



ICT TOOLS AND PRACTICES FOR FINAL QUALIFICATION ASSESSMENT IN THE FRAMEWORK OF COVID-19 LOCKDOWN

Rusudan Makhachashvili¹, Ivan Semenist², Anna Bakhtina³

Borys Grinchenko Kyiv University

18/2 Bulvarno-Kudriavska Str., Kyiv, 04053, Ukraine

r.makhachashvili@kubg.edu.ua, ²i.semenist@kubg.edu.ua,

³a.bakhtina@kubg.edu.ua

ORCID ¹0000-0002-4806-6434, ²0000-0002-0847-8856,

³0000-0003-3337-6648

Abstract: *The global pandemic and the subsequent quarantine measures and restrictions have posed an array of challenges to the structure and procedure of university summative assessment process. Qualification assessment for major programmes in Foreign Languages in particular is a strictly regulated procedure that involves different stages (oral and written exams, final project viva, internal and external review). This study seeks to analyse the practices of Borys Grinchenko Kyiv University digital qualification assessment for students of European (French, Italian, Spanish, English, German) and Asian (Mandarin, Japanese) Languages major programmes, employed in the year 2020 due to quarantine measures. The survey and analysis of different ICT tools is used to translate real life qualification assessment practices into an online blended format. The investigation also seeks to identify various groups of applied digital skills and collaboration skills, utilized through qualification assessment process by all parties (students, faculty and referees).*

Keywords: ICT Tools and Practices; Final Qualification Assessment; digital literacy; blended learning.

INTRODUCTION

The global pandemic and subsequent quarantine measures and restrictions have posed an array of challenges to the structure and procedure of university summative assessment process. Qualification assessment for major programmes in Foreign Languages is a strictly regulated procedure that involves different stages (oral and written exams, final project viva, internal and external review).

This study *objective* is to critically review the applied case and best practices of Borys Grinchenko Kyiv University Digital Final Qualification Assessment for students enrolled on European (French, Italian, Spanish, English, German) and Oriental (Mandarin Chinese, Japanese) Languages major programmes, employed in the year 2020 due to quarantine measures. The survey and analysis of different ICT tools is used to translate real life qualification assessment practices into online blended format. The investigation also *seeks to identify* various groups of applied digital skills and collaboration skills, utilized through qualification assessment process by all parties: students, faculty and referees.

The global pandemic COVID-19 emerged as *a kind of black swan scenario* for various spheres of social and economic life. The black swan theory is a metaphor that describes an event that comes as a surprise, has a major effect on society, and is often inappropriately rationalised after the fact with the benefit of hindsight (Taleb, 2010). In the educational sphere, according to our estimations, the result of the COVID-19 pandemic development was the need to take quick action in order to achieve such desirable results: a) Adapt the existent educational scenarios to digital, remote and blended formats; b) To upgrade ICT competence and digital literacy of all participants of the educational process.

The higher education technology landscape of 2020 (Encoura, 2020) was prognosticated to include the following components: college-wide IT infrastructure; admissions and enrolment management, advancement tools, student distinction tools.

The study premise included the identification and elaboration of ICT competency principles, derivative of 21st century skills (Abbot 2013; Dos Reis 2016; Morze, Makhachashvili, Smyrnova-Trybulska, 2016) for university staff members (according to various ICT competency frameworks for educators) and projected digital literacy requirements:

1) UNESCO ICT Competency Framework (UNESCO, 2018) emphasizes that it is not enough for educators to have ICT competencies and be able to teach them to their students. Educators need to be able to help the students become collaborative, problem solving, creative learners through using ICT so they will be effective citizens and members of the workforce. The Framework therefore addresses such aspects of education: Understanding ICT in education, Curriculum and assessment, Pedagogy, ICT, Organization and administration, Teacher professional learning.

2) Liberal Arts (Digital Humanities) ICT proficiency profile sampling elaboration, according to the European e-competence framework guideline (European Commission, 2020) was conducted. ICT Liberal Arts/Digital Humanities Educator sample profile includes the following components:

- Trains ICT professionals and practitioners to reach predefined standards of ICT technical /business competence.
- Provides the knowledge and skills required to ensure that students are able to effectively perform tasks in the workplace.
- Defines and implements the ICT training policy to address organisational skill needs and gaps; structures, organises and schedules training programmes and

- evaluates training quality through a feedback process and implements continuous improvement; and adapts training plans to address changing demand.
- Organises the identification of training needs; collates organisation requirements, identifies, selects and prepares schedule of training interventions.
 - Acts creatively to analyse skills gaps; elaborates specific requirements and identifies potential sources for training; and has specialist knowledge of the training market and establishes a feedback mechanism to assess the added value of alternative training programmes.
 - Monitors and addressees the development needs of individuals and teams.
- 3) A unified framework of correspondence between the crucial communicative competence (Hymes, 1972) and various aspects of ICT competence in Liberal Arts/Digital Humanities, utilized in the educational process, devised for the purposes of this study (Table 1):

Table 1

Correspondence between the crucial communicative competence and various aspects of ICT competence in Liberal Arts/Digital Humanities

Communicative competence components	ICT competence components correspondence in Liberal Arts/Digital Humanities
Linguistic competence	Participation in group ICT initiatives of regional and national levels
Sociolinguistic competence	Creating e-learning courses/tasks
Discourse competence	System using of ICT
Strategic competence	Presentation to the community the results of their own research activities through the use of ICT

Source: Own research.

The following study seeks to identify, among other parameters, challenges for actual and underdeveloped skills (hard, technical and soft), that all participants of the educational process encountered through Final Qualification Assessment.

1. FINAL QUALIFICATION ASSESSMENT: ACTIVITY PROFILE

Qualification assessment for Foreign Languages major programmes in particular is a strict regimen process that involves different stages (oral and written exams, final project viva, internal and external review).

According to the Law of Ukraine „On Higher Education“ (Laws, 2019), qualification assessment is the establishment of learning outcomes (scientific or creative work) for higher education students in compliance with the requirements of the educational (scientific, educational and creative) programme and / or the single state qualifying exam.

The form of state certification of students is defined by the state standards of education and is reflected in the curricula of the Free Economic Zone. Usually state certification has two forms: 1) State exam; 2) Defence (viva) of qualification (bachelor’s) paper.

State standards of education provide for the existence and observance of rules and requirements for the procedure of state certification. In addition, the defence of the qualification work contains propaedeutic procedures designed to obtain the basis for admission of students to the defence.

The administration of state examinations and defences of qualifying works is carried out at an open meeting of the SEC with the participation of members of the board and the obligatory presence of the chairman of the board. The work of SEC is carried out in the terms provided by the schedule of educational process. The state exam takes place at the approved time and in the audience specified in the documentation of preparation for the SEC.

The last link in the learning process is the defence of the thesis (project). This type of activity is characterized by the completion of the entire educational process and the assignment of appropriate qualifications to the student.

The supervisor should provide feedback on the work of his / her graduate, assessing all theoretical and practical aspects of the work with a probable grade, subject to successful defence. In addition to the response of the head, the work is accompanied by an external review – a scientist from the teaching staff, who works in the institutions of the Free Economic Zone of Ukraine and is a specialist in the subject of the diploma. The student is given 5–8 minutes to defend his thesis. After defending his work, accompanied by a presentation on a multimedia projector, the chairman of the board and members of the board ask students questions related to the theoretical and practical aspects of the diploma work. After receiving the answers read, if any, questions are asked by an external reviewer. After the student answers all the questions, the chairman of the board reads the response of the supervisor and the external review. After the thesis has been defended by the last student on the list, the results of the defence should be discussed. The board members discuss the results in the same auditorium where the defence took place, with the participation of only the chairman of the board, its members and the secretary of the SEC.

In the situation of the COVID-19 pandemic lockdown *all elements of the Final Qualification Assessment at Borys Grinchenko Kyiv University have been relegated to the digital, remote or blended format with the use of ICT tools.*

The qualification assessment regimen was adapted to digital format as a framework (a legal procedure that results in the degree confirmation of a student), the string of consecutive activities according to the legal procedure described in the profile above, the „ritual“ scenario (and experience for the student that is emotionally uplifting and sombre in nature, connects with the traditions of the university culture of Europe). According to the law mandating Qualification Assessment, activities for foreign languages at Borys Grinchenko Kyiv university have been transferred to digital remote format in the following manner (Table 2):

Table 2

Qualification Assessment activities for foreign languages at Borys Grinchenko Kyiv university transfer to digital remote format

Qualification Assessment activities	Digital format	ICT tools used
State exam conduct (introduction, oral answers, grading, discussion, results)	Digital video conference; Remote test Video recording Voice recording	Zoom, Webex, GoogleMeet, Speech Texter, Android Apps, LMS Moodle, Webcam screenshot
State Exam card selection	Digital randomising	LMS Moodle, Google
State Exam discussion and questions	Digital video conference; Chat service; Mobile connection	Zoom, Webex, GoogleMeet, Android apps
State Exam assessment	Digital video conference; Automated grading system; Online/offline calculator	Zoom, Webex, GoogleMeet, LMS Moodle, Microsoft Excel, Google calculator
State Exam results declaration and appeal	Digital video conference Cloud services	Zoom, Webex, GoogleMeet, Google documents, E-mail Android Apps, Social media
Bachelor's project viva/ defence	Digital video conference Screen sharing File sharing Video recording Voice recording	Zoom, Webex, GoogleMeet Google Disk, Microsoft Power Pint, Cloud presentation tools (Prezi), Android Apps, Social media
Bachelor's project viva/ defence publicity and accessibility	Public announcement via digital media	E-mail, Android Apps, Social media
Bachelor's project submission	File sharing	Google Disk, E-mail, Microsoft Office tools, Android Apps
Bachelor's project review	Digital survey Digital assessment	Google forms, Microsoft Excel, Google Excel
Bachelor's project discussion and questions	Digital video conference; Chat service; Mobile connection	Zoom, Webex, GoogleMeet, Android apps
Bachelor's project assessment	Digital video conference; Automated grading system; Online/offline calculator	Zoom, Webex, GoogleMeet, Google forms, Microsoft Excel, Google calculator
Bachelor's project results declaration and appeal	Digital video conference Cloud services	Zoom, Webex, GoogleMeet, Google documents, E-mail, Android Apps, Social media

Source: Own research.

2. ICT TOOLS FOR FINAL QUALIFICATION ASSESSMENT IN THE FRAMEWORK OF COVID-19: SURVEY STUDY

2.1. Questionnaire overview

Based on the activity profile a survey was conducted among the participants of the Final Qualification Assessment at Borys Grinchenko Kyiv University foreign language programmes (Spanish, French, Italian, English, Mandarin Chinese, Japanese major) in order to assess the efficiency of qualification assessment transfer into digital format via various ICT tools employed.

The following participants of the digital Final Qualification Assessment were included into the survey as respondents: Students of senior year of bachelor's programme (53,4%); Assessment board members (15,5%); Faculty members (who took part in digital qualification assessment preparation and conduct) (20,7%); Bachelor project referees and supervisors (8,6%).

59 respondents total of all groups took part in the survey (Figure 1). The choice of respondent groups corresponded to the variation or similarity of tasks, performed through Final Qualification Assessment and, subsequently, the variation and similarity of ICT tools used.

The respondents in all groups spanned the foreign language Bachelor's programmes in proportional distribution measures: Spanish major programme – 32,8%, Japanese major programme – 19%, Mandarin Chinese major programme – 22,4%, French major programme – 15,5%, Italian major programme – 15,5%, English major programme – 8,6%.

2.2. Digital Final Qualification Assessment survey results

The overall digital qualification assessment experience on the scale of 1 to 5 was defined as mostly agreeable (5) by 50% of respondents, most agreeable (5) by 29% of respondents and less agreeable (3) by 17% of respondents.

The respondents were asked to identify all the ICT digital tools that they have to employ the most in digital qualification assessment process. The highest scoring ICT tools by all the groups of respondents were: e-mail (93% of respondents), Google services (76% of respondents), videoconferencing services (84% of respondents), social media platforms (77% of respondents), automated testing systems and learning management systems (31% of respondents).

The ranking 1–5 of the ICT tools employed through digital qualification assessment process yields following tools getting the highest scoring (5) among all ICT tools identified and used: email services; google forms; Zoom video conferencing services; screen sharing services; Microsoft Office tool-kit and various social media platforms. Across all ICT tools used throughout the digital qualification assessment process the respondents identified the following most prominent activities: Communication (synchronous); Communication (asynchronous); Collaboration; Information/file sharing; Summative assessment; Formative assessment; Peer review; Presentation; Speech quality assessment; Brainstorming.

Information sharing and presentation are considered prominent for such types of tools as email, Google services, and Microsoft Office Toolkit. Both synchronous and

asynchronous communication and collaboration is distributed proportionally among email services, learning management systems and various video conference services. The tools that feature summative assessment as a prominent activity are Google forms and LMS Moodle. Formative assessment as a type of activity features but does not dominate evaluation of ICT tools used qualification assessment process.

The following technical and user requirements, most prominent for ICT/digital tools employed throughout the digital qualification assessment process were identified (Figure 1): Bandwidth; Specialized software; Specialized hardware (webcam, mic, PC type etc.); Intuitive interface; Advanced digital literacy; Intermediate digital literacy; Elementary digital literacy; Customized training before use.

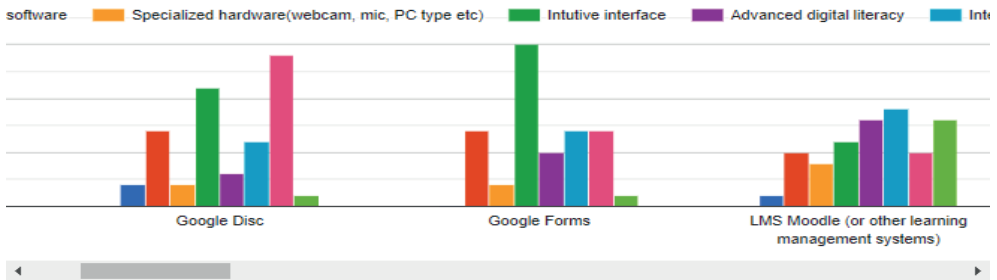


Figure 1. Technical and user requirements, for ICT tools digital qualification assessment process. Sample evaluation card

Source: Own work.

Intuitive interface is the most important technical requirement for the future across the board of ICT digital tools that have been analysed. It is considered a leading technical requirement for such ICT tools as email, Google services, video conferencing services and social Media platforms.

Specialised software as a requirement is mandatory and ranking second for such tools as email and Google services. The only tool, employed in qualification assessment, that features customised training before use as a prominent requirement by respondents is the LMS Moodle platform.

Various levels of digital literacy have been identified in the survey. *Digital literacy is understood primarily as the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills* (ALA, 2020; DQ Report, 2019).

Advanced digital literacy as the requirement for qualification assessment ICT tools efficiency is attributed to such instruments as learning management systems, Microsoft Office toolkit and social media platforms. Such instruments that are used for final qualification assessment as Microsoft Office Toolkit, screen sharing interface, online randomizer, automated testing system, learning management system are evaluated as requiring predominantly *intermediate digital literacy*. *Elementary digital literacy* level is assessed as dominant for such tools as email, google disc, video conferencing, speech to text interfaces and social media platforms.

Across various ICT tools for the digital qualification assessment process the following skills and competences most widely implemented and practiced, drawn from various relevant 21st century skills frameworks (see section 1 of this paper) have been identified (Figure 2): Communication; Collaboration; Team work; Digital literacy; Emotional intellect; Interdisciplinary skills; Critical thinking; Leadership; Flexibility and Adaptability; Decision making; Learning and Innovation skills.

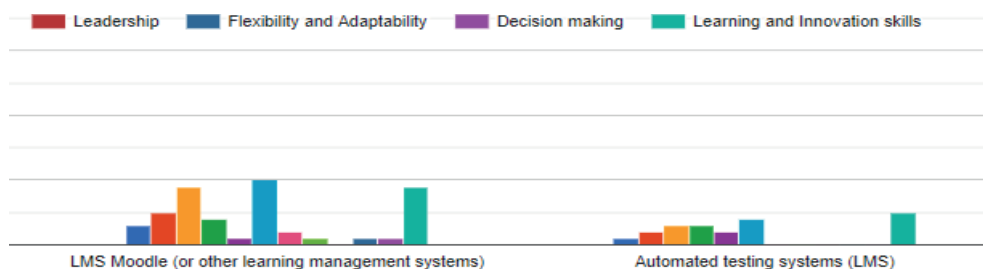


Figure 2. Soft skills for ICT/digital tools in digital qualification assessment process. Sample evaluation card.

Source: Own work.

The survey has yielded the following representative results for soft skills featuring most prominently in the use of ICT tools for Qualification Assessment. Communication and collaboration rank as a type of skills most widely employed in the use of such instruments as email, Google services, video conferencing services and social media platforms. Team work collaboration ranks second most prominent skill employed via the use of Google disk, learning management systems and video conferencing services.

Relevance is attributed to learning and Innovation skills in the use of such ICT tools as a learning management system (ranking second after interdisciplinary skills), automated Testing System (offline, online and cloud based), Android apps and Microsoft Office tools. Creativity as a skill ranks 3rd in the use of Google services and ranks 1st in the use of Microsoft Office tools.

2.3. Final Qualification Assessment Tools Efficiency Ranking

The identified Final Qualification Assessment ICT tools have been subsequently subjected to Customer Satisfaction Evaluation Ranking (Dos Reis 2017; Morze, Makhachashvili, Smyrnova-Trybulska 2016), featuring the efficiency of ICT tools per education activity as the main criterion.

For the purpose of the ranking the Final Qualification Assessment ICT tools have been divided into 4 groups according to types: 1) Google cloud services (Google Disc, Google Forms, G-mail); 2) Video conferencing services (Google Meet, Zoom, Webex); 3) Learning management systems (LMS Moodle, Automated testing systems); 4) Microsoft Office tools (Word, PPoint, Excel)

All respondents had to rank the activity importance 1–5 for the selected ICT tools used (Figure 3).

	Activity	Ranking 1–5 by respondents					Sum	RC	SR
		1	2	3	4	5		Rating coefficient	Total sum × coeff.
1	Communication (synchronous)	2	7	15	10	20	54	$54 / (59 \times 5) = 0,18$	$54 \times 0,18 = 9,72$
2	Communication (asynchronous)	5	8	6	6	28	53	0,18	9,54
3	Collaboration	7	5	6	10	25	53	0,18	9,54
4	Information/file sharing	8	4	4	4	34	54	0,18	9,72
5	Summative assessment	1	7	17	17	11	53	0,18	9,54
6	Peer review/evaluation	9	3	12	18	10	52	0,17	8,84
7	Formative assessment	5	9	10	16	12	52	0,17	8,84
8	Presentation	3	7	16	10	17	53	0,18	9,54
9	Speech quality assessment	6	4	10	8	20	48	0,16	7,68
10	Brainstorming	2	8	13	10	19	52	0,17	8,84
	Total efficiency rating: (ER)								9,18

Figure 3. Evaluation of Tool Type 1 (Google Disc, Google Forms, G-mail). Sample ranking score card

Source: Own research.

The efficiency rating (ER) for each type of ICT tools assessed in the paper has been calculated via a 3 step algorithm:

1. Rating coefficient calculation: \sum of points per activity divided by $x = (N(r) \times 5)$
 $\Rightarrow y$ experts, 5 points maximum per each activity rating.

$$RC = \sum(p) / (N(r) \times 5)$$

Where:

RC – is Rating Coefficient of an ICT tools type

$\sum(p)$ – is the sum of points per each activity, carried out via an ICT tool type

$N(r)$ – is the number of respondents, that have assessed the ICT tool type efficiency

2. Summative rating (SR) of each activity per ICT tool calculation: \sum of points per activity multiplied by RC (rating coefficient)

$$SR = \sum(p) \times RC$$

Where:

SR – is the Summative Rating of each activity per ICT tool

$\sum(p)$ – is the sum of points per activity, carried out via an ICT tool type

RC – is the Rating Coefficient of an ICT tools type

3. Total Efficiency Rating (ER) of a type of ICT tools assessed calculation: \sum of summative ratings (SR) per each activity divided by N of activities evaluated for the ICT tool type

$$ER = \sum(SR)/N(a)$$

Where:

ER – is the Total Efficiency Rating of a type of ICT tools assessed

$\sum(SR)$ – is the sum total of summative ratings per each activity, carried out via an ICT tool type

N(a) – is the number of activities evaluated for the ICT tool type

According to the evaluation procedure the Total efficiency ratings for each type of ICT tools for Final Qualification Assessment are as follows: Tool Type 1 (Google Disc, Google Forms, G-mail) – 9,18; Tool Type 2 (Google Meet, Zoom, Webex) – 8,91; Tool Type 3 (LMS Moodle, Automated testing systems) – 8,60; Tool Type 4 (Microsoft Office tools: Word, PPoint, Excel etc.) – 9,48.

As can be inferred by the results, according to the surveyed case of Borys Grinchenko Kyiv University Final Qualification Assessment transference to digital format the highest efficiency rating – 9,48 – among all groups of respondents is attributed to Microsoft Office toolkit. Google cloud services are a runner up with the Total efficiency rating of 9,18.

It is worth noting that the activities scoring the highest summative rating (SR), realized effectively per each type of ICT tools assessed, are as follows: Tool Type 1 (Google Disc, Google Forms, G-mail) – Communication (synchronous) (SR=9,72), Information/file sharing (SR=9,72), Summative assessment (SR= 9,54), Presentation (SR= 9,54); Tool Type 2 (Google Meet, Zoom, Webex) – Communication (synchronous) (SR=9,54), Collaboration (SR=9,54), Speech quality assessment (SR= 9,54); Tool Type 3 (LMS Moodle, Automated testing systems) – Communication (synchronous) / Communication (asynchronous) (SR=8,84), Brainstorming / Formative assessment (SR=8,67); Tool Type 4 (Microsoft Office tools: Word, PPoint, Excel etc.) – Communication (synchronous)/ Collaboration (SR= 72). The Summative ranking score of 9,54 for every other activity realized by the ICT tool type.

CONCLUSION

All procedures and scenarios of the Final Qualification Assessment activities for foreign languages at Borys Grinchenko Kyiv university have been successfully transferred to the digital remote format with the use of various sets of ICT tools in the framework of the COVID-19 pandemic adjustments. This transference could serve as a best practice model for other universities of Ukraine and European countries both as an adaptable measure for prolonged lockdown and as a way to further advance of blended learning and further digitalization and democratization of educational process.

The survey results conducted among all groups of participants of Final Qualification Assessment for foreign languages have yielded representative data as to the efficiency of various ICT tools implementation for rigorous assessment procedure scenario. Microsoft Office toolkit ranks highest in efficiency among respondents, presumably, due to the least digital literacy level adjustments required of users at a short notice to carry out the full spectrum of necessary activities for Final Qualification Assessment. Various levels of digital literacy have been identified in the survey. Across the board, implementation of Final Qualification Assessment via various ICT tools requires of participants of educational process intermediate digital literacy. Implementation of learning management systems requires additional technical training of both students and educators for efficient use in high-stress environment.

Communication, collaboration and team work are assessed as most high ranking activities carried out within the use of all ICT tools for Final Qualification Assessment assessed. Subsequently, the corresponding soft skills are also evaluating as crucial in various combinations within the scenario of digital Final Qualification Assessment. This results corroborate the introduced in this study correspondence between communicative competence and ICT competence components, adapted for Liberal Arts. Namely, the following components prove indispensable for all participants of Final Qualification Assessment in digital format: participation in group ICT initiatives, creating e-learning tasks, system using of ICT, presentation to the community the results of one's own research activities through the use of ICT.

The survey results will be furthered and elaborated in assessment of ICT tools efficiency and digital skills adaptability for separate groups of Final Qualification Assessment (students of foreign languages programmes, Assessment board members, staff members, reviewers) according to roles and tasks performed, as well as according to age and entry digital literacy level (the distinction in efficiency assessment among digital natives and digital immigrants).

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