutions have to implement these standards, as stated in the Law of Ukraine on higher education [4].

The portfolio has started to be in use recently in Ukraine. But the single interpretation of the portfolio functions has not been formulated yet, each one uses portfolio in a different way, there is no approach needed to formulate the structure of the final portfolio of scientific-pedagogical staff members, what reflects all aspects of his work – his reflection, reflection of qualitative and quantitative indicators of professional development, results' presentation to the colleagues and students, analysis of administration work and so on. Modern society focuses on quality in everything, including in education and teacher plays a crucial role in shaping the quality of universities. Therefore, measuring the results of scientific and pedagogical employee is very important in our time.

The aim of the article is a description of e-portfolio structure of scientific-pedagogical staff member, as a possible tool for measuring the results of his performance and its further usage in the activities of the higher education institution. Defining the model for formation of e-portfolio of scientific-pedagogical staff members and its usage in the activities of the university.

## **2 USAGE OF E-PORTFOLIO OF SCIENTIFIC-PEDAGOGICAL STAFF MEMBER IN ACTIVITY OF A MODERN UNIVERSITY**

Let's have a detailed look at the standard of "Quality assurance of teaching staff" and define the instruments for measuring the results of activity of the scientific-pedagogical staff member of a modern university. Recommendations of this standard are: these universities should have certain procedures and criteria that would certify

that professors who work with students are qualified and have highly professional level to carry out their duties. These procedures and criteria on which the check is based should be in open environment. The recommendations stated that professor “is the most important learning resource available for the majority of the students”. Therefore, it is important that professors had some level, know their subjects, applied ICT, professionally developed and engaged publication activity. Also “they have access to information about how their work is evaluated”. Universities should use such “procedures for the selection and appointment that allow verifying that the new professor has at least a basic level of competence as a minimum”. The university has to provide all conditions for effective activity. Let us define the parameters of this standard:

- Professors' surveys;
- Students' surveys;
- Availability of ICT competency standards for professors;
- Public reporting of faculty members, departments, institutes;
- System for in-service training for professors;
- System of rating indicators of professors' performance.

E-portfolio can be an instrument for measuring the quality of the teaching staff by assessing the quantity and quality of professors' performance. Quantitative indicators of activity quality can be: print and electronic publications, participation in projects, conferences, grants, etc. Qualitative indicators are professional internship, training with the purpose of qualification improvement, scientific school, peers reviews, certification and so on.

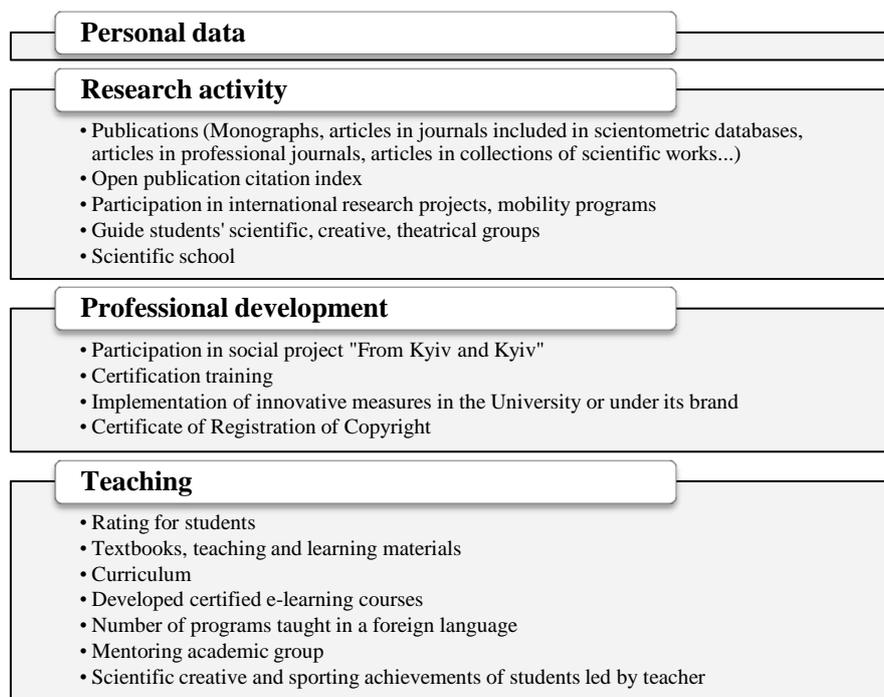
To display teacher's activity pedagogical stuff forms e-portfolio space, administration can inspect the data in the portfolio, make appropriate conclusions regarding the activities of a particular employee and the university as a whole, as a result - to improve quality, enhancing the activity of professor. E-portfolio is formed using components of the electronic environment of the University, which systematically reflects the activities of the university as a whole and is the support for all university activities. The structure of the electronic environment is determined by the needs of higher education. The main component provides training through the use of e-content. For information and represent the university created the site. Publication activities for teachers and students are electronic publications, electronic resources of the library is a repository. Platform designed to implement educational technologies aimed at active students and teachers, all members of the educational process is a wiki portal, which also allows you to place the open e-portfolio. Important indicators of scientific and pedagogical employee are also profiles of open and scientometric databases - Google Scholar, Russian Science Citation Index etc. There are many interpretations of the term “portfolio” and different variations of its structures. Portfolio is a “calling card” of scientific and pedagogical employee containing information on various aspects of his activities, information on scientific work, professional development, training activities and personal information. E-portfolio - a portfolio of scientific and pedagogical employee based on electronic resources. The goal of the portfolio depends on its structure, if the portfolio is a tool for measuring the performance of scientific and

pedagogical employee, it should reflect all the aspects of the scientific and pedagogical employee affecting the overall presentation of the university.

When determining the portfolio structure it was taken into account the European standards for quality assurance, methods of forming the ranking of higher education institution in Ukraine “TOP-200 Ukraine”[6] (the quality of scientific-pedagogical potential, the quality of education, international recognition), a set of measures to stimulate the publishing activity of the employee of Borys Grinchenko Kyiv University [7] and the indicators for rating of professors of Borys Grinchenko Kyiv University. The main components of e-portfolio include:

- Personal data;
- Research activity;
- Professional Development;
- Teaching.

Let us have a closer look at these components on the schemes below (Figure 1):



**Fig. 1.** Structure of e-portfolio of scientific-pedagogical staff member

All these components form a complete representation of scientific-pedagogical activity of a staff member. E-portfolio has the following advantages:

- Update information about yourself
- The check of whether the content is correct and right

- Analysis to create a rating
- Ability of scientific-educational staff member to present himself “well” in the Internet
- Provide an actual resume.
- Conducting a reflection of the own activities.

Let us build a model of e-portfolio of scientific educational staff member and its usage in activity of the higher education institution (Figure 2):

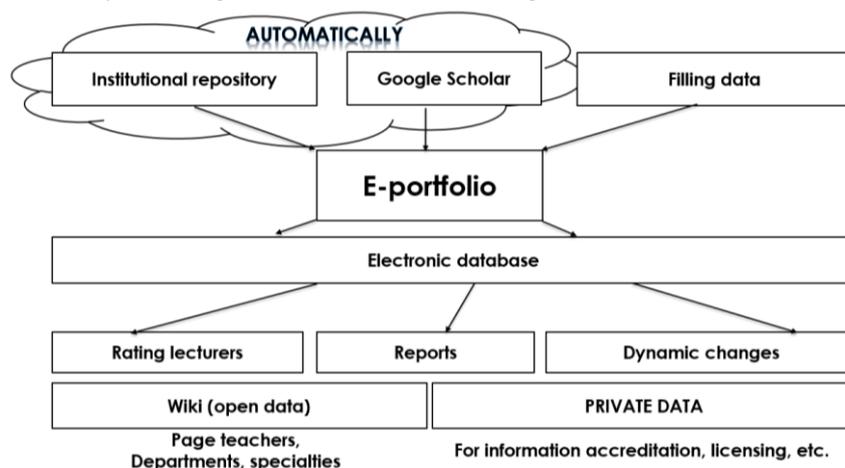


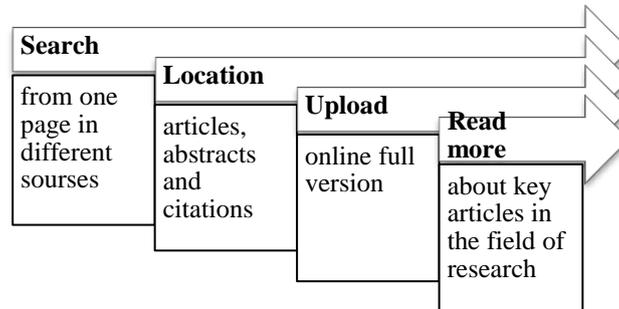
Fig. 2. Model of e-portfolio development and use

The data represented in the e-portfolio is transferred automatically from the institutional repository of University and Google Scholar profile.

Institutional repository (<http://elibrary.kubg.edu.ua>) – is a separate resource, created to review the scientific publications of professors in a free access. The main function of Institutional repository is accumulation, systematization and storage of electronic products of intelligent scientific audience, providing open access to the means of Internet technologies, dissemination of research materials in the world scientific and educational space.

After placing personal materials in the institutional repository, metadata is transferred into the appropriate fields of e-portfolio of scientific-pedagogical staff member. Institutional repository is registered in Google Scholar that makes it possible to have free access to all publications in repository and to see citation index of authors and related articles.

Google Scholar allows easy to perform advanced search of academic literature. The aim of Google Scholar (<http://scholar.google.com.ua>) is to streamline the articles with assessing the full article, author and issue, in which the article was published and citation index of articles in other academic literature.



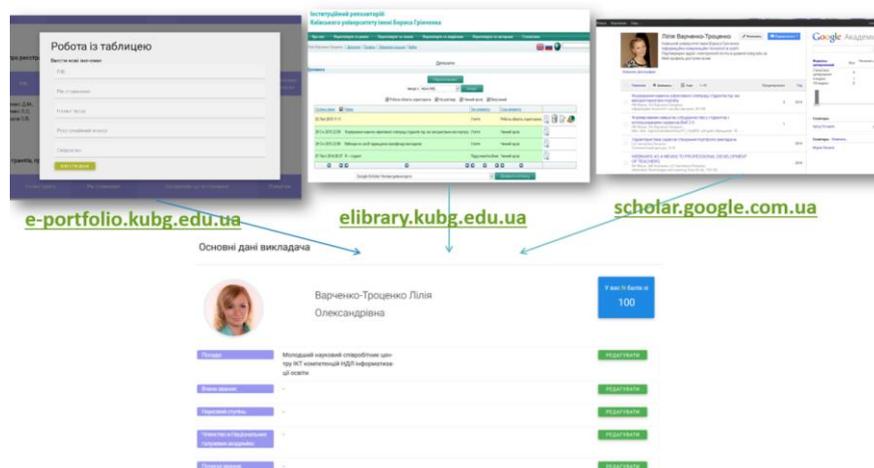
**Fig. 3.** Using of Google Scholar

The advantages of using Google Scholar for universities are:

- Creation of a profile;
- Monitoring the citation of publications;
- Names of professors appear in search results;
- Citation index;
- Statistics;
- Library.

Citation index of Google Scholar will automatically be transferred to the appropriate fields in e-portfolio of scientific and pedagogical employee.

Professor can fill own data on site <http://e-portfolio.kubg.edu.ua> (Figure 4).



**Fig. 4.** Algorithm of filling e-portfolio

This forms a complete and relevant portfolio that performs the function of data integration of scientific and pedagogical staff member. Administration can analyze the

data in the right format and draw conclusions. Based on e-portfolios, professors can form the general framework of the university (Figure 5):

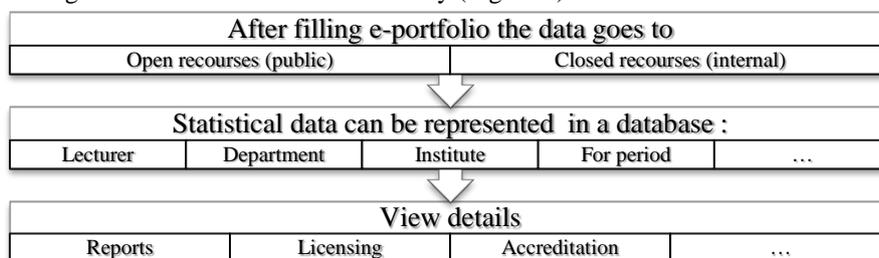


Fig. 5. Use of e-portfolio

E-portfolio can be transformed into the full report of a researcher activity (Figure 6):

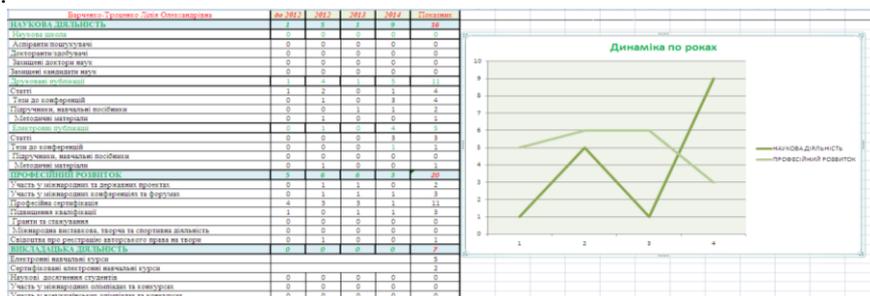


Fig. 6. Example of professor's e-portfolio

In a convenient way the reports of departments and institutes also can be formed. The part of e-portfolio data becomes open and is transferred to the personal pages on the Wiki-portal of Borys Grinchenko Kyiv University, and some part remains closed – to collect materials for accreditation, licensing, etc. (Figure 7).

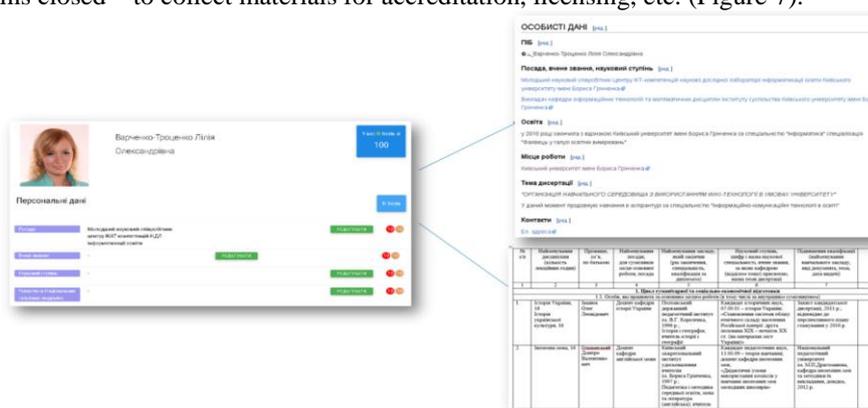


Fig. 7. Example of forming open and closed data

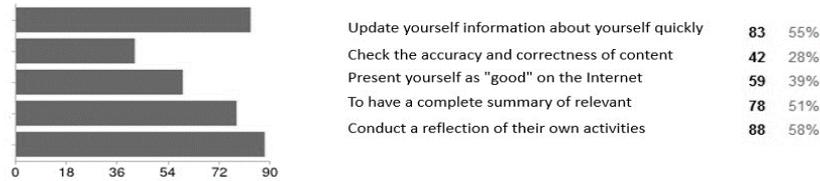
Webometrics is also very important for universities. It provides representation of academic and research institutions in the Internet and stimulation of open access to scientific information is displayed in the global Webometrics ranking of universities based on an analysis of the official website of the university.

Indicators of this rating include:

- Presence – number of web pages
- Impact – links to Universities web pages
- Openness – institutional Wiki repository and portal
- Excellence – scientific articles.

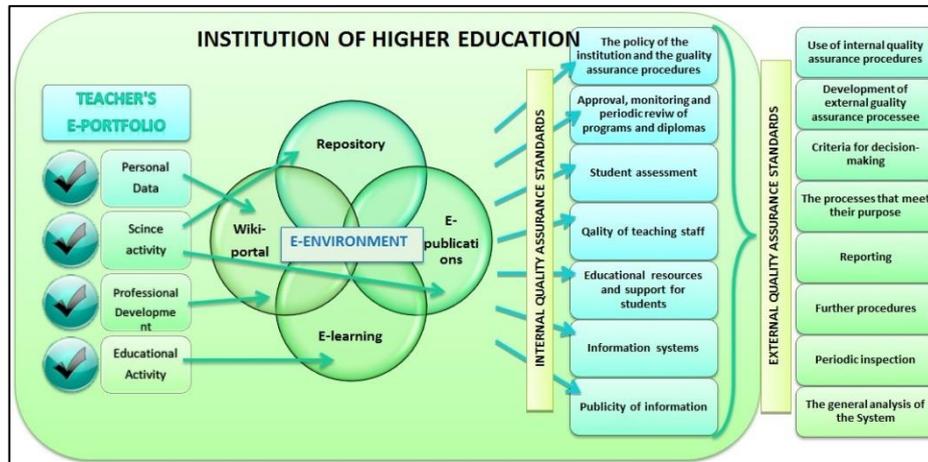
Analyzing key Webometrics rating indicators we can make conclusions that displaying of lecturers data and their work in an open space will have a positive impact on performance of a university in Webometrics.

For e-portfolio to become an instrument for assessment, professors have to fill their e-portfolio conscientiously. Survey was conducted for professors of Borys Grinchenko Kyiv University, the question was: “Do you have your own e-portfolio”, 21% replied that they have – those researchers should only bring its portfolio to the corresponding structure; 35% are ready to build, but they only need to be taught, 45% should be motivated. Most professors see the benefits of using e-portfolio to display their professional activity. In addition, professors determined the advantages of e-portfolio usage (figure 8):



**Fig. 8.** Results of professors' answer the question about advantages of e-portfolio usage

This means that professors are positive about forming their personal e-portfolios. E-portfolio in the University is shown in Figure 9.



**Fig. 9.** E-portfolio in the University

Therefore the teacher's e-portfolio is one of the indicators of education quality in universities. The motivation to filling a portfolio by every teacher can be university ranking which takes into account in certain proportion all teachers' activities and has monetary and reputational consequences. Indicators of a portfolio should include those of a priority for university development at a certain time and be taken into account on different ratings, including international and Ukrainian.

### 3 Conclusions

The use of Wiki-technology provides openness and transparency of the performance of the employee, each structural unit and the university.

E-portfolio on Wiki-portal of the university should be considered as the use of the university various components of the electronic educational environment, in particular LMS Moodle and creation of statistics and use of e-learning courses by faculty, system of students survey about the quality of training by each teacher every discipline, filling institutional repository on research and methodical publications, relevant registers on training teachers of the winners of competitions, participation in international scientific and research projects, etc.

Activity of every university scientific-pedagogical staff member affects the formation and functioning of the electronic environment of the educational institution that is created to provide quality training and development of scientific and educational potential. As it presents different aspects of teaching activity, e-portfolio can be used with the purpose of stimulation and measurement the quality of scientific-pedagogical staff of the institution.

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