

Developing Teaching Competencies for Implementing Blended Learning in Higher Education: Experiences of Faculty of Science, University of Kragujevac

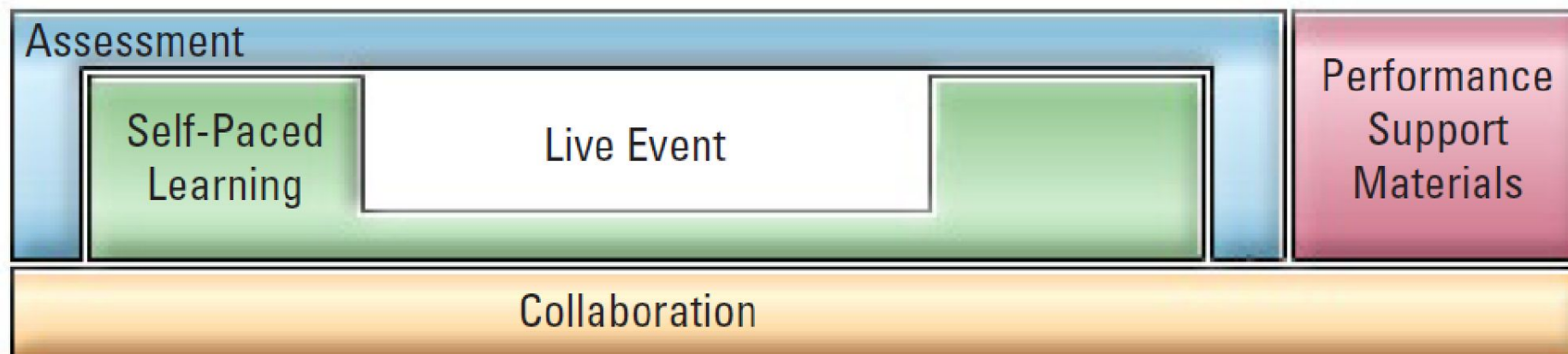
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Educational Theory and Practice - Evolution

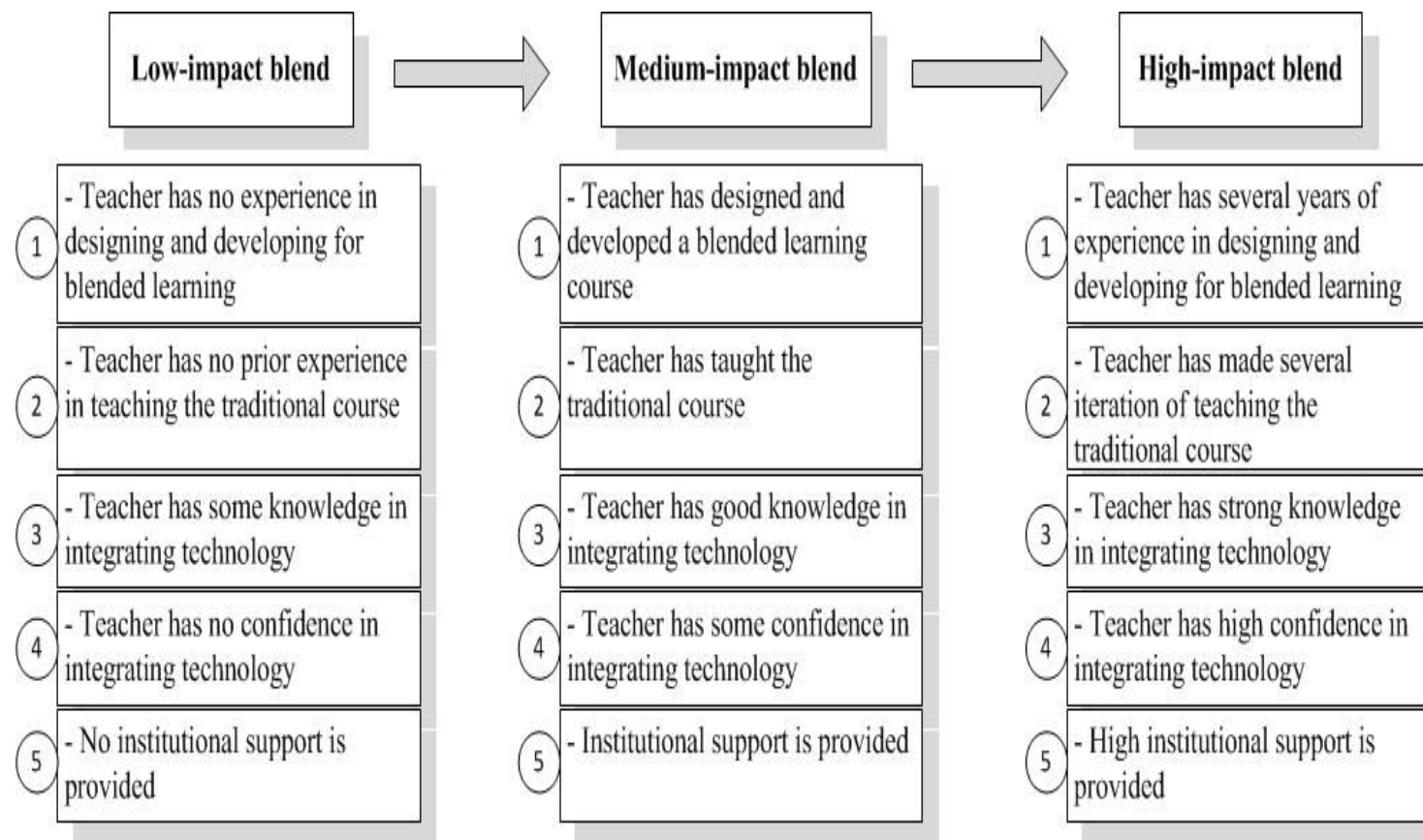
- constant effort for improvement and changes caused by different cultural, economic, and overall civilization circumstances
- new educational goals and outcomes
- the COVID 19 pandemic circumstances have shown importance the flexibility the educational system
- Teachers were additionally motivated but also forced to integrate technology in their instruction regardless of how willing they were to take such a turn, or how prepared they were to implement new strategies

Blended Learning

- A teaching model – combining the best aspects of traditional face-to-face teaching and the online interactive teaching, using suitable digital and communication technologies



Blended Learning



Building Competencies for BL Implementation

- Support for continuous education and development of teaching skills **should be well planned and efficient.**
- Institution must be **aware of the current teaching practices** of its staff, their attitudes, skills, capabilities, and their preparedness for new practices.
- Preparing **supporting materials, training, workshops**, and similar, for educating educators must be planned accordingly.
- **Delivery methods must be suitable and effective.** Such courses must be designed to help teachers reach the necessary skill level in an efficient way and be conducted in a way that they can fit into tight university teacher schedules.
- studying, and applying good practices from referent institutions with rich experience in the field can reduce development and experimentation during training design

Fostering BL implementation on our Faculty

- Activities within **Erasmus+ project - TeComp** (Strengthening Teaching Competencies in Higher Education in Natural and Mathematical Sciences).
- early 2019.
 - Analysis of current teaching practices and teaching competencies
- late 2019 until early 2022
 - the Faculty of Science project team members, along with colleges from other partner universities, **attended 11 trainings** related to contemporary pedagogical approaches, methodologies, and educational technologies.

9 were conducted by teachers from European universities (University of Gent, University of Oviedo, University of Granada, University of Ostrava, University of Metej Bel in Banska Bistrica) experienced in teaching methodologies and contemporary teaching practices.

Screening of teaching practices and competences

- 47 lecturers at Faculty of Science have participated
 - 42,55% were younger lecturers (up to 12 years of experience)
 - 57,45% were older lecturers (more than 12 years of teaching experience)
- **31,82% of younger lecturers** and **8% of older lecturers did have some courses** during their studies concerning electronic educational technologies
- **59,09% of younger** and **68% of older** lecturers **attended teaching methodology courses** during their studies
- estimated **time spent on teaching** activities, preparations, and communication with students against the total working hours participants - relative average of 35%.
- The most important barrier to applying modern teaching technologies **46.81% of teachers stated a lack of teacher competencies**, while **34.04% stated a lack of time**, which highly relates to competencies and inability to improve skills in a short time.

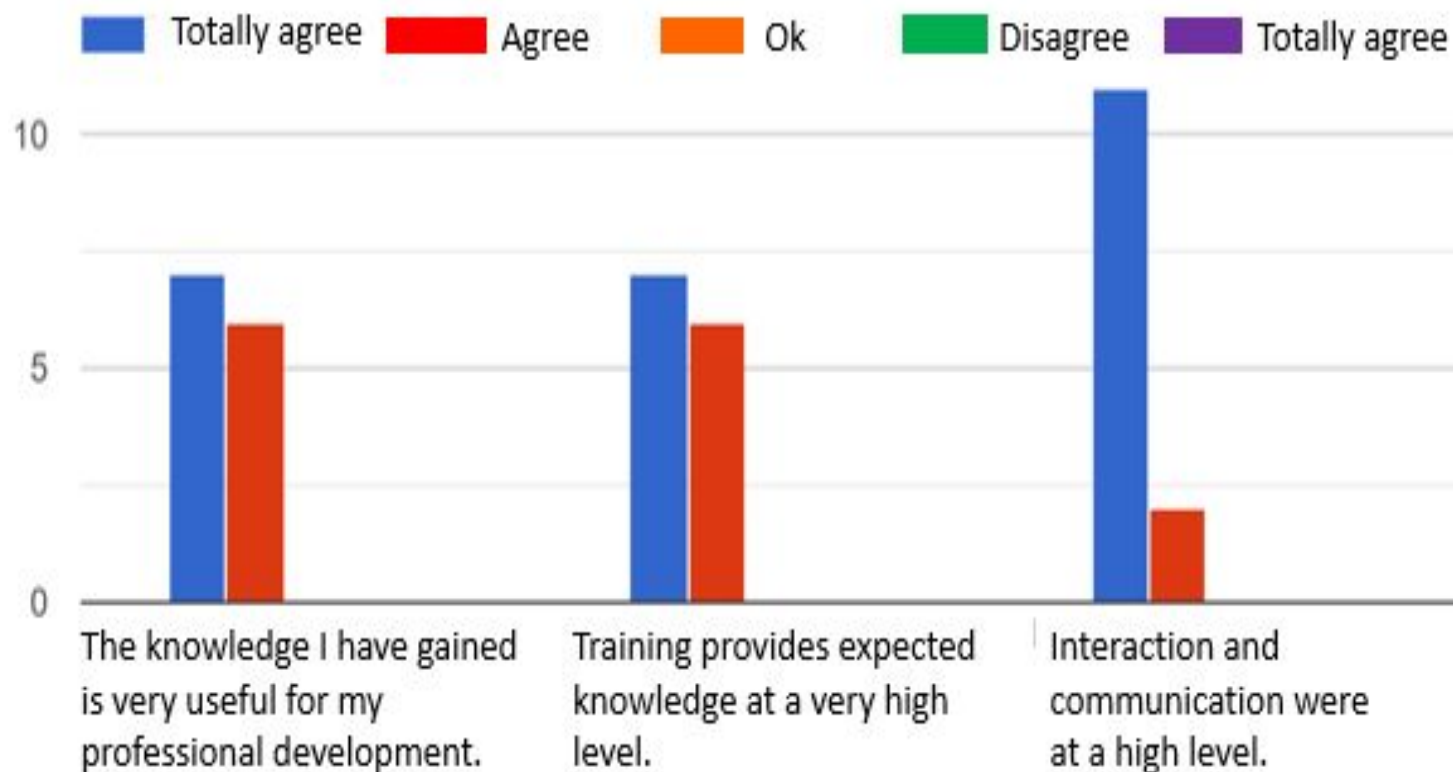
Educational interaction and communication - Gent

- Highly rated for its usefulness and organization by all participants.
- Held in an online form.
- Designed as a hands-on course.
- The themes covered - Knowledge clips, Video feedback, Posters, Discussion and collaboration in higher education, Animations as an interaction and communication strategy, and Asking questions.
- Six two-week cycles (one cycle per theme and one task for each theme)
- . Participants received materials and information about theories and research that supported design guidelines for completing each task.
- Participants were working in small groups (usually three members). Each task elaboration of each participant was the subject of peer review of group members on the base of a feedback cycle, meaning that the participant gives feedback on the feedback received.

Educational interaction and communication - Gent

- The course held by the University of Gent was attended and **finished by 14 staff members** from the Faculty of Science (3 professors and 11 assistants).
- 13 of them participated in a survey on course quality and their own previous competences.
- 84,6% of participants stated that they did not previously attend any training on the improvement of teacher competencies.

Educational interaction and communication - Gent



Attitudes on University of Gent course quality and applicability

- Highly rated with an average mark of 4,85, on a scale from 1 to 5.
- 69,2% - very satisfied with the training organization and structure.
- 30,8% said that they plan to participate in similar training in the future, while 69,2% stated that they will probably participate.

Educational interaction and communication - Gent

- Participants were willing to write a comment, such as
“The impressions are phenomenal, the tasks were creative and purposeful. I will try to include as many learned things as possible in my future pedagogical work”
“I think that the training is extremely useful having in mind the current situation of teaching because it provides an opportunity to immediately adopt the acquired knowledge and skills in the teaching process”.

Further project activities

- Experiences collected from described and all other trainings resulted in:
 - developing training materials
 - conducting the professional seminar “University Teaching - Can It Be More Efficient?”
- The aim of the seminar was to:
 - present practices in blended learning implementation on higher education courses,
 - along with supporting software tools,
 - to raise teachers' awareness of blended learning possibilities and to motivate them to familiarize themselves with the available tools.

Seminar *University Teaching - Can It Be More Efficient?*

- Conducted over a period of four weeks, where each week assumed one term for a meeting
- **The first term**
 - **Common themes** session covering the following themes:
 - Blended learning - potential for applications in higher education
 - Flipped classroom - how and why?
 - Visualization in teaching and its effects - presentation of empirical data
 - Tools for creating educational video content, Interactive video - a way to increase students' motivation and attention.
 - **Parallel sessions** dedicated to teaching methods and educational technologies practices in different scientific fields of education - section for biology and ecology, section for physics and chemistry, section for mathematics and informatics covered

Seminar *University Teaching - Can It Be More Efficient?*

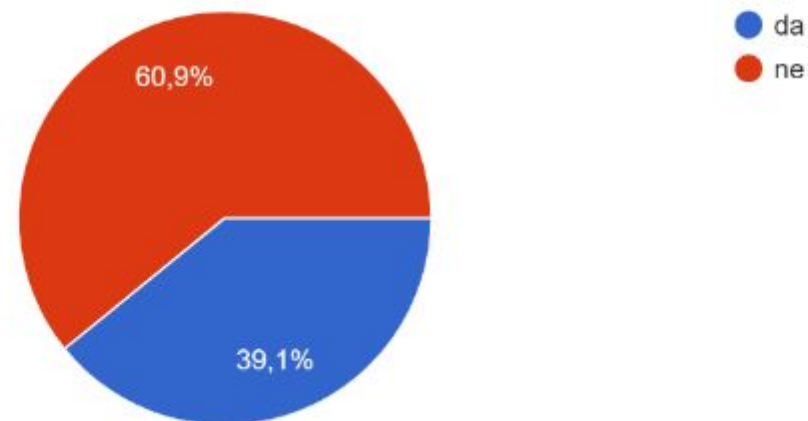
- At the end of the first term of the seminar, **participants were encouraged to transfer some of the presented practices to their actual course setting.**
- Support for this task was provided within two terms for discussion meetings.
- The fourth and final term was dedicated to presentations and discussion on materials participants delivered as final.
- All meetings were held online.
- Upon completion, participants were asked to give feedback on seminar.

Seminar *University Teaching - Can It Be More Efficient?*

- Among 121 teachers and associates who did not attend courses held by foreign universities within TeComp activities, 23 participated in all seminar activities and gave their feedback

Da li ste ranije učestvovali na sličnim seminarima ili konferencijama, čija tema je bila univerzitetska nastava?

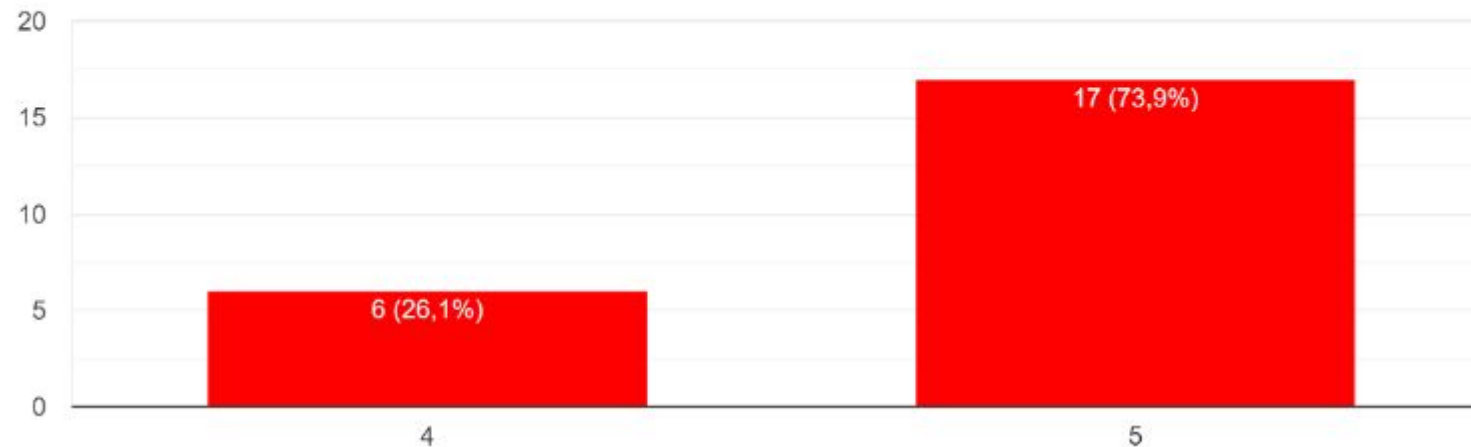
23 одговора



Seminar *University Teaching - Can It Be More Efficient?*

Kako ukupno ocenjujete Stručni seminar "UNIVERZITETSKA NASTAVA - MOŽE LI EFIKASNIJE?" održan na PMF u Kragujevcu? Upišite ocenu od 1 do 5.

23 odgovora

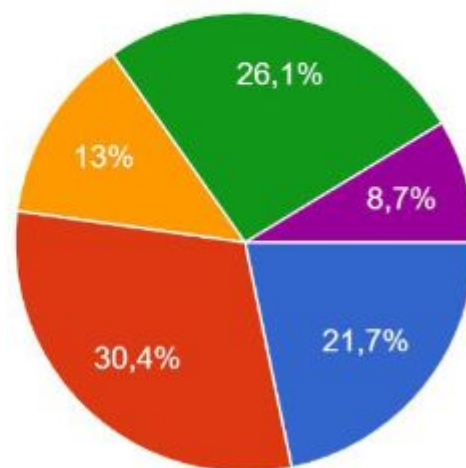


The course was rated with an average mark of 4,47, on a scale from 1 to 5.

Seminar *University Teaching - Can It Be More Efficient?*

Koji deo Seminara smatrate najkorisnijim za vašu nastavnu praksu?

23 одговора



- I - Opšti deo radionice
- II - Radionica za biologiju i ekologiju
- III - Radionica za fiziku i hemiju
- IV - Radionica za matematiku i informatiku
- V - Diskusija

Seminar *University Teaching - Can It Be More Efficient?*

- Suggestions for future seminars, like
 - “to organize more seminars with a smaller number of topics (lecturers), to show/try some ICT tools in more detail”,
 - “I would like the realization of such training to be more frequent, perhaps to organize a similar meeting every two or three years”
 - “I think that the entire training is very useful and that as many teachers as possible should join”.
- Additionally, some of the participants have implemented some of the presented practices and used demonstrated tools in their courses immediately after training completion, which presents real proof of training concept value.

Conclusions

- There is a positive attitude and willingness of teachers to introduce new methods and teaching practices, which is a prerequisite for anything further
- The first trainings were successfully implemented, but surveys and discussions revealed a need for more systematic support for teachers through organizing activities and trainings on a more regular basis.
- A further step would be defining a strategy for continuous development of teaching competencies that will ensure constant improvement and sustainability of achieved results.

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