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Simon Kuznets Kharkiv National University of Economics

Area of discussion: Trends in Education and a New Paradigm for University Development



Blended learning in university education: *aspects of interactivity and students' engagement*



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Blended learning implementation.

Advantages and challenges

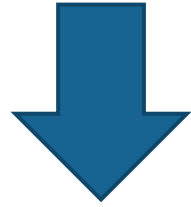
Advantages

- openness of the access to education,
- flexibility,
- raising of trainees' independence etc.

Challenges of successful implementation

- lack of proper awareness about the blended learning paradigm,
- (non)-satisfactory didactic and methodological provision,
- choosing correct model of blended learning,
- involving students into active form of work, adding classroom spirit and overcome physical disconnection.

Personal experience of overcoming challenges of BL implementation



Core challenges:

to add classroom spirit into online classes,
to involve students into active forms of work,
to raise students' motivation to learning.



Interactive methods

The purpose of the work

to analyze the core features and challenges of blended learning in university education,

- to reveal the potential of interactive methods in blended learning implementation,
- to highlight the experience of their practical realization in the process of IT-specialists' training,
- to present the results of the pilot survey on the level of trainees' motivation to learning.

Typical blended learning techniques:

must be enhanced with interactive techniques

Typical BL techniques:
Flipped learning,
Gamification,
Digital storytelling,
PBL etc.

Common interactive techniques:

- lectures of selected kinds;
- game methods;
- debate methods;
- group solution method;
- project making.

Selected cases of BL enrichment and enhanced with interactive methods in the process of potential specialists' training

Bilousova, L., Gryzun, L. and Zhytienova, N., (2021). Interactive methods in blended learning of the fundamentals of UI/UX design by pre-service specialists. *Educational Technology Quarterly* [Online], 2021(3), pp.415-428. Available from: <https://doi.org/10.55056/etq.34>

Bilousova, L.; Gryzun, L. and Zhytienova, N. (2023). **Raising Students' Motivation in Terms of Blended Learning: The Example of Interface Design Mastering.** In *Proceedings of the 2nd Myroslav I. Zhaldak Symposium on Advances in Educational Technology - AET*; ISBN 978-989-758-662-0, SciTePress, pages 629-643. DOI: 10.5220/0012066600003431

Flipped Learning activity enriched with interactive techniques

Case # 1. Course “Interface design fundamentals”

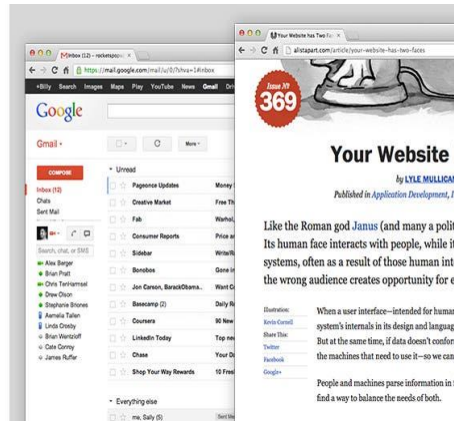
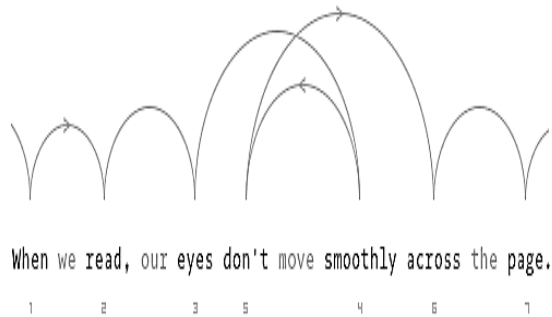
- Flipped learning lecture on the topic of psychological mechanisms of data perception in the form of *online mini-conference*.

There were assigned (**in advance**) different tasks to the pairs of students:

- to learn theoretical material on the features of different data perception,
- to find out proper examples which illustrate peculiarities of human vision and their connection with interface design,
- to elaborate presentation to take part in the mini-conference both as presenters (experts) and listeners.

Flipped Learning activity enriched with interactive technique

During online mini-conference: (interaction “Presenters-Listeners”)



Presenters: (1) shared their findings
(2) supported the prepared discussion with the visual examples of the both types of user interface illustrating fruitful and non-fruitful using of the psychological peculiarities.

Listeners were encouraged by the presenters and the teacher to discuss the connection of these findings with the problems of efficient interface:
They were attracted to speculation and making conclusions on the

- (1) efficiency of perception of isolated words and words connected into the long phrase;
- (2) the difference between task-driven and content-driven user interface;
- (3) the dependence of the efficiency of text comprehension in these types of interface;
- (4) the typographic decision-making at the interface design etc.

Case #2. Gamification technique within Classcraft enriched with team role game activities.

BL technique: gamification

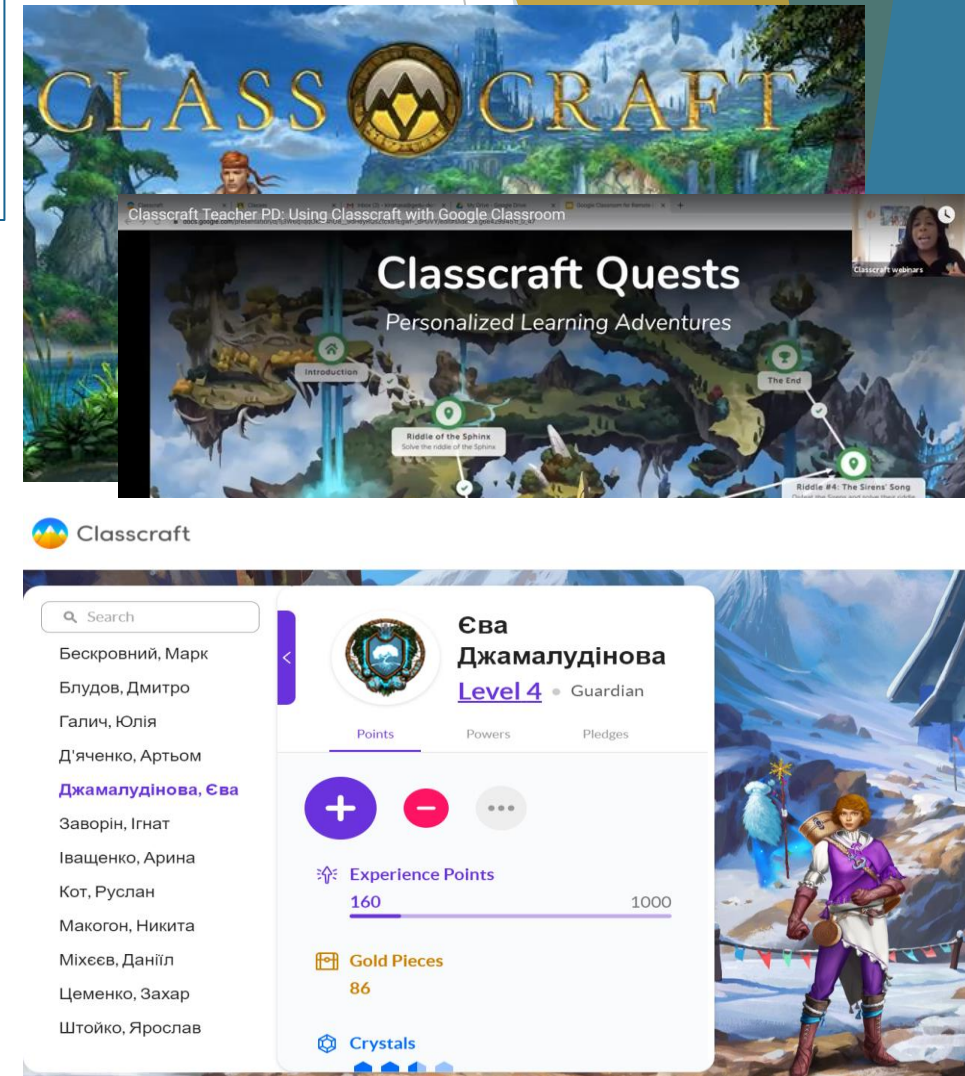
Interactive method: team role game activity

Digital tool: Classcraft

Each student should choose a character (a role of a Wizard, Warrior, Healer etc.) with proper skills, and cooperatively learn a topic via doing quests.

The students

- applied their skills regarding their role
- tried to contribute the best into their team success, doing quest tasks and obtaining different bonuses which gave the participants various additional opportunities
- helped their team to achieve common learning result in the most efficient way.



Case # 3. Group work upon real-life tasks

In the progress of learning how **to create a dynamic prototype of the site with landing pages** the students were assigned special tasks:

Imagine, that you are director of Coffe company which is a new player in the coffee trade market. ...

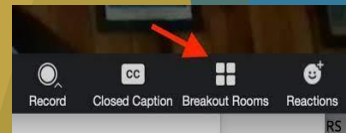
The company want to create a site to talk about coffee, about the company, our services, offers etc. In addition, the company is going to sell ready-made blends through the site.

The students were divided into the groups:

Analytics, Developers, Testers

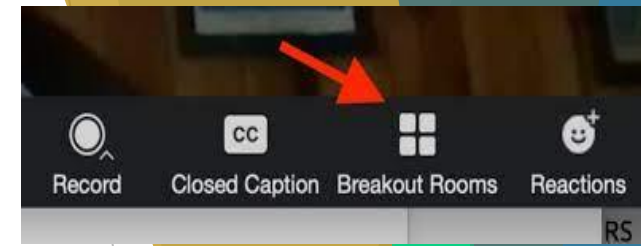
according to the roles which are typically fulfilled by UI/UX designers at the different stages of the prototype developing.

The teacher encouraged interaction within groups and between groups via debates based on Socratic method of discussion.



Case # 3. Group work upon real-life tasks

Zoom discussion in groups: Analytics, Designers, Testers



A screenshot of a Zoom meeting interface. At the top, there are video thumbnails for participants: Людмила Гризун, Краузе Діана, Гур'єв Євген, Марина Пашенко 122..., Григоренко Володимир..., and Viktoriia Herasimova. A 'Breakout Rooms - In Progress' window is open, showing three rooms: Room 1 (5 participants), Room 2 (5 participants), and Room 3 (6 participants). A 'Participants (13)' list is also visible on the right, showing names like Людмила Гризун (Host, me), Pavlo Tsypin 122-1, Sasha Novoseltsev 122-2, Viktoriia Herasimova, Григоренко Володимир, and Гур'єв Євген. A chat window at the bottom shows the message: 'Analytics, Developers, Testers. What are their'.

A screenshot of the 'Create teams' interface in Zoom. The title is 'Create teams' with a subtitle 'Drag and drop your students into teams. For tips on creating good teams, click here.' There are two team cards: 'Аналітики' (Analytics) and 'Дизайнери' (Designers). The 'Аналітики' team has members: Бескровний, Марк (Mage), Блудов, Дмитро (Guardian), Галич, Юлія (Guardian), and Д'яченко, Арт'юм (Guardian). The 'Дизайнери' team has members: Джамалудінова, Сва (Guardian), Заворін, Ігнат (Guardian), Макогон, Нікіта (Healer), Міхєєв, Данііл (Mage), and Штойко, Ярослав (Guardian).

A screenshot of a Zoom meeting interface. The main video shows a person standing outdoors in a city square. A 'Breakout Rooms - Not Started' window is open, showing three rooms: Room 1 (5 participants), Room 2 (5 participants), and Room 3 (6 participants). A 'Participants (19)' list is visible on the right, showing names like Людмила Гризун (Host, me), Kate Kramarenko 122-2, Pavlo Tsypin 122-1, Sasha Novoseltsev 122-2, Viktoriia Herasimova, and Аріна Чекарева 122-1. A chat window at the bottom shows the message: 'Analytics, Developers, Testers. What are their roles?'. The system tray at the bottom shows the date and time: 11:53 07.10.2022.

Case # 4. Digital storytelling BL technique enriched with group activities

BL technique: digital storytelling

Interactive method: group activity

Digital tools: Teleconference services, digital boards, Figma (Canva...)

Group task (# Iterface design fundamentals).

Creation of comic-based digital story with a didactic purpose to *investigate the influence of color pallet on the emotional stay of a user and implementation of its impact in the UI development.*

Discussion for group solution finding:

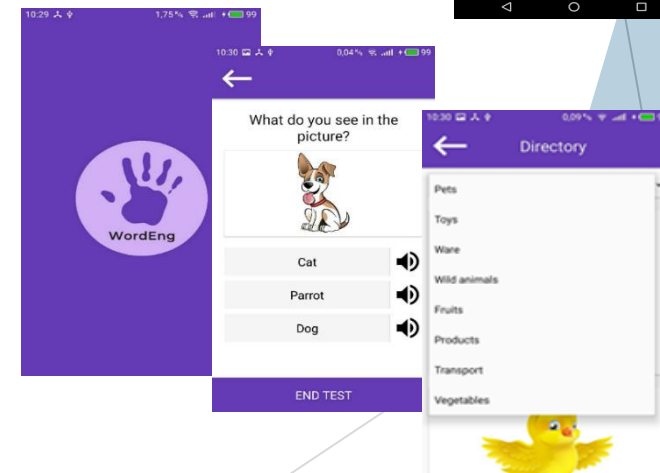
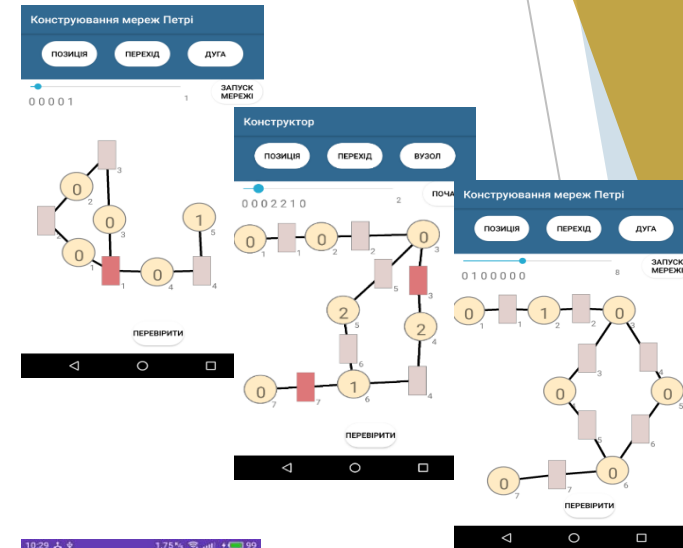
- (1) What is the aim of telling your story?
- (2) Who is the target audience of your digital story?
- (3) What feelings and ideas would you like to convey to the audience?
- (4) How can you sequence the story with a beginning, middle part and final?
- (5) Which tools could be used to create your digital comic-based story? etc.



Case # 5. Examples of the realized projects as a result of project based learning (PBL) within the course “Mobile technologies”

As the examples of successful PBL within the course we chose three projects devoted to the development of the aids for mobile learning:

- (1) application for processes modelling with the help of Petri nets;
- (2) mobile English simulator for schoolchildren;
- (3) mobile game for logical thinking development.



To sum up

Applied interactive methods:

- enabled to the students to feel the classroom atmosphere during online classes,
- promoted their cognitive eagerness to work with remote digital resources,
- contributed a lot into development of efficient learning communication, which helped overcome disconnection between the students and the feeling of dissociation inherent to blended learning.

To sum up. Pilot survey.

Influence on the motivation to learning

Motivation to learn is defined as the personal efforts which encourage to learning activities, ensure their continuity and point direction to the activities with the aim at achievement of student's desired goal. Learning motivation is seen as a psychological factor that plays a role in raising the spirit of learning for individuals.

The most common factors that affect motivation in the process of learning are:

- (1) attention,
- (2) appealing to learner's past experience,
- (3) positive attitude,
- (4) satisfaction.

Accordingly, **The survey was designed to evaluate whether the interactive methods introducing into the blended learning activities is in line with the four mentioned rules and detect what students' motivation levels are.**

The survey consists of 20 items comprising 4 subsections corresponding to the amount of the motivation dimensions (**attention, appealing to learner's past experience, positive attitude, and satisfaction.**). Each subsection included 5 items to get a feedback from the students on each motivation dimension. It measures learners' motivation level by applying a 5-point Likert-type scale (1 is strongly agree; 5 is strongly disagree).

Influence on the motivation to learning

Preliminary results of the survey

To obtain and test the designed survey reliability, it was conducted in one of the groups of pre-service IT-specialists after the courses where blended learning activities were enhanced with interactive methods. In total, 27 students took part in the survey.

The scale reliability test was conducted to estimate the result. The reliability of all the four scales (for each motivation dimension) on standardized Cronbach Alpha was 0.75 ($n=27$ on 20 items), which proved an acceptable reliability of the obtained result (Glen, 2020).

Range of students' motivation level as a result of the survey

Motivation Level	Scores	Total N=27	Percent.
High	4.0-5.0	13	48,15%
Intermedium	3.5-3.99	6	22,22%
Pre-Interm.	3.0-3.49	4	14,81%
Low	<3.00	4	14,81%

Influence on the motivation to learning

Preliminary results of the survey

About **70 %** of the trainees admitted that they attended online classes with desire because there were used **variety of gripping activities**; **communication with other students during debates and discussion** helped hold their attention; **the course stimulated their curiosity** and they speculated about the learning material after classes.

Over **50%** of the students said that during the course doing, **they were involved into the work upon the tasks that demonstrated them how this course material could be useful to them in their potential professional life.**

About **63%** of the course participants **revealed positive attitude to learning** admitting that the tutoring process within the course was entertaining; **team interaction during material mastering suggested them confidence in their abilities** to succeed in the course; during online classes **they felt themselves happy as if they worked with their peers in real classroom.**

About **72%** said that **they were pleased to work on the course in such a friendly and cooperative atmosphere.**

Thank you for your attention!



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