Digipedagogical skills for in-service teachers and teacher educators

SINI KONTKANEN

BESTEDU SEMINAR MARCH,2022

Content

- Digipedagogical skills and needs of teacher educators – preliminary findings

- Digipedagogical in-service teacher training in UEF

- Digital escape room – example of gamification of teaching during covid19

- Handbook for using Escape game pedagogy in teaching

Digital skills for Teacher educators

- Project of Ministry of Education and Culture

- Partners: University of Oulu, University of Lapland and UEF

- Aims to develope teacher educators' digipedagogy
  - Mentoring in case-courses
  - Workshops and seminars
  - UEF: Escape game pedagogy
  - OU: Stem/steam – makerpedagogy
  - UL: Distance teaching in art education
  - **Developing digipedagogical strategy for teacher education**

TOP Digital tools used in UEF teacher education courses
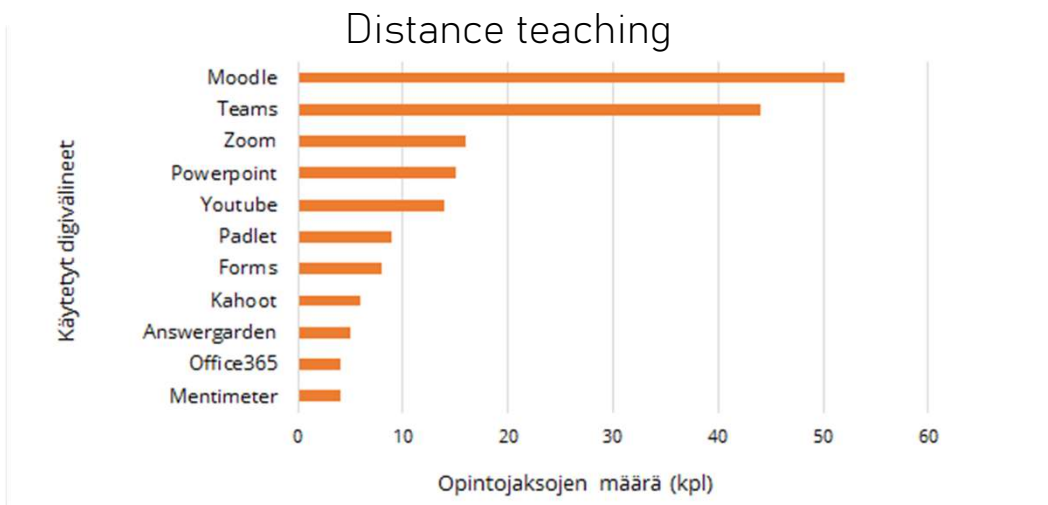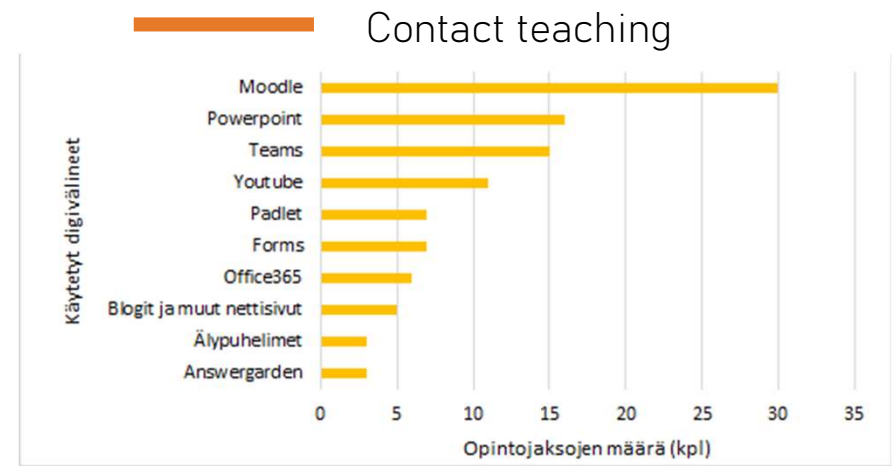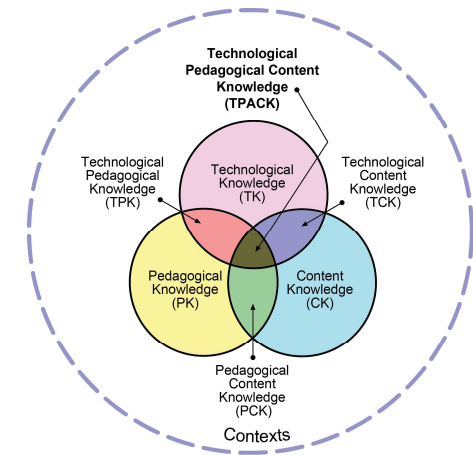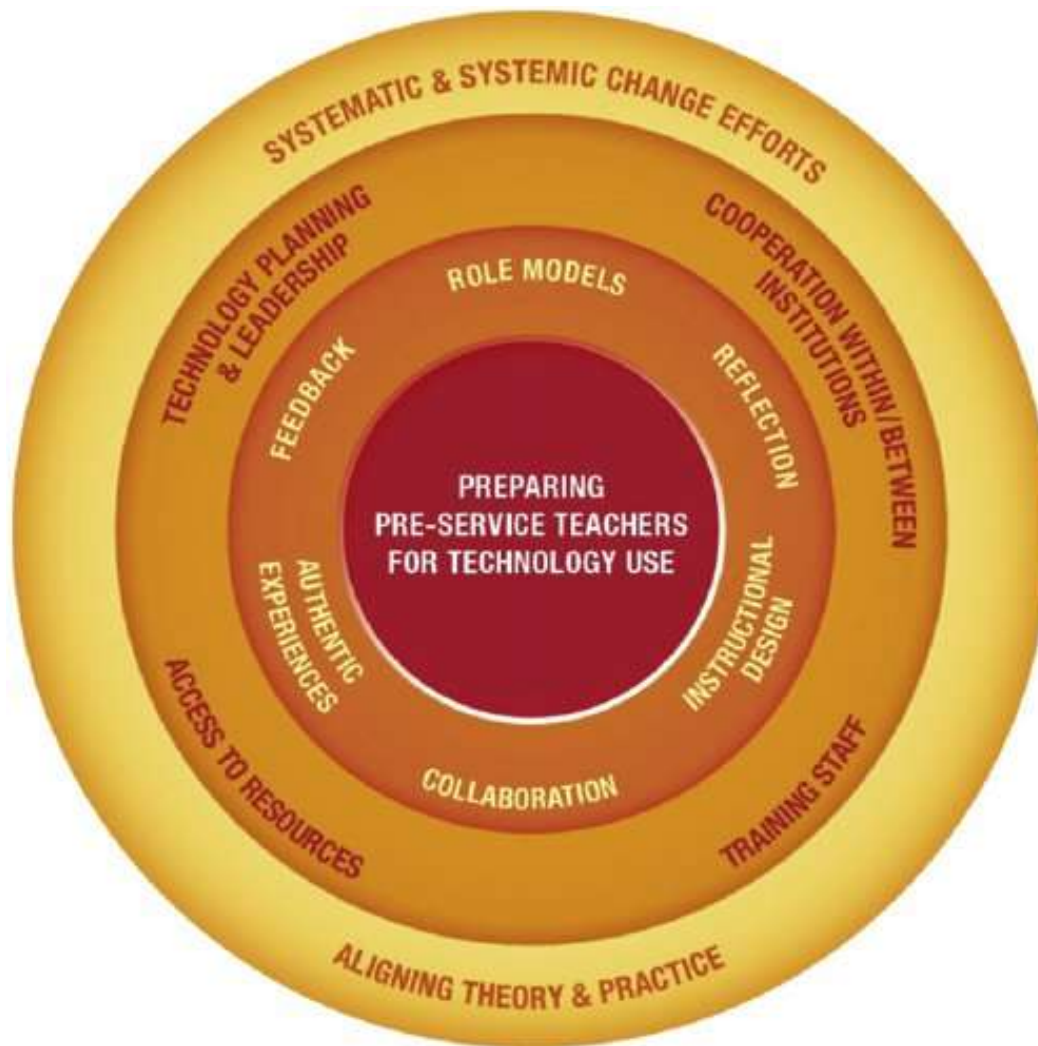
(Mishra & Koehler, 2006)

Tondeur, J., van Braak, J., Siddiq, F., & Scherer, R. (2016). Time for a new approach to prepare future teachers for educational technology use: Its meaning and measurement. *Computers & Education*, 94, 134–150.

Teacher educators' views of ICT in teacher education (preliminary findings)

- Teacher education staff in two universities

- Collected in November–december 2021

- N=83

- Questionnaire: 33 items SQD+TPK

- Scale 1–6

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TPKSumma	83	1.67	6.00	3.9076	.98005
SQDRoleModel	83	1.00	6.00	3.4819	1.16899
SQD_Reflection	83	1.00	6.00	3.3494	1.14361
SQD_Design_Ict	83	1.00	6.00	3.6546	1.19444
SQD_Students_Collaboration	83	1.00	6.00	3.8102	1.10748
SQD_Autentic_Experience	83	1.00	6.00	3.6124	1.08610
SQD_Offer_Feedback	83	1.00	5.75	3.1536	1.08751
Valid N (listwise)	83				

Strengths: Technological–pegogical knowledge, Students collaboration

Challenges: ICT use in assessment, Feedback with digital tools

3 Clusters

- Cluster 1 "Average"
  - 50%
  - Means of answers 3-4
- Cluster 2 "Modest"
  - 25%
  - Means of answers 2-3
- Cluster 3 "Experts"
  - 25%
  - Means of answers 4-5

Final Cluster Centers

	Cluster		
	1	2	3
TPKSumma	3.85	2.76	4.95
SQDRoleModel	3.40	2.10	4.76
SQD_Reflection	3.20	2.14	4.60
SQD_Design_Ict	3.63	2.23	4.88
SQD_Students_Collaboration	3.67	2.64	5.01
SQD_Autentic_Experience	3.47	2.41	4.85
SQD_Offer_Feedback	3.03	1.88	4.43

Number of Cases in each Cluster

Cluster	1	39.000
	2	20.000
	3	24.000
Valid		83.000
Missing		.000

Training needs

"My skills are weak, so I feel I need training. Maybe general good applications to support teaching." (T46)

Good and easy to use applications and practices suitable for teaching

Continuous training and updating of knowledge / skills

For students

- Activating methods
- Teamwork ja supporting collaborative learning
- Supporting community in distance learning

Teams and its more versatile use

Introduction and training of new applications

Videos, editing ja streaming

"I believe there would be enough to learn and it would be nice to have a variety of teaching tools available. On the other hand, there is too much, for both students and teachers, if too many platforms and applications start to be used." (T51)

Conclusions or questions to deal

o What is the minimum skills for teacher educators? Can we even say that?

o What is the path for pre-service to develop their digipedagogical skills? How we can support that?

o We have "experts" – how to spread their knowledge? How to support "modest"?

o What is the new "normal"? How is teaching in higher education changing?

"I use the applications relatively smoothly. Maybe at the moment, the "new normal" i.e. post-pandemic time is challenging us to think about what digital pedagogy and e-learning are in the pedagogical sense. It would be good to think about this and what challenges this new time brings from pedagogical perspective." (T76)

# Training in–service teachers to digital pedagogy

- DigiErko – Specialization program 60Cp

- Educational Use of Information and Communication Technologies 25 Cp

- Media skills in Digital learning environments 5 Cp

DigiErko Training program –
Learning and teaching in digital environment

DigiErko in UEF

- 2 years, 60 Cp

- Blended learning: 8 two-day seminars, web-based learning, webinars, group exercises

- Specialist, lecturers

- Personal development project (20 Cp)

- Networking, sharing of knowhow and practices
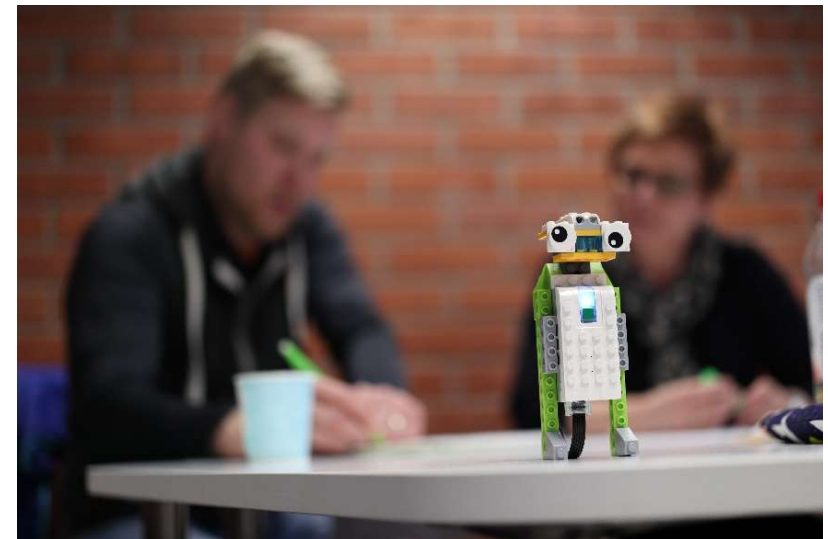
UEF// DIGIERKO
OPPIMINEN & OPETTAMINEN DIGITAALISISSA YMPÄRISTÖISSÄ

DigiErko Training program

From teachers to

- Education developers
- ICT in teaching - advisors
- School level ICT-tutors
- Experts in digital peadgogy

Participants

- Teachers who have worked at least 3 years in schools

- Teachers from every school levels

- Enthusiasm and motivation for development of digital pedagogy

- "Digital leap" – Change in National curriculum

- Covid19 –pandemia – Changes in pedagogy especially in higher education

UEF// DIGIERKO
OPPIMINEN & OPETTAMINEN DIGITAALISISSA YMPÄRISTÖISSÄ

DigiErko Network

Three universities together

- Turku, Helsinki and Eastern Finland
- Teacher training, schools, research and development projects in the field of digital pedagogy
- Shared expertise
- Webinars, podcasts, blog, research
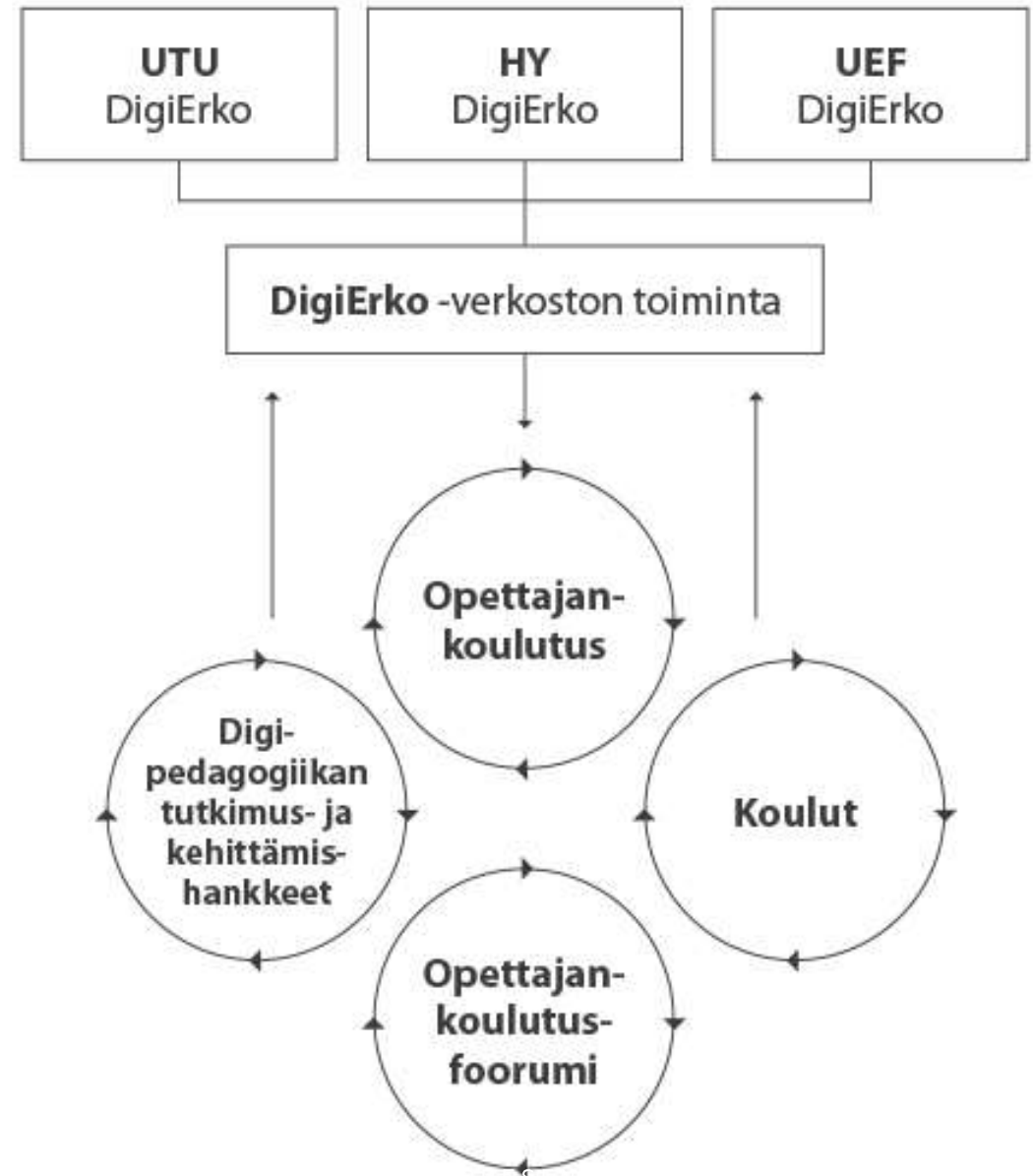
Motivation for training (N=43)

Group 1 "sent trainees" (N=9)	Group 2 "motivated tutors" (N=14)	Group 3A "example for others" (N=11)	Group 3B "not missing the boat" (N=9)
• Organisation support • Already deeply involved in digital pedagogy • Municipal level	• Tutors, coordinators • Need for expertise and sertificate • School level	• Must-have digital development • Developing inside out • "Digital leap" in own teaching	• Must-have personal development • Getting credits for job market • Staying in job market

Personal development projects are innovative and creative

Teaching and learning is rapidly evolving in digital environments

Themes: formative assessment, strategic networks, digital pedagogy tutoring, practical innovations

DigiErko – Practices developed during Covid

- Conference in Altspace VR
  - o DigiErko–students presented their posters in small groups

- EduLarp in Zoom/Teams

- "Distance walk meetings"
  - o DigiErko –students got topic to discuss about during their walk + photo tasks

- 6-3-5 method in brainstorming with Teams and online PP
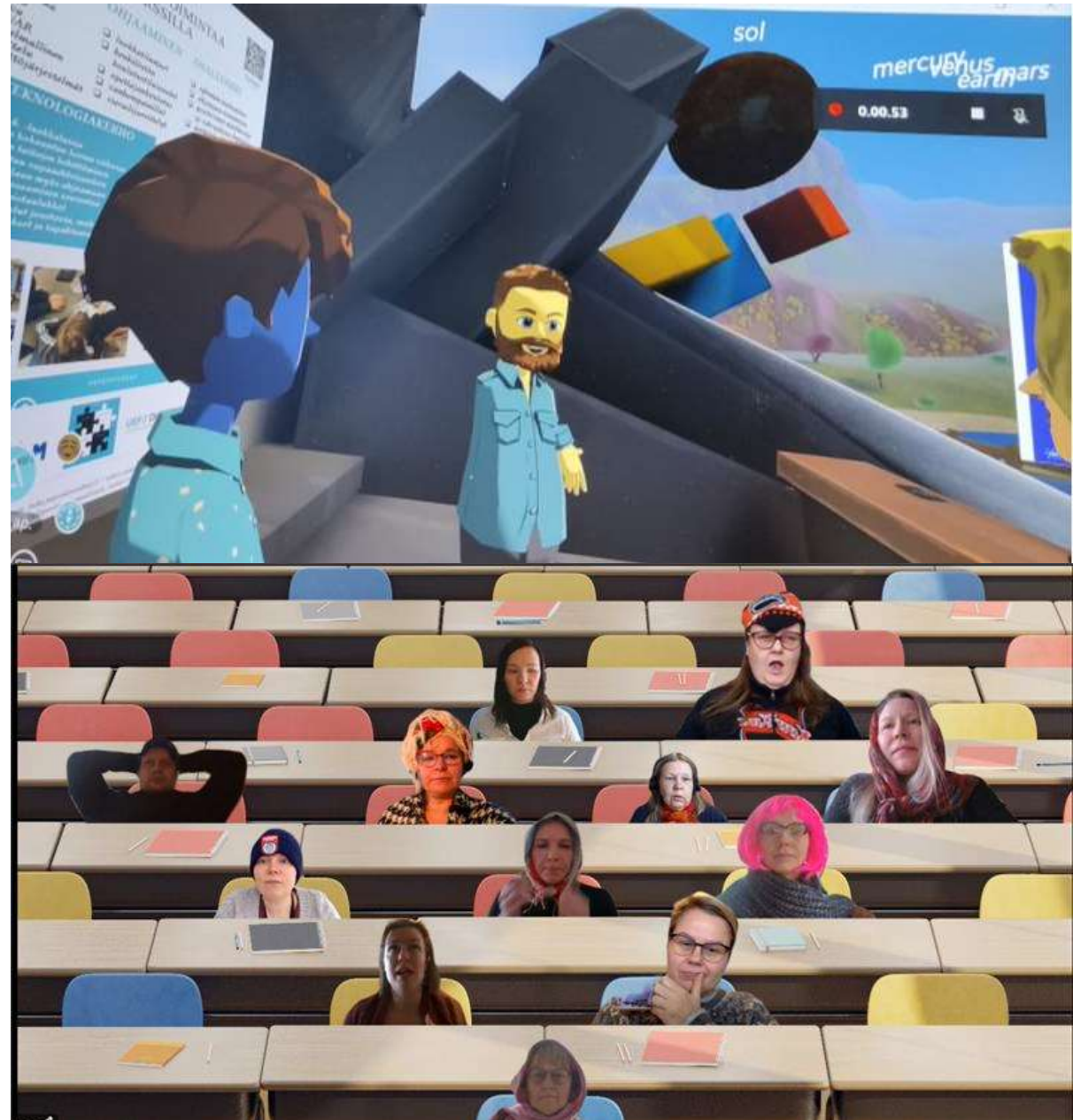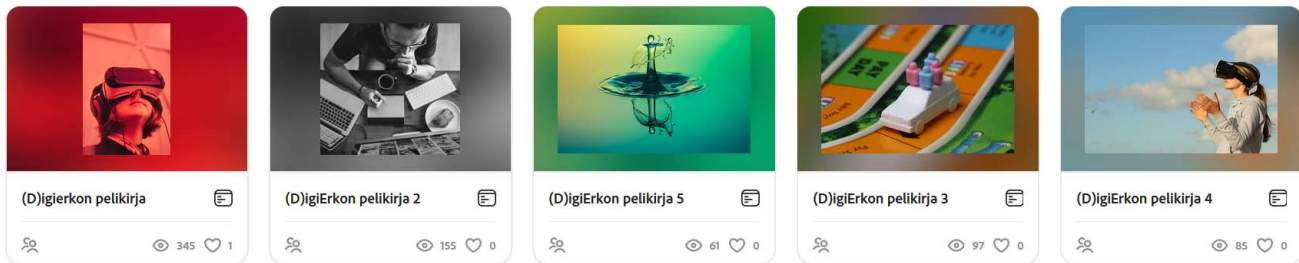
(D)igierkon pelikirja	(D)igiErkon pelikirja 2	(D)igiErkon pelikirja 5	(D)igiErkon pelikirja 3	(D)igiErkon pelikirja 4
345 1	155 0	61 0	97 0	85 0

Digital escape room – example of gamification of teaching during covid19

- Content to learn: Gamification in learning

- Method to learn: Digital escape room

"The game book was a really great example of how playfulness and mysteries can be realized even in "serious" study." (Student)
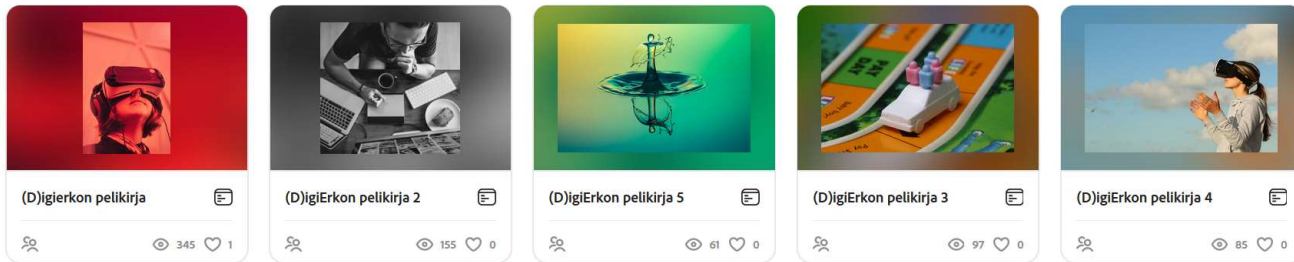
Digital escape room – example of gamification of teaching during covid19

- Content to learn: Gamification in learning

- Method to learn: Digital escape room

- Technology used:
  - 5 Adobe spark pages: Links to texts, podcasts, videos to learn

"Time flied. I just couldn't stop until everything was resolved." (Student)

"The game book was a really great example of how playfulness and mysteries can be realized even in "serious" study." (Student)

| (D)igierkon pelikirja | (D)igiErkon pelikirja 2 | (D)igiErkon pelikirja 5 | (D)igiErkon pelikirja 3 | (D)igiErkon pelikirja 4 |
| 345 ♡ 1 | 155 ♡ 0 | 61 ♡ 0 | 97 ♡ 0 | 85 ♡ 0 |
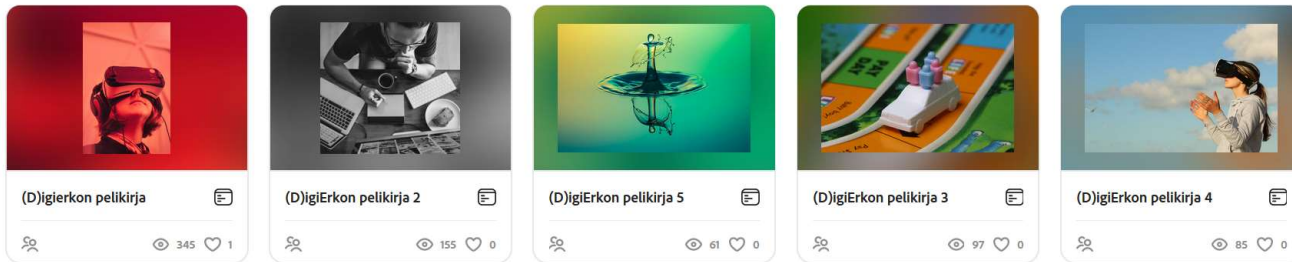
Digital escape room – example of gamification of teaching during covid19

- Content to learn: Gamification in learning

- Method to learn: Digital escape room

- Technology used:
  - 5 Adobe spark pages: Links to texts, podcasts, videos to learn
  - Google forms: Locks

"Time flied. I just couldn't stop until everything was resolved." (Student)

"The game book was a really great example of how playfulness and mysteries can be realized even in "serious" study." (Student)

Digital escape room – example of gamification of teaching during covid19

- Content to learn: Gamification in learning

- Method to learn: Digital escape room

- Technology used:

  o 5 Adobe spark pages: Links to texts, podcasts, videos to learn

  o Google forms: Locks

  o Problems to open the locks: Answergarden, Paddlet, 360 photo in Thinglink

"Wau! I got hooked and in FLOW mode, was "forced" to do the whole task in one go." (Student)

"Time flied. I just couldn't stop until everything was resolved." (Student)

"The game book was a really great example of how playfulness and mysteries can be realized even in "serious" study." (Student)

(D)igierkon pelikirja	(D)igiErkon pelikirja 2	(D)igiErkon pelikirja 5	(D)igiErkon pelikirja 3	(D)igiErkon pelikirja 4
👁 345 ♡ 1	👁 155 ♡ 0	👁 61 ♡ 0	👁 97 ♡ 0	👁 85 ♡ 0
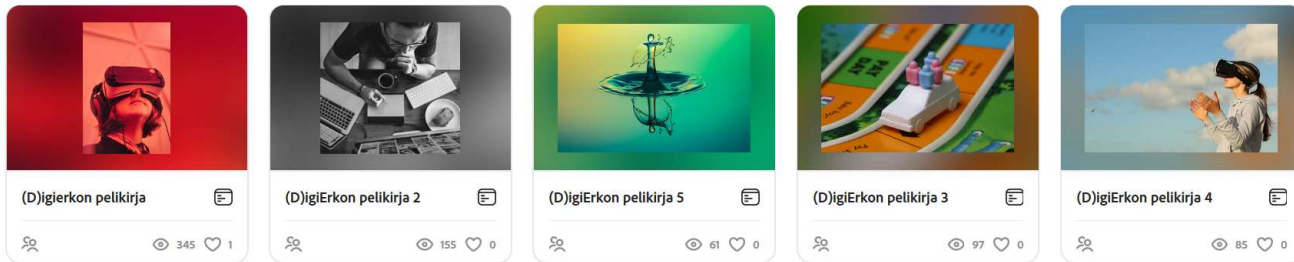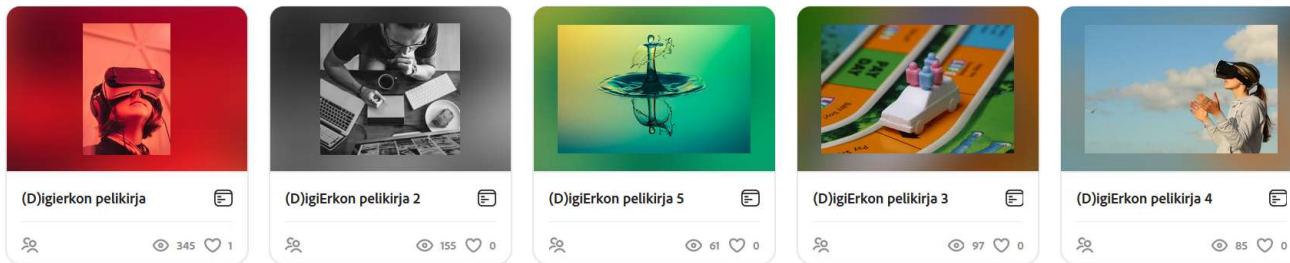
Digital escape room – example of gamification of teaching during covid19

- Content to learn: Gamification in learning

- Method to learn: Digital escape room

- Technology used:
  - 5 Adobe spark pages: Links to texts, podcasts, videos to learn
  - Google forms: Locks
  - Problems to open the locks: Answergarden, Paddlet, 360 photo in Thinglink
  - Online-help: WA-group
  - Feedback of material/control: Online Word document

https://express.adobe.com/page/nkbebhiHLPoSB/

"Wau! I got hooked and in FLOW mode, was "forced" to do the whole task in one go." (Student)

Handbook for using Escape game pedagogy in teaching

- Open handbook for teachers to use escape game pedagogy in their teaching

- Content:

  Theory of gamification

  Escape game pedagogy and experience pedagogy

  Escape games as a learning environment

  Why is pedagogical escape?

  Escape Games and Curriculum

  Skills for the future

  Escape games and curriculum criteria

Escape game elements

  Story and theme

  Puzzles and tasks

  Structure

Escape game design and implementation

Evaluation

  Teacher evaluation form

  Player self-assessment and peer feedback forms

Examples of ready-made games and tasks

Podcast episodes and Escape Seminar presentations

Miksi pedagoginen pakopeli kannattaa?

Mitä pedagogisen pakopelin avulla voi oppia?

Pakopelin syventyminen kokemuksellisuuden ja monaistillisuuden avulla vaikuttaa positiivisesti muistamiseen ja mieleen palauttamiseen.

Pakopelillä on mahdollista luoda vahvoja kokemuksia ja elämyksiä, jotka vahvistavat oppimiskokemusta.

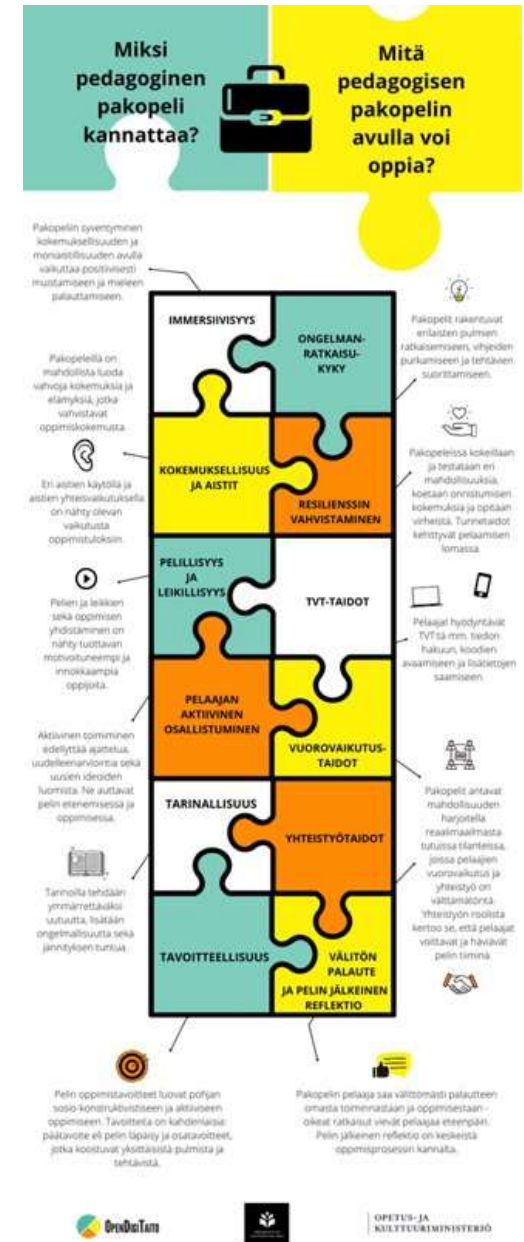Eri aistien käyttöä ja aistien yhteisvaikutuksella on nähty olevan vaikutusta oppimistuloksiin.

Pelien ja leikkien sekä oppimisen yhdistäminen on nähty tuottavan motivoituneempi ja innokkaampia oppijoita.

Aktiivinen toiminta edellyttää ajattelua, uudelleenarviointia sekä uusien ideoiden luomista. Ne auttavat pelin etenemisessä ja oppimisessa.

Tarinoilla tehdään ymmärrettäväksi vaikuutta, lisätään ongelmallisuutta sekä jännityksen tuntua.

Pelin oppimistavoitteet luovat pohjan sosio-konstruktivistiseen ja aktiiviseen oppimiseen. Tavoitteena on kahdenlaisia päätavoite eli pelin läpäisy ja osatavoitteet, jotka koostuvat yksittäisistä pulmista ja tehtävistä.

IMMERSIIVISYYS

ONGELMAN-RATKAISU-KYKY

KOKEMUKSELLISUUS JA AISTIT

RESILIENSSIN VAHVISTAMINEN

PELILLISYYS JA LEIKILLISYYS

TVT-TAIDOT

PELAAJAN AKTIIVINEN OSALLISTUMINEN

VUOROVAIKUTUS-TAIDOT

TARINALLISUUS

YHTEISTYÖTAIDOT

TAVOITTEELLISUUS

VÄLITÖN PALAUTE JA PELIN JÄLKEINEN REFLEKTIO

Pakopelit rakentuvat erilaisten pulmien ratkaisemiseen, vihjeiden purkamiseen ja tehtävien suorittamiseen.

Pakopeleissa kokeillaan ja testataan eri mahdollisuuksia, koetaan onnistumisen kokemuksia ja opitaan virheistä. Tunnetaidot kehittyvät pelaamisen lomassa.

Pelaajat hyödyntävät TVT:ta mm. tiedon hakuun, koodien avaamiseen ja lisätietojen saamiseen.

Pakopelit antavat mahdollisuuden harjoitella reaalimaailmasta tutuissa tilanteissa, joissa pelaajien vuorovaikutus ja yhteistyö on välttämätöntä. Yhteistyön roolista kertoo se, että pelaajat voittavat ja häviävät pelin yhdessä.

Pakopelin pelaaja saa välittömästi palautteen omasta toiminnastaan ja oppimisestaan - oikeat ratkaisut vievät pelaajaa eteenpäin. Pelin jälkeinen reflektio on keskeistä oppimisprosessin kannalta.

OpenDigiTaito   OPETUS- JA KULTTUURIMINISTERIÖ

Thank you!

UNIVERSITY OF
EASTERN FINLAND

uef.fi