

A thick black L-shaped frame surrounds the text. The top horizontal bar is on the left, the left vertical bar is on the left, and the bottom horizontal bar is on the right.

DISCUSSION AND COLLABORATION IN HIGHER EDUCATION

**Writing scenarios for math class
lessons in elementary school**

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Learning goal

The goal of collaborative learning and discussion of the students in the subject Didactics of mathematics is the development of students' competencies for creating a written daily scenario for math class.

Organization

Students were divided into three-member groups, and to some extent responded to their tasks by independent work, by analyzing necessary teaching materials and developing critical thinking towards teaching materials and teaching contents, but it was also necessary to cooperate and discuss with their colleagues because their specific tasks were related.

Organization

The tasks were divided as follows:

- Student 1 analyzed the curriculum for the appropriate primary school grade, analyzed the math lesson, teaching and learning contents, method of teaching and learning, monitoring and evaluation of teaching and learning, in accordance with official proposals and regulations.

Organization

The tasks were divided as follows:

- Student 2 analyzed textbooks of different publishers, analyzed the definitions, claims, proofs of claims, rules and procedures that students should adopt.

Organization

The tasks were divided as follows:

- Student 3 also analyzed textbooks of different publishers and discussed examples and tasks that should be solved with students during two classes (one class of introducing the new content and one class of exercise).

Organization

Then students discussed and referred each other to their results and suggestions of statements, definitions, rules and procedures, as well as examples and tasks that in their opinion should be connected into one whole scenario, in accordance with the instructions and requirements presented in the curriculum.

Organization

Then the students worked again, each on their own tasks:

- Student 1, based on the way the classes will be realized, analyzed the characteristics of different teaching methods, forms of work, listed the appropriate teaching methods and forms of work in the scenario, defined the goal of the class and correlation with other math contents and learning contents from another school subjects.

Organization

Then the students work again, each on their own tasks:

- Student 2, based on the way the classes will be realized, analyzed and determined the educational standards of student achievements, learning outcomes, interdisciplinary competencies that students develop in the given classes, listed the keywords and teaching aids used in the class.

Organization

Then the students work again, each on their own tasks:

- Student 3 created the expected layout of the blackboard at the end of the class, listed ways to check the achievement of outcomes and presented the work of his group.

Organization

Before presenting the students' works, the students met again (online), discussed and introduced each other to the aspects of daily scenario for the class that they analyzed and elaborated in the second part of their work, and on that occasion gave the written scenarios a final look.

Estimated time for work and method of self-evaluation

After seven days from the beginning of the work, the students met for the first time (online), and then after another seven days they met for the second time (online), where, by working together, they determined the final appearance of two daily scenarios for the class.

Estimated time for work and method of self-evaluation

Student whose activities are evaluated	Student who evaluates the work of his colleague	Activity	Assessment
		The level of fulfillment of personal responsibilities in the first part of the paper.	
		Level of participation in the first discussion and joint activities, contribution in joint work, in the first part of collaborative work.	
		Giving constructive suggestions during the first discussion.	
		The level of fulfillment of their personal responsibilities in the second part of the work.	
		Level of participation in the second discussion and joint activities, contribution to the joint work, in the second part of the collaborative work.	
		Giving constructive suggestions during the second discussion.	
		Taking the initiative in working together.	

Self - evaluation results

Activity	Arithmetic mean for assessment for the colleague	Arithmetic mean for self -assessing
The level of fulfillment of personal responsibilities in the first part of the paper.	5.00	4.85
Level of participation in the first discussion and joint activities, contribution in joint work, in the first part of collaborative work.	4.975	4.8
Giving constructive suggestions during the first discussion.	5.00	4.8
The level of fulfillment of their personal responsibilities in the second part of the work.	5.00	4.85
Level of participation in the second discussion and joint activities, contribution to the joint work, in the second part of the collaborative work.	5.00	4.85
Giving constructive suggestions during the second discussion.	5.00	4.85
Taking the initiative in working together.	4.925	4.8
Total	4.98	4.83

Students' impressions about discussion and collaboration

По договору са колегиницама, моје задужење је било „Студент 2“, односно, анализа уџбеника и збирки задатака, анализа дефиниција, теорема, као и анализирање и одређивање стандарда постигнућа, исхода, међупредметних компетенција.

Веома сам задовољна својом групом, ангажованошћу, радом и трудом својих колегиница. Иако сам била у страху како ће све испасти и какву ћемо комуникацију остварити, сад са сигурношћу могу рећи да смо све три дале свој максимум.

Рад у групи ми се свидео, јер поред сопствених задужења, свака од нас је дала своје мишљење и неке нове идеје.

Једина мана овог рада јесте та што нисмо биле у могућности да се састанемо уживо, већ смо морале комуницирати путем друштвених мрежа. Међутим, ова мана нам није одмогла и рад смо завршиле у предвиђеном року.

Students' impressions about discussion and collaboration

Задовољство ми је било радити са колегама Радмилом и Марком. Сарадња је била одлична. Задовољан сам нашим радом. Ово је било позитивно искуство, као предност оваквог рада бих издвојио зближавање са особама са којима иначе нисмо блиски и могућност сарадње са људима који имају другачији начин размишљања и поглед на ствари.

Негативно страну нисам успео да увидим на свом примеру.

Students' impressions about discussion and collaboration

Мени се колаборативни рад свидео. Било је интересантно сарађивати са другим колегама и чути њихова мишљења. Било је малих несугласица, као и претпостављам у свим групама, али смо на крају успели да нађемо неку средину и да заједничким снагама ово писање припрема приведемо крају. Желим и да похвалим колегинице које су биле са мном у групи на њиховом труду и залагању, као и да нагласим да је сарадња са њима била дивна.

Добре стране су свакако слушање и прихватање и неког другачијег мишљења од нашег, дружење, унапређивање свог знања.

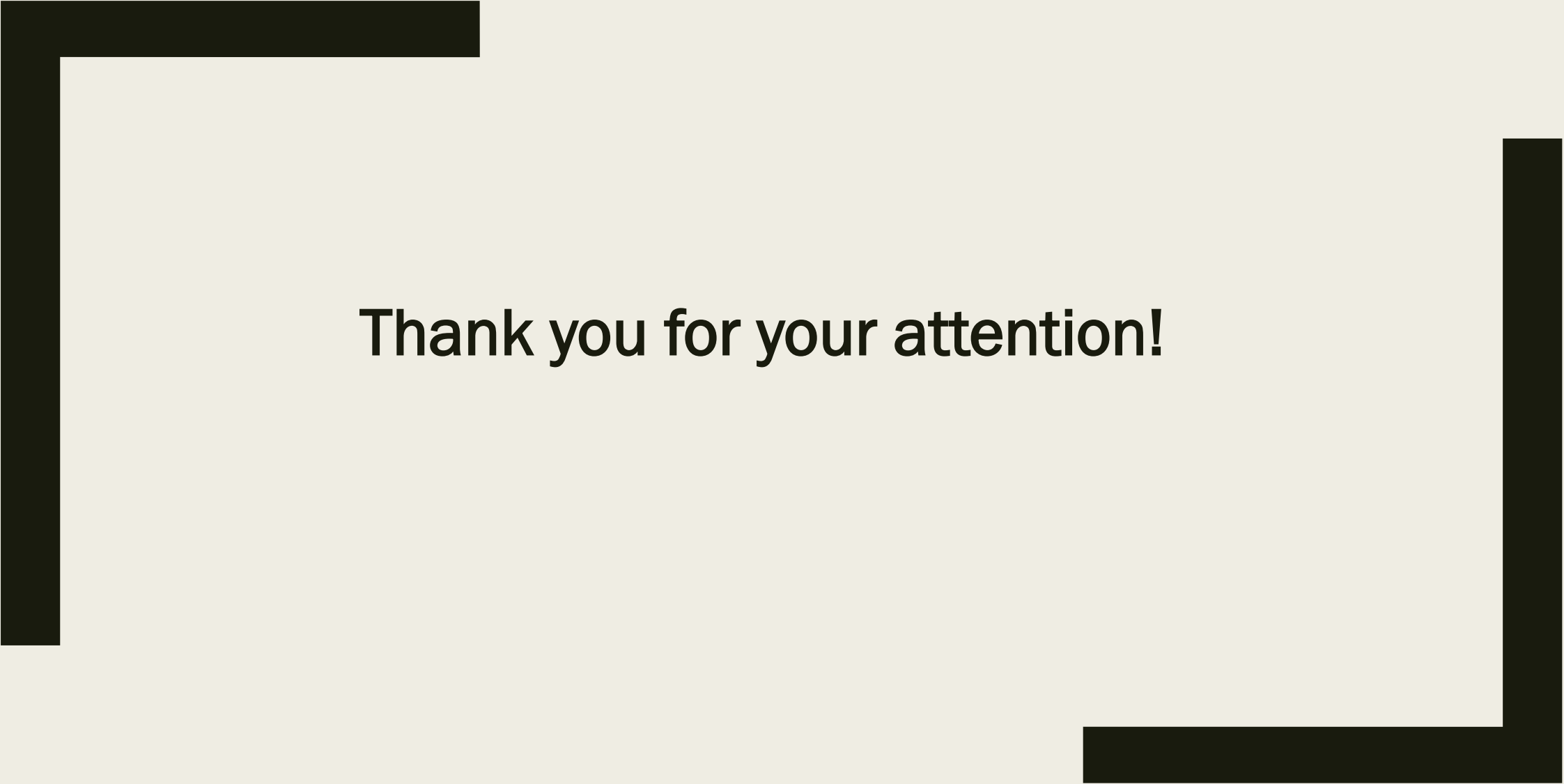
Лоше стране су те што је ова тренутна ситуација захтевала да овакав рад буде онлајн, мислим да је било уживо да би било још занимљивије и да би још више владала радна атмосфера.

Results

In relation to the students' earlier work, in the scenarios for the math classes students listed more:

- literature (textbooks);
- educational standards of student' achievement;
- teaching methods and forms of work.

After reading a few scenarios one could realize that more than one people wrote it.

The image features two large, thick black L-shaped brackets. One is positioned in the top-left corner, and the other is in the bottom-right corner. They are oriented towards each other, framing the central text.

Thank you for your attention!