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E-PORTFOLIO AS AN ASSESSMENT TOOL OF THE STUDENT'S ACTIVITIES

Abstract. Today, in the world there is a growth of understanding, that the indicator of high achievements of any participant in the educational process is not just the reproduction of information received at the educational institution. It is the ability to apply in the life and professional activities precisely those skills, which are necessary for the successful implementation of life and professional strategies after graduating. The actual task is to search methods, which allow estimating abilities of the student, to perform tasks in a real situation, to find information independently, to gain the necessary knowledge, to solve problems, which help them to be successful in any activity. Nowadays of the widespread use of information and communication technologies in all areas of human activity is relevant to the creation of an open electronic educational environment, which will contain its own web page for each participant in the educational process with qualitative indicators of their educational activities – an e-portfolio. It represents at the same time the form, process of the organization and technology of operation with products of cognitive activity of the students intended for demonstration of the interesting moments from the private and professional life of the student, his skills, and competences necessary for successful business and academic career. E-portfolio reflects scientific, sporting, creative and personal achievements, which are confirmed by the enclosed documents. Its formation allows each student to carry out introspection and self-assessment, to monitor the personal progress in a wide educational context, and for teachers to estimate assimilation of the general and professional competences comprehensively. These factors define the relevance of a problem, its significance for the educational process. Among different platforms for the creation of student's e-portfolio by Borys Grinchenko Kyiv University was chosen the wiki platform, which provides openness and transparency of the results of student's activities.

Keywords: e-portfolio; electronic educational environment of the university; Wiki-portal; wiki-technology; web page

Introduction. One of the indicators of quality of the higher education is the openness and transparency of the results of all kinds of university's activity, in particular, the results of educational and public student's work and educational and scientific teacher's work. Therefore, the modern electronic educational environment of the university has to provide the open decentralized component, containing own web page of each participant of educational process with quality and quantitative indices of their educational activity – e-portfolio. The e-portfolio indicators should include those that are the priority for the development of the university and correspond to the indicators of the world's leading and state-run ratings of higher education institutions. There are various ways of creation and filling of the electronic portfolio of students and scientific and

pedagogical workers. One of them, which is applied at Borys Grinchenko Kyiv University, is the use of wiki-technology, which provides openness and transparency of the results of activity of the student and teacher, each structural division and university in general.

Analysis of recent studies and publications. The idea of creation and the use of the portfolio in education appeared on the 70th of the 20th century in the USA and quickly became popular in Canada, Western Europe, Japan, and at the beginning of the 21st century – in Ukraine. For the first time, the idea of the portfolio has appeared in Canada. It was the result of joint efforts of members of The Canadian Association of the University Teachers. Approaches to the definition of the concept "portfolio", theoretical bases and the main types are described in works of L. Barannykov, N. Halskova, H. Holub, T. Novykova, Ie. Polat, O. Prutchuk, O. Fedotova, M. Vonakott, D. Vouers, B. Little, A. Lourensen and others. In educational process such scientists as V. Bulhakov, V. Zahvozdkin, I. Kalmykov, O. Karpiuk, T. Novykov, M. Pinsk, E. Fedotov, L. Nechyporuk, L. Savchuk, Iu. Romanenko, K. Osadcha, S. Lysenko, A. Kolesnyk, etc. research a question of the use of the e-portfolio. Foreign portfolio implementation experience highlights in the works of R. Anderson and L. Demiulle, B. Barnett, D. Little and R. Perklova, R. Farr, B. Tone, L. Hassalla and others.

The article's goal. The description of the model of student's e-portfolio as a possible instrument of measurement of results of their activity. Studying the possibility of students using the Wiki Portal as a service allows you to quickly create e-portfolio, and then fill it up, make all educational and research activities opened and transparent for parents, teachers, administrators, employers, other universities and educational institutions.

Unambiguous interpretation of the term "portfolio" does not exist. Each of scientists offers his own definition. Let's consider some options, therefore, the *portfolio* is:

- the business card, in other words, the set of information about the person, the organization, the file, in other words the set of documents, models of works, the photos giving an idea of the offered opportunities, services of the firm or the expert;
- representation of the facts of professional qualities and student's achievements;
- the business card of the student, containing certain supplied, the information about scientific, sporting, creative and personal achievements, reviews of his work, study and the publication;
- individual folder, which records the personal professional achievements and learning activity of the student;
- the reflection form, which allows the student to analyze educational activity, to carry out the quality standard of the result and to build the plan of further work, to increase its efficiency (Varchenko-Trotsenko, 2017, p. 129).

Let's formulate the generalized definition, the student's e-portfolio is "business card", containing data on various aspects of his activity, data about scientific work, professional development, educational activity and personal information. Student's e-portfolio is created on the basis of electronic resources. Depending on the purpose of creation of e-portfolio, its structure is defined if the portfolio is the instrument of measurement of results of activity of the student or teacher, then has to reflect all those aspects of his activity influencing on the general idea of the university.

The portfolio provides:

- systematization of own achievements by the student;
- clear definition of the direction of self-development facilitates, self-education or counselling by classmates or teachers;
- objectivity of a self-assessment and assessment of professional abilities;

- support and help in certification, obtaining the highest category, receipt in a postgraduate study, further training or professional activity;
- accurate fixing of professional qualities (through the described facts, collected documents);
- fixing of personal growth as means of self-education and self-discipline;
- exchange of developments and ideas;
- reflection of own activity.

While forming e-portfolio the participant of educational process analyzes his activity, defines the main progress, achievements, reveals mistakes, sees prospects and opportunities for further professional development (Kyrychenko, 2013). The e-portfolio allows to estimate objectively the opportunities and to plan efforts in overcoming difficulties and achieve more good results, shows achievements of the public, can become a basis for participation in competitive and grant programs, promotes the expansion of a methodical range of educational institution, advertises it. The data structure in the portfolio has to conform to two main requirements: sequence and clearness.

Modern technologies allow creating a portfolio of various types: paper portfolio, portfolio in the form of files (the presentation, the document, the table, the card of knowledge, etc.), web portfolio (services which give an opportunity for creation or loading of electronic publications), portfolio on social networks. E-portfolio of the student can be created by means of social networks, personal websites of the portfolio, specialized services for the creation of the portfolio, on the wiki platform.

For the creation of student's e-portfolio, such *social networks* as LinkedIn and Facebook can be used.

LinkedIn is a social network for search and establishment of business contacts. The service allows the user to create the own network of professional contacts, to adjust effective communication, to trace urgent announcements of vacancies from the companies interesting to get the "last" news from leading experts of the branch. On the homepage the user can add personal data, the place of study, experience, acquired skills, and also to light achievements from research and public work. The example: the list of publications, received certificates, patents, projects, courses, language skills, volunteer activity, etc. In settings of the profile, there is an opportunity to set parameters of display of profile.

A personal page on the *Facebook* network can be created in the form of the electronic portfolio using "Portfolio Builder" application. After installing the application on the page, the portfolio page is automatically generated, which contains a block of personal information, photo gallery. There are no additional sections, all information can be written down in the block of personal information (Varchenko-Trotsenko, 2014, p. 15).

For the creation of e-portfolio in the form of the website such services for the automated creation of the websites can be used: *Google Sites*, *Weebly*, *Wix*. For the creation of own e-portfolio the student can choose one of the ready templates, most corresponds to requirements, and also if necessary it is possible to adjust a template in compliance to individual requirements.

Changes in the layout of the template can be made using a visual editor, it is convenient for users who do not have special knowledge of web programming languages. All templates have the adaptation for mobile devices. Such e-portfolios have ampler opportunities of individualization of visual registration than social networks in which all pages are of one format. Standardly, the template has ready headings: contact information, education, experience, etc. In addition, you can add the necessary headings with the help of a visual editor, customize the menu display, feedback forms, embed video, audio, images, maps. The disadvantage is that in the free version of the service on the site advertising can be added without the user's consent (fig. 1).

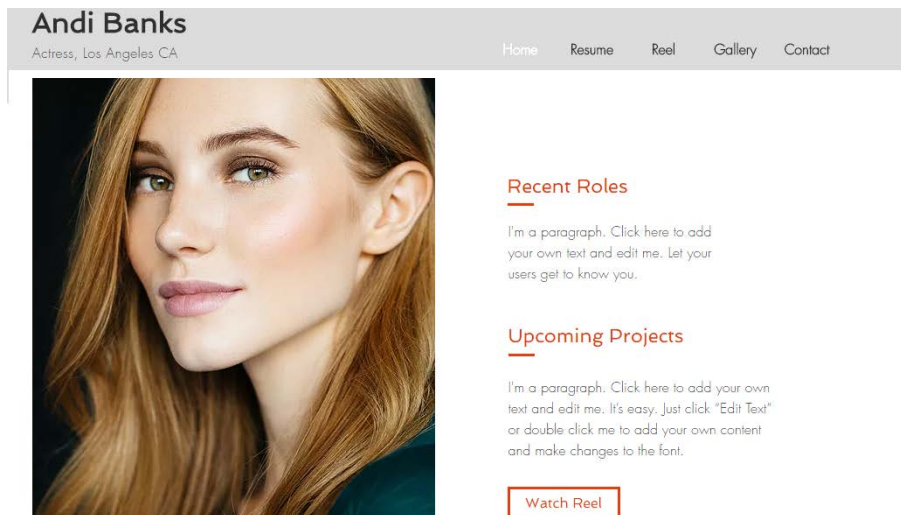


Fig. 13. E-portfolio template based on Wix service

Student's e-portfolio can be created also by means of online services for the automated creation of e-portfolio, such as *Portfoliogen*, *Pathbrite*, *Portfoliobox*. Services allow issuing e-portfolio in the form of the personal website, which contains the following sections: personal data, education, experience, files, documents, photo, video, skills, interests, purposes, etc. The visual design of each portfolio can be set up on personal needs and preferences. Service has the intuitive design, it is easy to fill and set up it. In account overview user can see the statistics of viewings of e-portfolio for the present day or a week. It is also possible to embed e-portfolio on a personal site, upload selected pages, photos, documents, etc. to your computer in the form of archive. The service gives the chance to select urgent vacancies in the region on the own database (fig. 2).

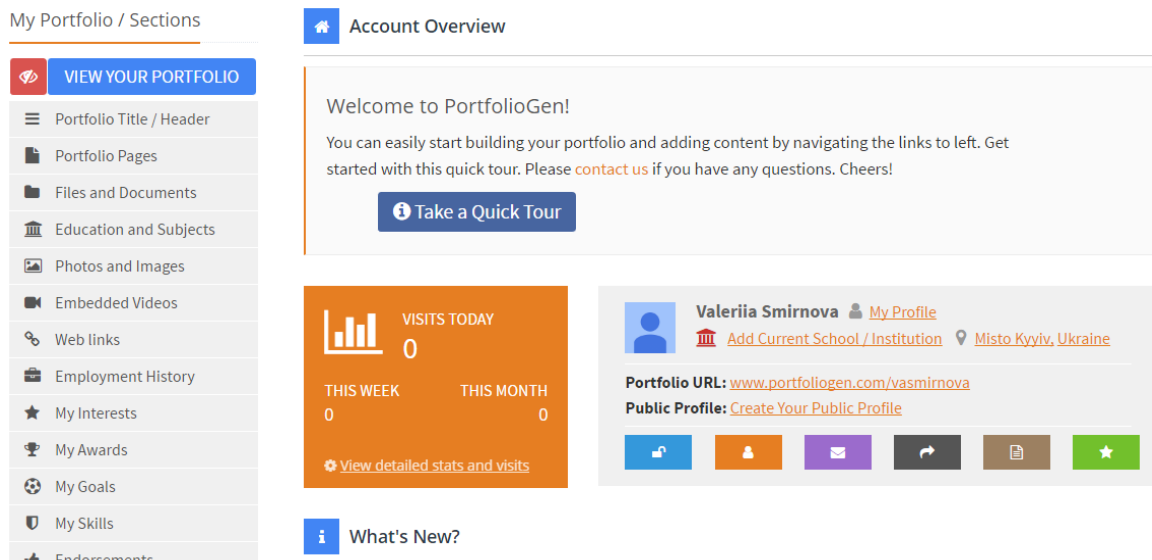


Fig. 2. Account overview service Portfoliogen

Interesting projects of student portfolio are presented in the following universities: San Francisco State University and California State University in California, Tarleton State University in Texas, the University of Waterloo in Canada, Loyola University Chicago, the University of Arizona in the United States, the University of Surrey in England.

San Francisco State University has its own portal e-portfolio (<http://eportfolio.sfsu.edu/>), developed on the platform Portfolium (Fig. 3).

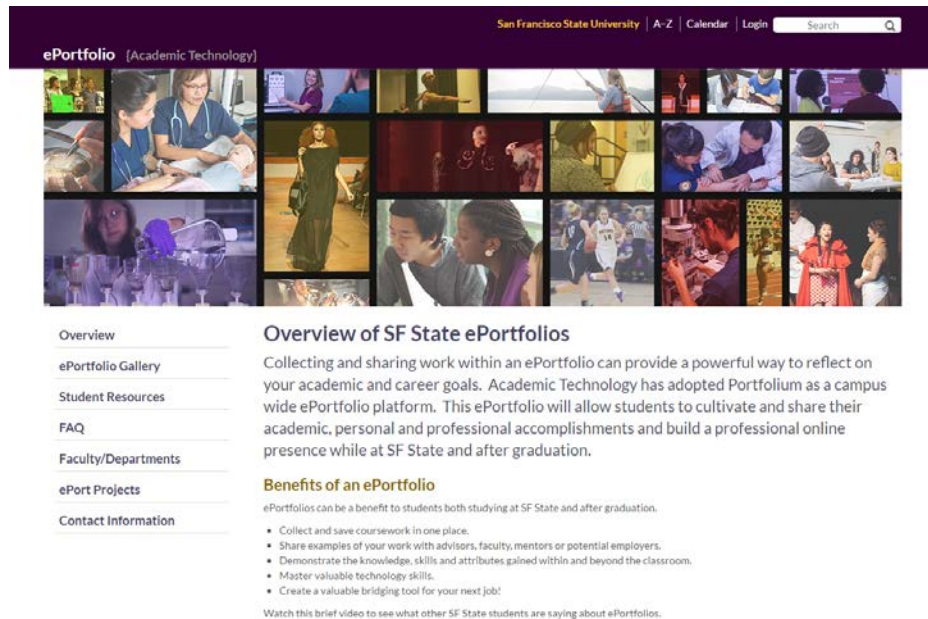


Fig. 3. Homepage of student's e-portfolio from San Francisco State University

Online platform Portfolium is the academically focused social network for students of higher educational institutions and graduates. Users can show the works by loading of media – files, such as images, PDF - files, video and other multimedia files in their profile. The website has mobile IOS by means of which users can add the summary for employment and check by means of hashtags of the necessary employer. Portfolium is available to students from the USA, Spain, Mexico and Argentina (“Portfolium”, 2017). Also, Tarleton State University and California State University use Portfolium which has been adjusted for each university according to their requirements.

Especially for Loyola University Chicago was developed the template of electronic portfolio of the university per 4 years of education at university based on Taskstream cloud platform (fig. 4).



Fig. 4. Examples of student's e-portfolio of Loyola University Chicago

E-portfolio contains the main key points for each of four years of training. Tools of a platform facilitate collection of student's operations, student's thoughts of training activity, and also teachers on the basis of the assessment ("Using e-Portfolios to Engage Students, Showcase Learning, and Empower Reflection", 2017). The software gives opportunities of the reporting and data analysis on training and activities of the student.

E-portfolios of University of Surrey and University of Arizona based on Desire2Learn platform ("ePortfolio", 2017). It includes the following components:

- section of personal data (references, files, web documents, audio recordings, courses evaluation);
- thematic categories;
- reflections (student's thought of training)
- presentations (the web projects showing achievements of the student) ("ePortfolio Overview", 2017).

Modern information technologies offer a large number of means for creation of an effective modern e-portfolio depending on type and goals. However, there is no approach to the formation of the structure of a complete e-portfolio of the student reflecting all aspects of his activity – for the reflection, display of quality and quantitative indices of professional development, representation of work results, the analysis of activity by teachers, etc. Modern society focuses on the attention to a quality in everything including education, so teachers and students play an important role in ensuring the quality of the educational process. Therefore, open measurement of results of activity of students is very urgent presently.

For display of the activity, the student forms e-portfolio in open space, in turn, the representatives of the university can get acquainted with this portfolio, draw the corresponding conclusions about the activity of the specific student and university in general as a result - to raise quality indicators, stirring up their activity. E-portfolio is formed with the use of components of the information educational environment of the university, which systemically reflects the activity of university in general and is a support of all kinds of activity of higher education institution. The structure of electronic environment is defined by requirements of a higher educational institution (Morze, Varchenko-Trotsenko, 2014, p. 38). The main component provides training on a basis of the use of e-content.

In determining the structure of student's e-portfolio of Borys Grinchenko Kyiv University took into account the European standards of quality assurance, methods of forming ranking universities in Ukraine "Top-200 Ukraine" ("Ranking universities in Ukraine "Top-200 Ukraine"", 2017) (quality scientific and educational potential, quality education, international recognition), a set of measures to stimulate the publication activity of Borys Grinchenko Kyiv University students.

The main components of e-portfolio of the student are:

- personal information;
- educational activity;
- scientific practical activities;
- professional development;
- social and humanitarian activity;
- completions;
- useful links;
- feedback.

Let's consider in more detail these components on the scheme (fig. 5) given below:

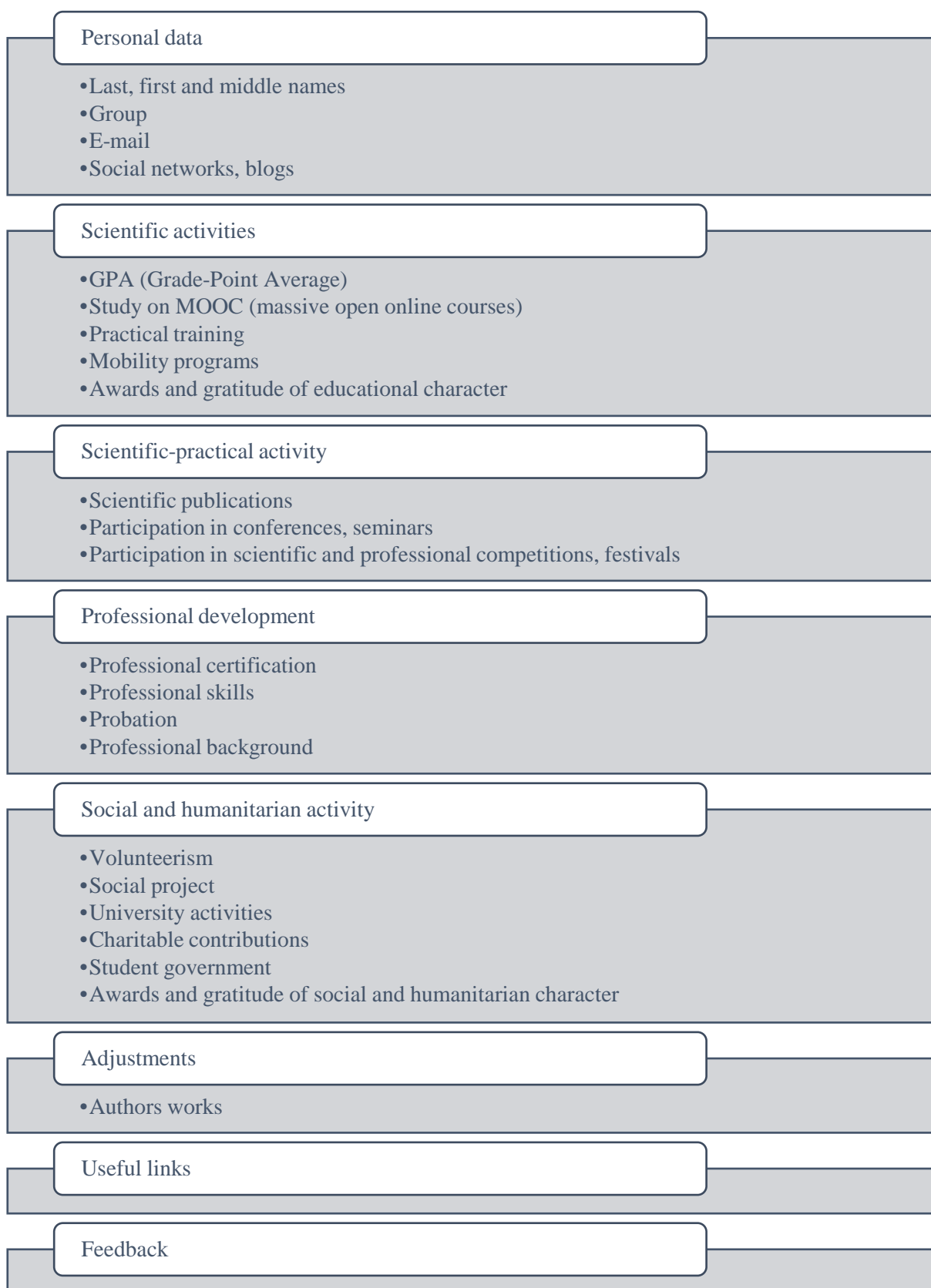


Fig. 5. Structure of student's e-portfolio

All these components form the complete representation of the activity of the student. Student's portfolio of Borys Grinchenko Kyiv University is created on Wiki portal (<http://wiki.kubg.edu.ua>), which functioning on a wiki-CMS and allows to form pages on the use of wiki-technology. Using this technology, it is possible to place various educational web resources, to exchange opinions, to reuse data are placed, to create joint practices without any efforts. This technology allows inserting images, video, audio, Mind Map and other resources.

Let's mark the advantages of the use of wiki-technology to display the student's e-portfolio:

- data openness, all pages are opened from the outside – students, administration, and colleagues can revise data electronic portfolios, which interest them;
- influence on indices of rating of Webometrics – due to pages openness and links to scientific publications of the students who are in the institutional repository;
- SEO – all web resources based on wiki-engines very quickly are included in databases of search engines. Such resources are in the first positions of the SERP (Search engine results page);
- convenient display of data – wiki markup automatically generates the content of the page based on the headings, so it is very easy to go to the required information about the student;
- ease of formation of university's structure – using the categories are formed pages of departments, institutes, and other structural divisions, specialties on which subcategories or references to pages of students are displayed (Morze, Varchenko-Trotsenko, 2016, pp. 70-71).

Student's e-portfolio on Wiki portal of Borys Grinchenko Kyiv University based on the corresponding template (fig. 6):

WARNING! Dear users! This is your template. Do not make a change to it!
How to use it?

In the text of the article writes `{{subst: Template: student Page}}`
This is followed by:

1. Choose button **Save page** ;
2. Go to **Edit** ;
3. To make edits to existing sections.

[Content \[Show\]](#)

Personal data

Full name

Group

Email

[Link](#)



Photo

Social networks, blogs

Training activities

Average score of success

MOOC

Training for mass open online courses)

Educational practice

Mobility program

Educational achievements

Scientific and practical activity

Fig. 6. Template of student`s e-portfolio on Wiki portal

After filling the page of student's e-portfolio gets to special category in structure of the University (fig. 7):

Home	Institute of Human Sciences	Pedagogical Institute	Institute of Journalism	Institute of Arts	Institute of Philology	Faculty of History and Philosophy	Faculty of Information Technology and Management	Faculty of Law and International Relations	Faculty of Health, Physical Education and Sports	University College
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Subcategories

Showing 10 of 10 subcategories.

- | | | |
|---|---|---|
| <p>S</p> <ul style="list-style-type: none"> • [*] Student's Portfolio / Faculty of Health, Physical Education and Sports • [*] Student's Portfolio / Faculty of History and Philosophy • [*] Student's Portfolio / Faculty of Information Technology and Management | <p>S (cont.)</p> <ul style="list-style-type: none"> • [*] Student's Portfolio / Faculty of Law and International Relations • [*] Student's Portfolio / Institute of Arts • [*] Student's Portfolio / Institute of Human Sciences • [*] Student's Portfolio / Institute of Journalism | <p>S (cont.)</p> <ul style="list-style-type: none"> • [*] Student's Portfolio / Institute of Philology • [*] Student's Portfolio / Pedagogical Institute • [*] Student's Portfolio / University College |
|---|---|---|

Fig. 7. Structure of student`s e-portfolio

The filled student's e-portfolio based on ready template is given below (fig. 8):

User:Avliulchuk.ij16

Content [hide]	
1	General Information
2	Speciality
3	Group
4	Contacts
4.1	Email
4.2	Skype
4.3	Web page
5	Participation
5.1	Conferences
5.2	Olympiads
5.3	Social projects
5.4	Charity events
5.5	University activities
6	Social activities
7	Hobbies



General Information [edit]

Liulchuk Alina Vitaliivna

Speciality [edit]

PR & Advertising

Fig. 8. Page of student's e-portfolio

The students can supplement the personal pages with additional data and change the design.

Filling in an e-portfolio on the wiki platform, the student has an opportunity:

- to submit data on itself in a convenient form;
- to confirm the professional development by certificates, diplomas etc.;
- to add the reference to publications in electronic editions, links on online publications, placed in repository.

E-portfolio performs the function of data integration about the student (Morze, Varchenko-Trotsenko, 2016, p. 237). The administration, in turn, can analyze these data in the necessary format and draw conclusions. On the basis of student's e-portfolio can be created the general base of the university (fig. 9).

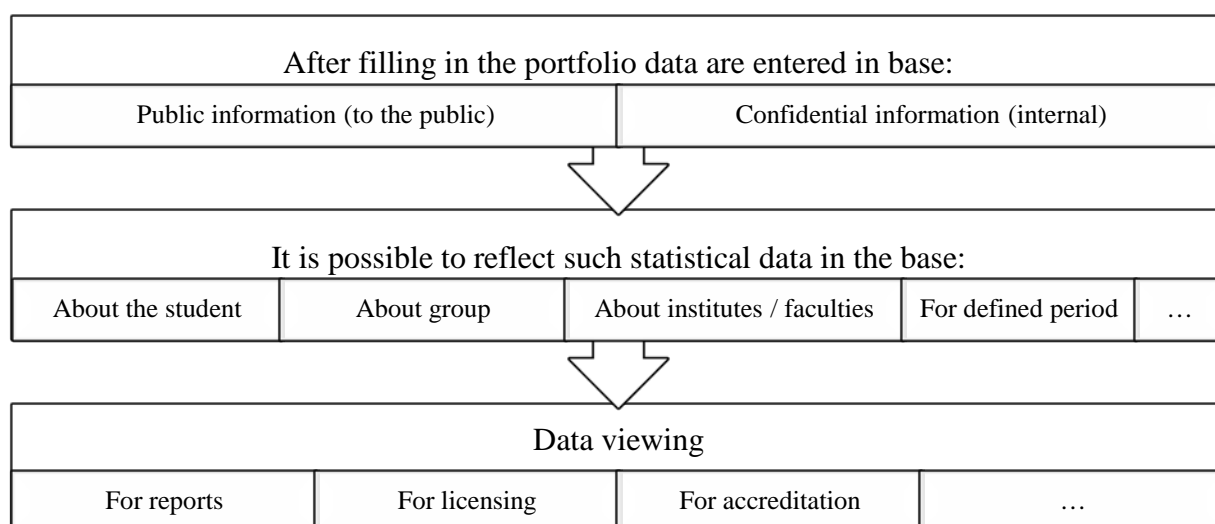


Fig. 9. The scheme of data in electronic portfolio

E-portfolio can be transferred to the full report of activity of each student. Can be created the reports of the groups and institutes / faculties in a convenient form. But in order to the e-portfolio would be a measurement tool, it's necessary that students conscientiously fill it.

Conclusions. The use of wiki-technology provides the openness and transparency of the results of student's activity of each structural department and university in general. E-portfolio on the wiki platform has the following advantages: quick updating of data, check for accuracy and correctness of content, the analysis for the creation of rating, an opportunity for the student to present itself to the internet, full and urgent summary, carrying out the reflection of own activity. By means of the e-portfolio, the student can adequately estimate own achievements and opportunities, to draw necessary conclusions of a self-improvement. E-portfolio as pedagogical technology promotes the increase in stability of the educational process and ensuring the continuous education. E-Portfolio on Wiki portal of Borys Grinchenko Kyiv University should be considered as a generalization of the use of various components of the electronic educational environment of the university. In particular, the system of students' questioning about the quality of each teacher's training in each discipline, the filling in of the institutional repository with scientific and methodical publications, participation in international scientific and research projects, olympiads, creative and sport competitions etc.

Therefore, student's e-portfolio is one of the indicators of quality of education in higher education institution. Motivation for filling in e-portfolio by each student is they rating at the university, which takes into account the entire student's activities according to certain weight coefficients and has moral and material consequences. According to The Law on Higher Education – students should receive an academic stipend according to their rating, compiled in a higher educational institution on the basis of the results of the semester control, which received the best results of training (“The Law of Ukraine on Higher Education”, 2017). In addition, the portfolio of the student can be considered as a result of the student's project activity (the solution of problematic issues during teaching, results of work on disciplines).

REFERENCES

Varchenko-Trotsenko, L. (2017). Wiki-technology as a means to support the project activity of students of humanitarian specialties of university (Doctoral dissertation, Borys Grinchenko Kyiv University). April 25, 2017.

<http://lib.iitta.gov.ua/706229/> (in Ukrainian).

Kyrychenko, V. (2013). Teacher's Portfolio – a generalization and systematization of its educational achievements. Electronic collection of scientific works of Zaporizkyi Regional Institute of In-Service Training, 3(13). May 31, 2013.

http://virtkafedra.ucoz.ua/el_gurnal/pages/vyp11/3/Kirichenko.pdf (in Ukrainian).

Varchenko-Trotsenko, L. (2014). Characteristics of teacher's portfolio creation services. Osvitohichnyi discourse, (3 (7)), 9-19. September 25, 2014.

<http://od.kubg.edu.ua/index.php/journal/article/view/140> (in Ukrainian).

Portfolium (2017). June 04, 2017.

<https://portfolium.com/>

Using e-Portfolios to Engage Students, Showcase Learning, and Empower Reflection (2017). June 01, 2017.

<https://www1.taskstream.com/case-studies/using-e-portfolios-to-engage-students-showcase-learning-and-empower-reflection/>

ePortfolio (2017). May 20, 2017.

<https://www.surrey.ac.uk/tel/platforms/eportfolio/>

ePortfolio Overview (2017). May 23, 2017.

<http://help.d2l.arizona.edu/student/eportfolio-overview>

Morze, N., & Varchenko-Trotsenko, L. (2014). E-portfolio as a tool of the measurement results of the teacher in the modern university. Computer science and information technology in educational institutions, (53), 36-41. (in Ukrainian)

Ranking universities in Ukraine “Top-200 Ukraine” (2017). May 29, 2017.
<http://www.euroosvita.net/index.php/?category=1&id=5209> (in Ukrainian)

Morze, N., & Varchenko-Trotsenko, L. (2016). E-portfolio as a tool of transparency and openness of modern education university. Information Technologies and Learning Tools, 52(2), 62-80. April 30, 2016.

<http://journal.iitta.gov.ua/index.php/itlt/article/view/1395> (in Ukrainian)

Morze, N., & Varchenko-Trotsenko, L. (2016). Educator's e-Portfolio in the Modern University. ICT in Education, Research and Industrial Applications: Integration, Harmonization and Knowledge Transfer, (1614), 231-240. June 24, 2016.

http://ceur-ws.org/Vol-1614/paper_68.pdf

The Law of Ukraine on Higher Education (2017). April 16, 2017.
<http://zakon4.rada.gov.ua/laws/show/1556-18> (in Ukrainian)