



Developing Flipped Methods for Teaching (DFM) – Erasmus+ Strategic Partnership for Higher Education Project

Research report

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Flipped Classroom Trends: A Survey of College Faculty

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Introduction:

As an innovative active learning method, flipped learning provides students with several opportunities. Today's students, who are digital natives, have to be equipped with relevant competencies to respond to the demands of the modern world. For this reason, innovations in teaching–learning processes and instructional environments, which are essential to meet the needs of these learners, have brought active-learning pedagogy to the forefront of education. The implementation of a flipped learning approach can take advantage of the increased occasions for constructivist teaching and learning that technology provides (Koochddang et al. 2009). Flipped learning has many potential benefits including more one-on-one interaction time between teacher and students, active learning and cooperation, and self-paced learning. Also, it provides students with flexibility in the event that they miss some lectures. In addition, flipped learning can be considered complimentary to the traditional classroom setting because it encourages classroom time to be arranged more toward active and collaborative learning (Roach 2014).

Defining the flipped classroom:

Flipped classroom (FC) is a pedagogical approach in which the conventional notion of classroom-based learning is inverted, so that students are introduced to the learning material before class, with classroom time then being used to deepen understanding through discussion with peers and problem-solving activities facilitated by teachers (Bodnár, 2017). Although using FC methods has multiple benefits and is growing popularity, researchers and practitioners indicate that among impediments of widespread usage of FC methods are the additional time and technological support in relation to development of flipped learning activities. The flipped approach often involves the investment of significant time and energy on the part of instructors (e.g., recording video lectures; designing additional in-class activities). It is therefore recommended for teachers flipping their courses in team. By working in team, teachers can share their experiences of implementing flipped classrooms as well as their teaching resources (McLaughlin et al., 2014).

Flipped method in practice:

The inverted class is characterized by online and offline sections. Passive learning, gaining knowledge takes place in combination with active learning sections outside the classroom, in the online space. The methods of the inverted class are as follows (Ollé, Ruszkai, Hülber, 2017):

1. The teacher makes available material in the form of a video (usually his own), which students can watch at home. An important aspect is that students are able to engage in contact work in the classroom only if they already have preliminary, pre-acquired knowledge of the topic.
2. The elaboration of the curriculum follows in the form of a group form of active contact work in the classroom, where the teacher participates as a facilitator, supports the work of students taking into account their individual abilities and educational needs. With this method, students become equally responsible for the acquired knowledge and skills. The teacher can answer students' questions not only during the contact lesson, but can also share professional materials, resources, multimedia material, e-books or videos for homework.
3. The next contact lesson can take the form of a discussion, interview or workshop. The teacher present in the class can support, lead, and thus contribute to the creation of a real product or the achievement of a result (Hamden et al., 2013). Conversely, difficulties such as fatigue or loss of motivation, mistakes, or misunderstood details can occur during independent work at home.

4. The last stage of the method is the productive phase, in which students present their own results, solutions, or elaboration of the curriculum, for example in the form of a presentation or other, and then evaluate and reflect together on their own creative work.

Flipped Classroom Trends Survey:

Methods:

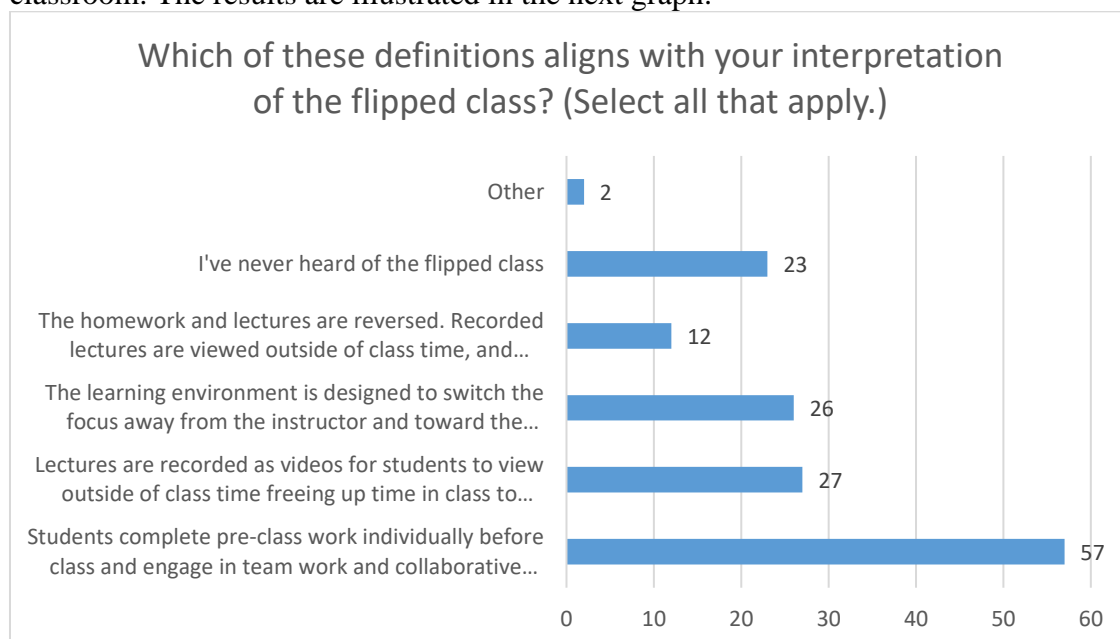
This survey was conducted between May and November in 2021. An email was sent to every higher education in Slovakia, exactly to eleven institutions. All respondents represented higher education in Slovakia. The survey was anonymous and applied by google forms, which featured 18 questions total, including both qualitative and quantitative formats (multiple choice and open-ended questions). A total of 91 people completed it. The questionnaire used in this survey is the translation of the English version of questionnaire of *Faculty Focus* (USA) from 2014¹.

Results:

Which of these definitions aligns with your interpretation of the flipped class? (Select all that apply.)

Before offering our own definition in the survey, we asked respondents to select from a list those descriptions that best align with their understanding and interpretation of the flipped learning model.

More than the half of respondents (57) defined the flipped classroom as a model where “Students complete pre-class work individually before class and engage in teamwork and collaborative learning activities during class.” The second and third most popular definitions were “Lectures are recorded as videos for students to view outside of class time freeing up time in class to engage in discussions and problem solving” (27) and “The learning environment is designed to switch the focus away from the instructor and toward the students” (26). Next 12 respondents agreed with the statement “The homework and lectures are reversed. Recorded lectures are viewed outside of class time, and homework is completed during class time.” Lastly, approximately a quarter of respondents (23) said they have never heard of the flipped classroom. The results are illustrated in the next graph:



¹ Available at: https://www.facultyfocus.com/wp-content/uploads/2015/08/Flipped-Classroom-Trends_FF-Report-2015.pdf

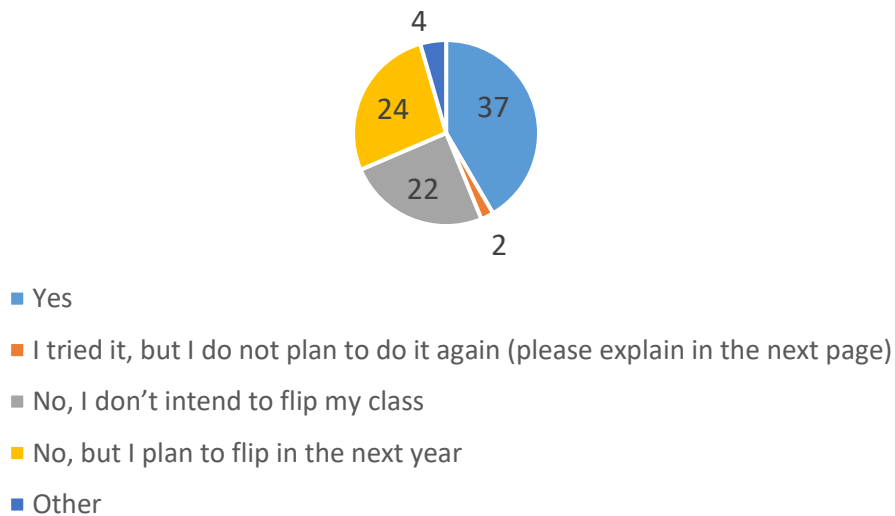
In your own words, briefly describe some of the characteristics of flipped classes!

When respondents were asked to define/describe the flipped classroom in their own words, their descriptions varied. In order to determine the breadth of awareness that survey respondents had about flipped classrooms, we asked an open-ended question. This question was answered by 77 respondents. From all 77 answers 11 were directed that the respondent could not define the concept at all or with complete accuracy. The remaining 66 responses highlighted the following: the curriculum or the topic is delivered to the students in a pre-prepared form, the students play the main role in the classroom, the indoor time in classroom focuses on active work, co-working and co-thinking, increasing the student's motivation, own experience and responsibility, problem solving skills and critical thinking. This view is reflected in the following answers: "The pedagogue's interpretation is moved to an individualized teaching space, the resulting time space in the classroom environment allows the teacher to become a counselor. Pupils thus have the opportunity to creatively apply the acquired knowledge in practice within the teaching process."; "Students have to search for a given topic at home and process it, they present the information obtained in classroom, and the teacher further guides and corrects them. The principles of this method are: heuristic method, self-study but also teamwork, emphasis is placed on the convergence of interdisciplinary contexts and on the development of critical thinking, and on problem solving."; „Through the study of the lecture presented in the video, the student outside the school (eg at home) is individually acquainted with the new issue, which is then practically solved as a team in the school classroom / laboratory environment."; "Through the study of the lecture presented in the video, the student outside the school (eg at home) is individually acquainted with the new issue, which is then practically solved as a team in the school classroom / laboratory environment." Criticisms of the method are also reflected in some of the responses: "Students have more space to understand the issues, can compare their knowledge with others and the teacher, creates more space to eliminate inaccuracies, mistakes, the teacher has more time for collaborative activities and discussion. At the same time, however, incorporating this method is time consuming and is not positively received by students. The teacher must solve the problem of how to proceed if students persistently ignore the basic idea of this method."; "It is only an attractive name for the procedures that were used as activating procedures before such a designation of a certain pedagogical school took place."

Have you tried flipping an activity, class period, or course?

Once we allowed respondents to share their definitions of the flipped learning model, we offered our own in the following statement: For the purposes of the remainder of this survey, we will refer to this definition: "A student-centered learning approach that involves reversing the design of the learning environment, allowing students to engage in activities, apply concepts, and focus on higher level learning outcomes during class time." The aim of the question (which was answered by 89 respondents) is to find out what proportion of the respondents have already used the method in their own pedagogical practice. The results are illustrated in the next graph:

Have you tried flipping an activity, class period, or course?



The majority of respondents (37) said they had tried flipping some element of instruction. Other two respondents indicated that they tried it, but would not do it again. Another 24 of respondents had not yet tried flipping but intended to do so. Next 22 of respondents had not tried it and did not intend to try it. Four respondents indicated the "other" option, where they explained their own point of view, such as, "I don't use it, but it seems interesting." - it is difficult to deduce from this answer whether the respondent plans to try this method or "No, but I will use it in the future" - this answer does not specify when. The other two answers suggest that the respondent applies in their teaching practice some elements of the method intuitively.

Would you give a more detailed reason for not using flipped methods again?

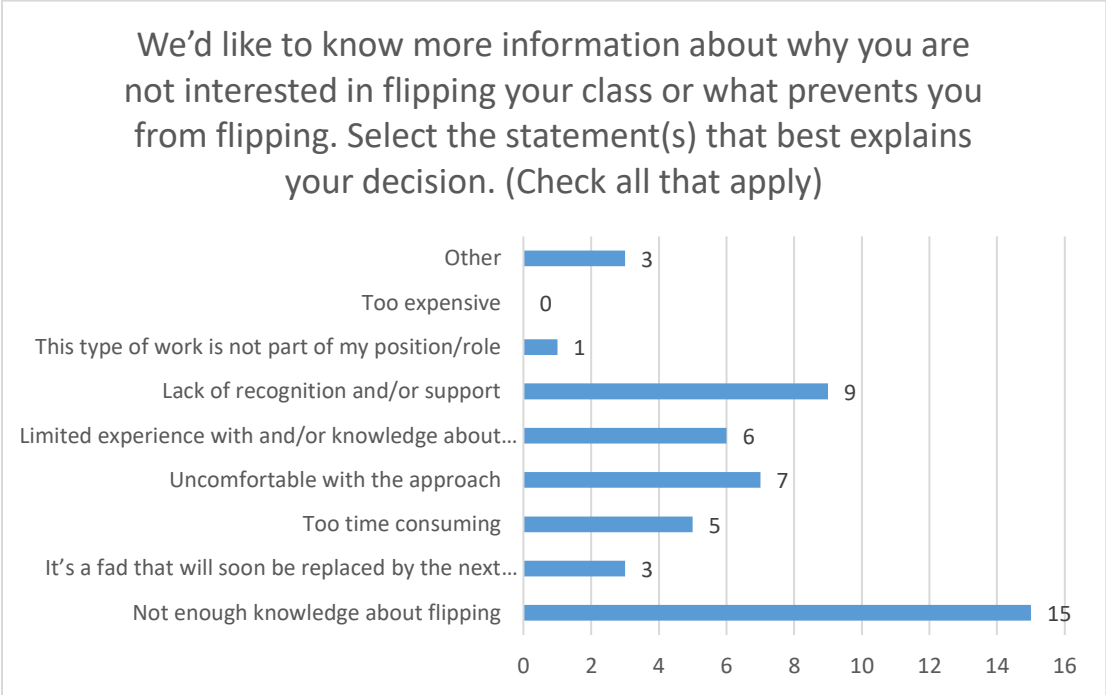
The respondents who tried flipping and would not try it again were given the opportunity to elaborate on their answers. Only 8 respondents answered this question, 5 of the respondents referred to the lack of information, knowledge and expertise, like "I don't know the method."; "So far I am only in the phase when I get acquainted with the method, not for every subject is appropriate."; "Since I did not understand its essence well, I cannot answer." Other two answers evaluated negatively method, like "Negative effort-benefit ratio. The application of a given method is important if its advantages are understood not only by teachers but especially by students. As a teacher you may be persistent for several hours / lectures of seminars, but if students "resist", you will not only lose time, enthusiasm, but most importantly you will have to address how to evaluate students who systematically refuse training in accordance with this method. Another is to have 1 or 2 hours prepared this way, students enjoy it because it's something new, and different all semester..."; " high load". Last answer described the respondent use to use the method during the distance learning, "because I had to count more on my own initiative and independence on the part of students."

We'd like to know more information about why you are not interested in flipping your class or what prevents you from flipping. Select the statement(s) that best explains your decision. (Check all that apply)

Those respondents who indicated that they have no interest in flipped instruction were presented with this additional follow-up question, which allowed us to take a closer look at the negatives experiences, challenges, and, in some cases, perceptions of flipping.

The survey instrument enabled respondents to choose multiple answers from a list of nine options, and the most popular response (15 of 22 respondents answered this question) was that the respondents did not feel knowledgeable enough about flipping to try it. The

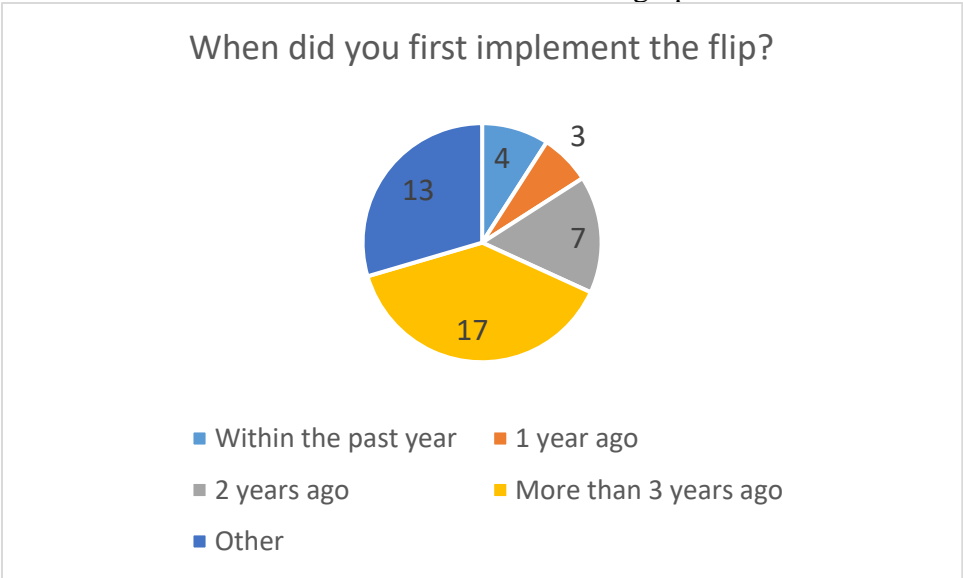
next most popular choice was lack of recognition and/or support (7). The results of this question are demonstrated in next graph:



The answers to the last two questions are in line with the conclusion that the approach is not used by respondents mostly due to a lack of knowledge, information and experience.

When did you first implement the flip?

The aim of the next question is to map, when respondents started to use or used first time flipped method. The results are demonstrated in the next graph:

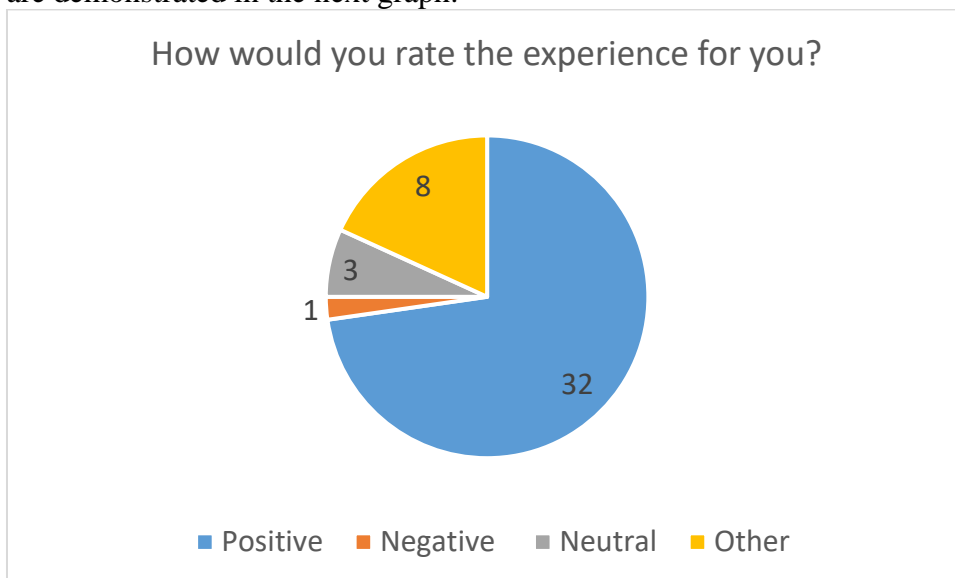


The most of respondents (16) from all 44 answers used method more than three years ago. The next most popular choice (13 answers) was “other.” In this option, respondents refer about their habits and preferences about using flipped method, for example “During this academic year.” - 4 answers; “I teach this way routinely.” - 1 answer; “Sporadically from the beginning of my work.” – 1 answer etc.

How would you rate the experience for you?

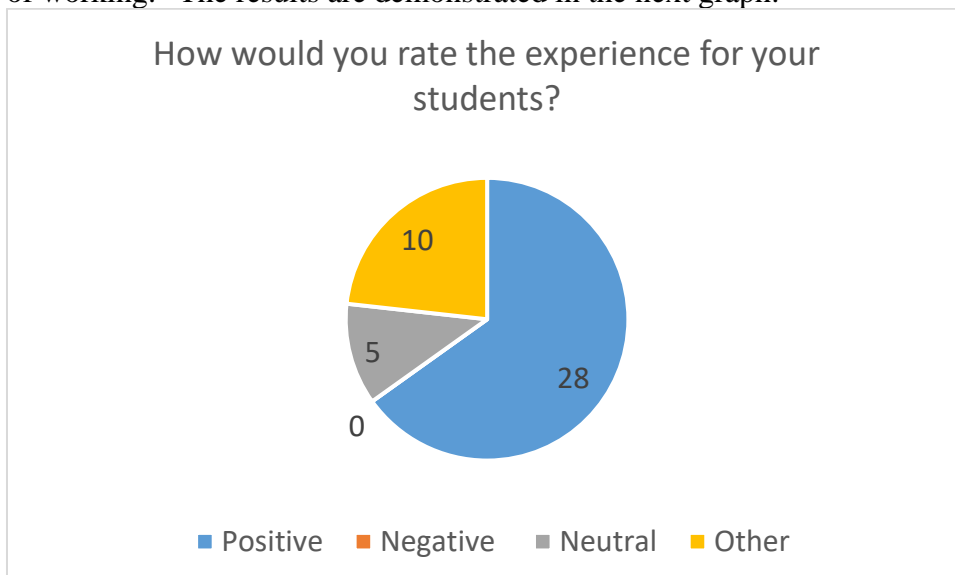
The vast majority (32) of surveyed respondents (44) indicated that flipping is a positive teaching and learning experience. Only 1 respondent reported that it was a negative experience. However, three of respondents called the experience “neutral.” Other 8 respondents choose

option “other”, in which they reflected about their ambivalent or varied experiences, for example: “Both positive and negative.”; “Depends on the motivation of students, their involvement is an important factor in the success of teaching the flipped method.” The results are demonstrated in the next graph:



How would you rate the experience for your students?

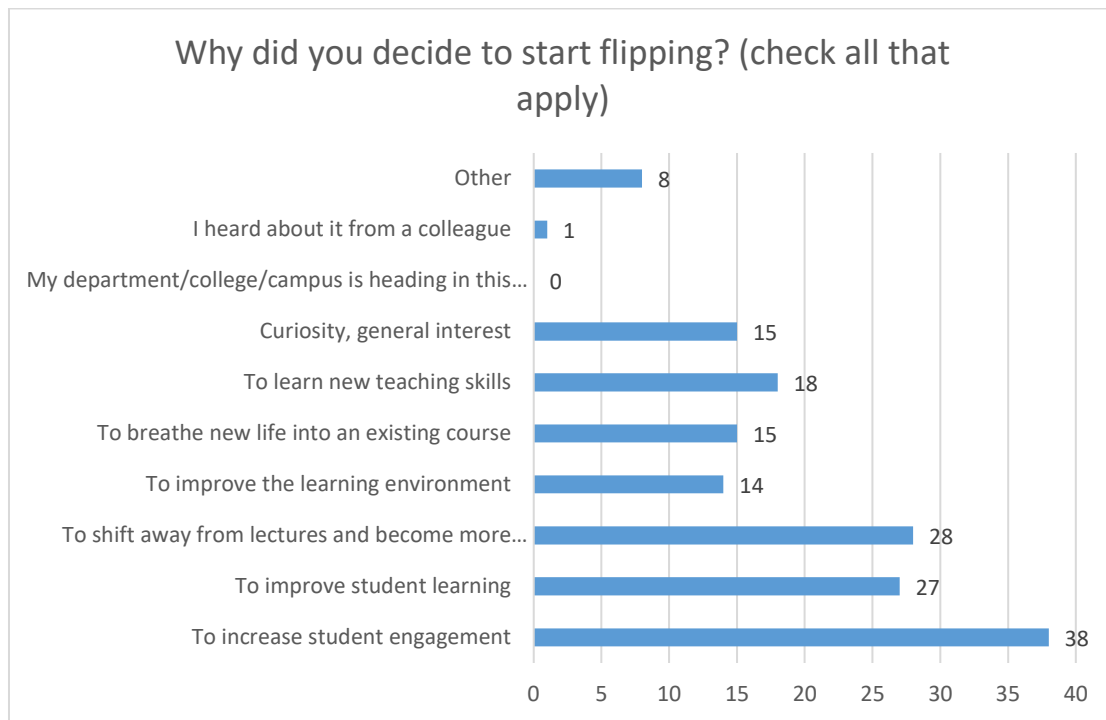
The vast majority (28) of surveyed respondents (43) indicated that flipping is a positive teaching and learning experience. None of the respondents reported that it was a negative experience. However, 5 of respondents called the experience “neutral.” Other 10 respondents choose option “other”, in which they reflected about their experiences, for example: “It is not possible to evaluate the whole in one word, some students like this approach, others are more against it, because it requires a greater degree of student participation.”; “At first positive, later it was no longer lively for them ... rather for them it was a "burden".”; “They were not used to this way of working.” The results are demonstrated in the next graph:



Why did you decide to start flipping? (check all that apply)

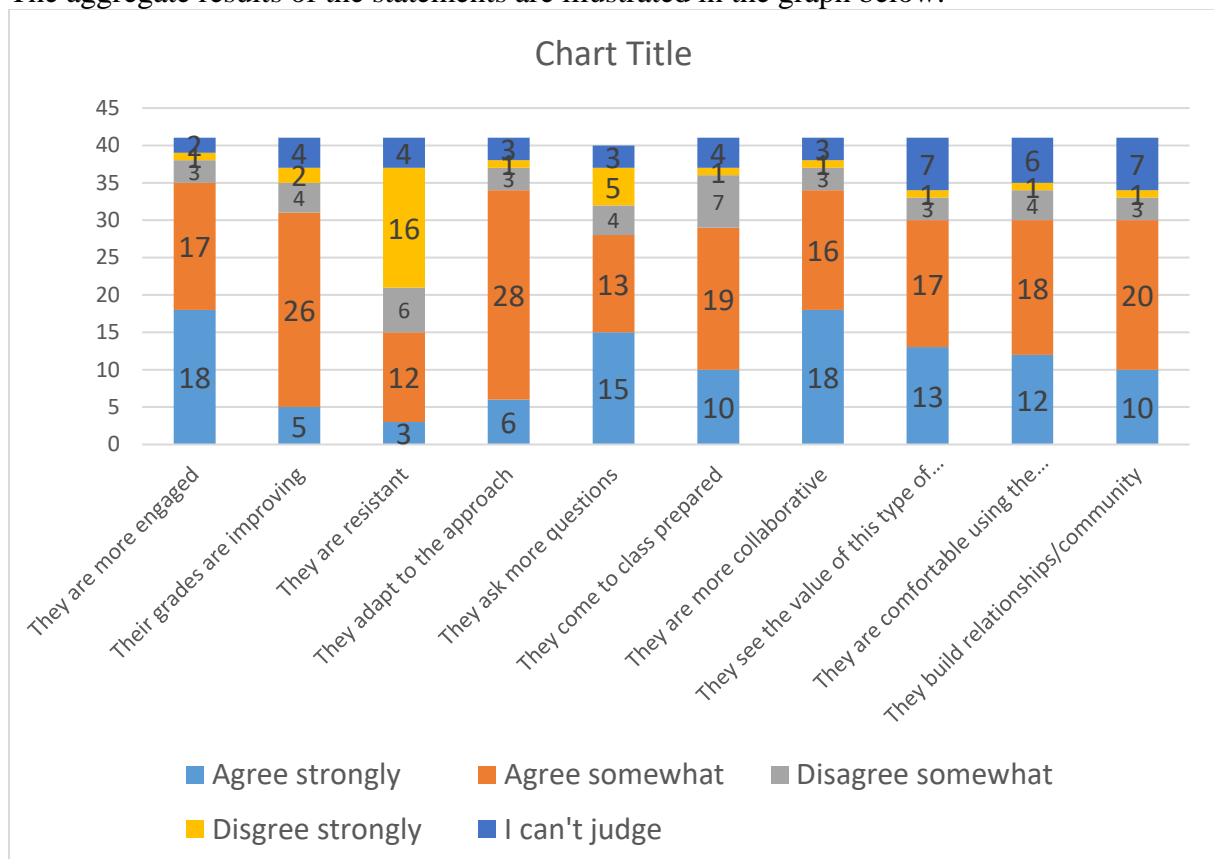
The survey instrument invited respondents to identify reasons for flipping, and participants would select more than one answer. The responses reveal that most survey participants (38 from 44) were driven by a desire to better engage students, the second most common answer (27) was to shift away from lectures and become more learner-centered, third (27) was to improve the learning environment. In option “other” respondents mentioned reasons like increasing

effectivity of educational process, need for change or better connecting theory and practice. All the results with every option are demonstrated in next graph:



Indicate the extent to which you agree or disagree with the following statements related to students in your flipped course!

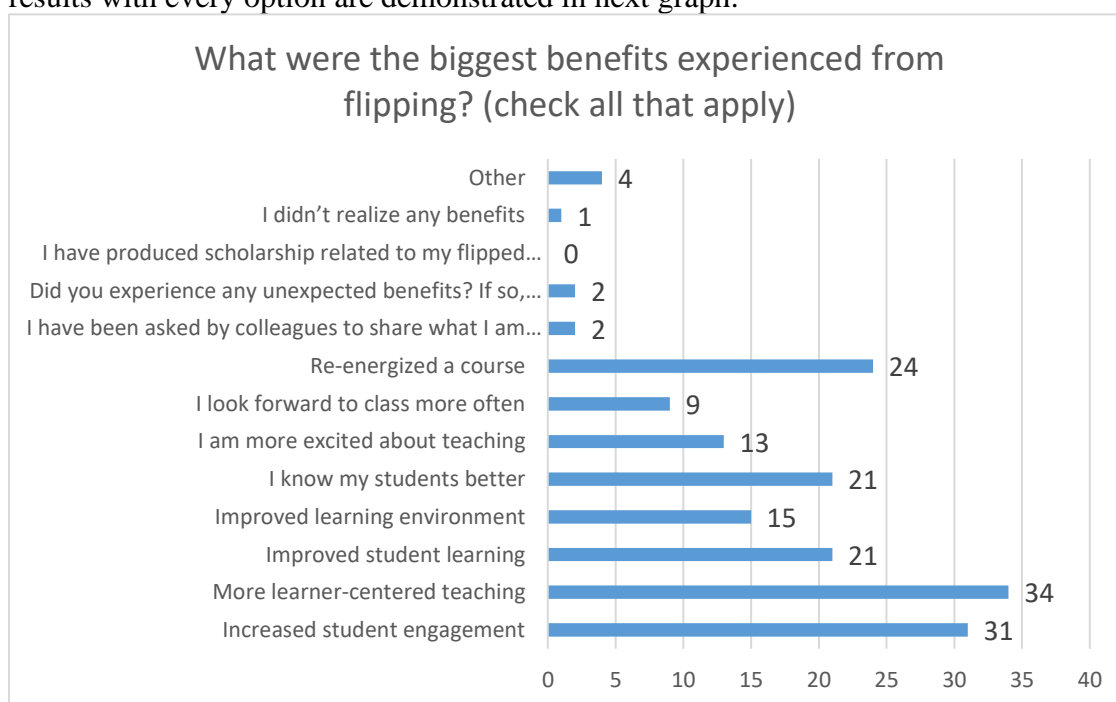
The aggregate results of the statements are illustrated in the graph below:



First two options are “agree strongly” and “agree somewhat”, which categories describe mostly agreement with the statement. In this interpretation, it is clear that the agreement was most well established in relation to the following statements: “They are more engaged” (18 agree strongly and 17 agree somewhat), “They adapt to the approach” (6 agree strongly and 28 agree somewhat), “They are more collaborative” (18 agree strongly and 16 agreed somewhat). The second most agreed statement was: “Their grades are improving” (5 strongly agreed and 26 agreed somewhat). On third position found three statements: “They see the value of this type of experience” (13 agree strongly and 17 agree somewhat), “They are comfortable using the technology” (12 agree strongly and 18 agree somewhat), “They build relationships/community” (10 agree strongly and 20 agree somewhat). With the least degree of agreement, respondents accepted the following statement: “They are resistant” (only 3 agree strongly and 12 agree somewhat and 16 disagree strongly). In these results, positive experiences returning from previous questions can be discovered, as well as showing consistency with respondents own definitions of the flipped method (second question).

What were the biggest benefits experienced from flipping? (check all that apply)

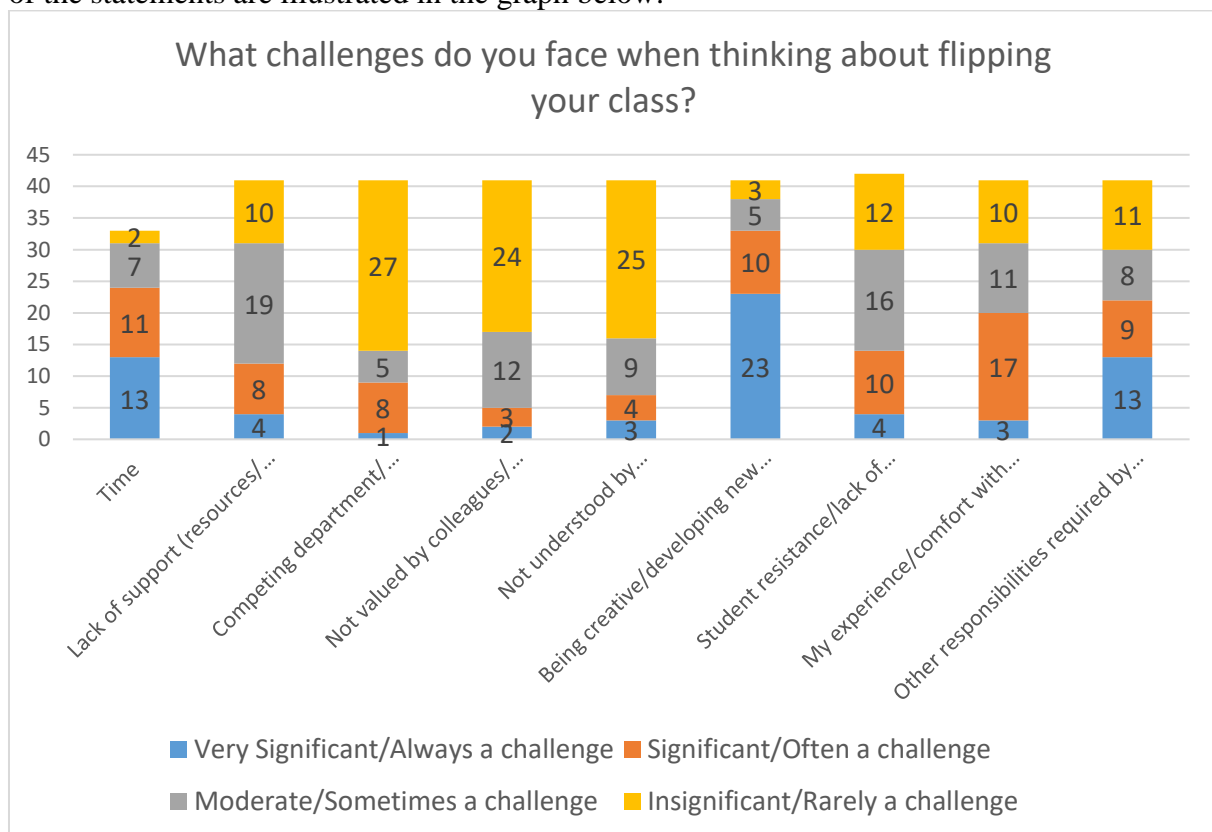
The survey offered participants 10 different choices and the option to select multiple answers. Most of the respondents indicated that flipping positively influenced student learning and the classroom-learning environment. More specifically, 34 respondents chose “More learner-centered teaching”, which means, that lecturers realized increased student activity in classroom. The second most choices (31) received “Increased student engagement”, it also means increasing student activity and motivation. Third most choices (24) received “Re-energized a course”, this could be important for lecturer, breaking away from usual, routine by innovating, refreshing. Half of the respondents (21 form 42 total) indicated that flipping improved student learning and helped for better knowing the students. These actual benefits of flipping align closely with the reasons instructors wanted to try flipping, as indicated in the previous question (Why did you decide to start flipping?). It can be assessed as a positive and encouraging result that only one respondent marked option “I didn't realize any benefits”. Regarding the interpretation of the question, we consider the indication of the following advantage in the category "other" to be a useful answer: “Saving time to deal with practical activities.” All the results with every option are demonstrated in next graph:



What challenges do you face when thinking about flipping your class?

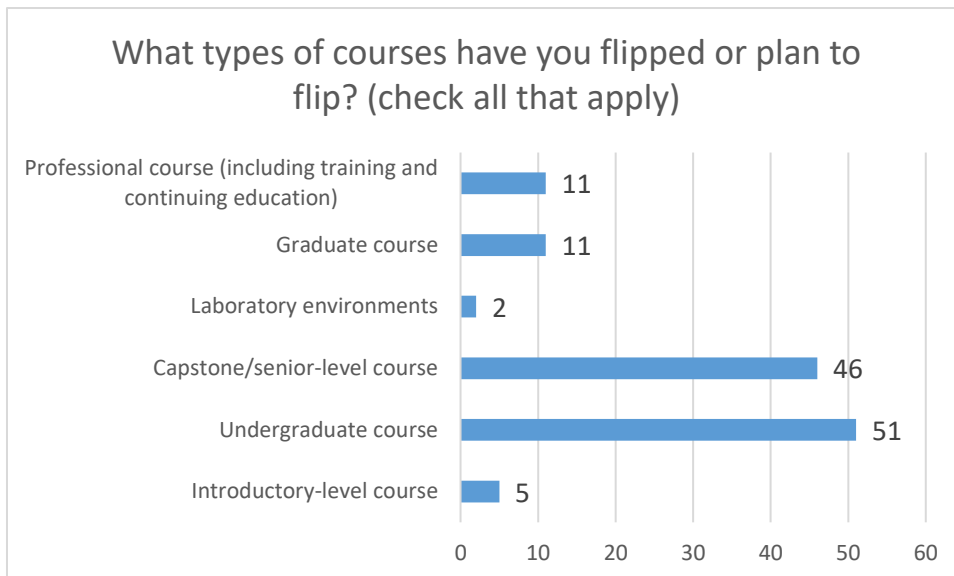
The move to a flipped classroom isn't an easy transition in general. In an effort to identify the biggest barriers to flipping, this question asked participants to indicate which challenges exist and to rate how significant those challenges are. As in the previous question of this kind (Indicate the extent to which you agree or disagree with the following statements related to students in your flipped course!), the first two options described mostly the most significant challenges for respondents.

Respondents identified several limiting factors, the greatest of which was to be creative (23 very significant/always a challenge and 10 significant/often a challenge). As the second most significant challenge was indicated time (13 very significant/always a challenge and 11 significant/often a challenge). Other often indicated options were other responsibilities required by my position (13 very significant/always a challenge and 9 significant/often a challenge). The answers mostly suggest that the application of the method is time-consuming and energy-intensive, and in the opinion of the respondents, this is exactly what the instructors often lack. The three least marked options are the following: "Competing department/ college/campus goals" (27 insignificant/rarely a challenge and 5 moderate/Sometimes a challenge), "Not understood by colleagues/administration" (25 insignificant/rarely a challenge and 9 moderate/Sometimes a challenge) and "Not valued by colleagues/ administration" (24 insignificant/rarely a challenge and 12 moderate/Sometimes a challenge). The aggregate results of the statements are illustrated in the graph below:



What types of courses have you flipped or plan to flip? (check all that apply)

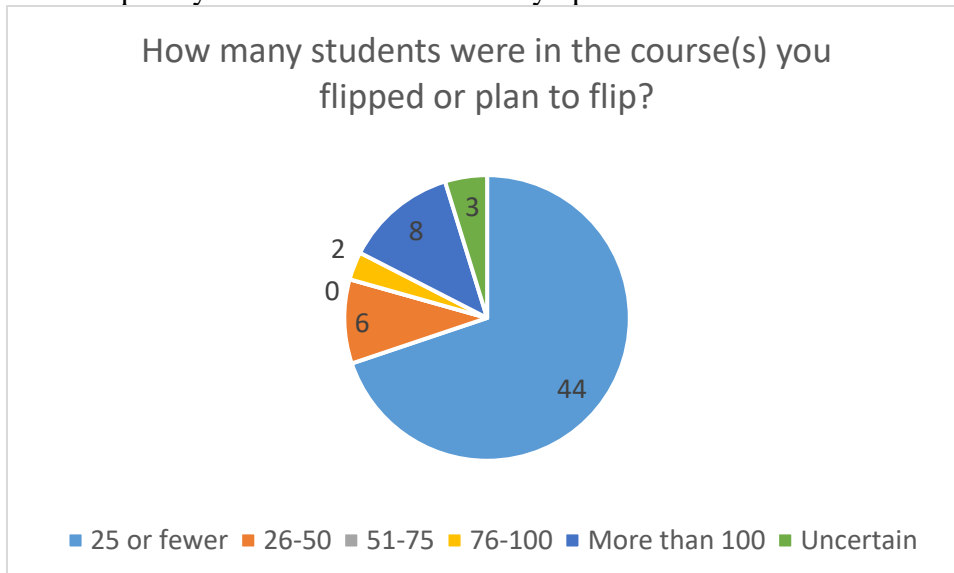
This question was answered by 63 respondents and the detailed results are demonstrated at the graph below:



Most of respondents (51) indicated undergraduate courses, which means bachelor study level and capstone/senior level course (46), means master study level at the higher educational system in Slovakia. Other 11 respondents marked graduate and professional courses. The least answer (2) was given to laboratory environments.

How many students were in the course(s) you flipped or plan to flip?

The aim of these question was to map respondents opinion and experiences in number of students in flipped classes. Majority of the respondents (44 form total 63) either had flipped or planned to flip a class with fewer than 25 students. The next similarly large groups are more than 100 (8) and 26-50 (6), which are significantly different group sizes. Not surprisingly, there were significantly fewer responses to intermediate options: 51-75 (0), 76-100 (2). The answers are in line with higher education practice, as small seminars and large group lectures alternate most frequently. All the results with every option are demonstrated in next graph:



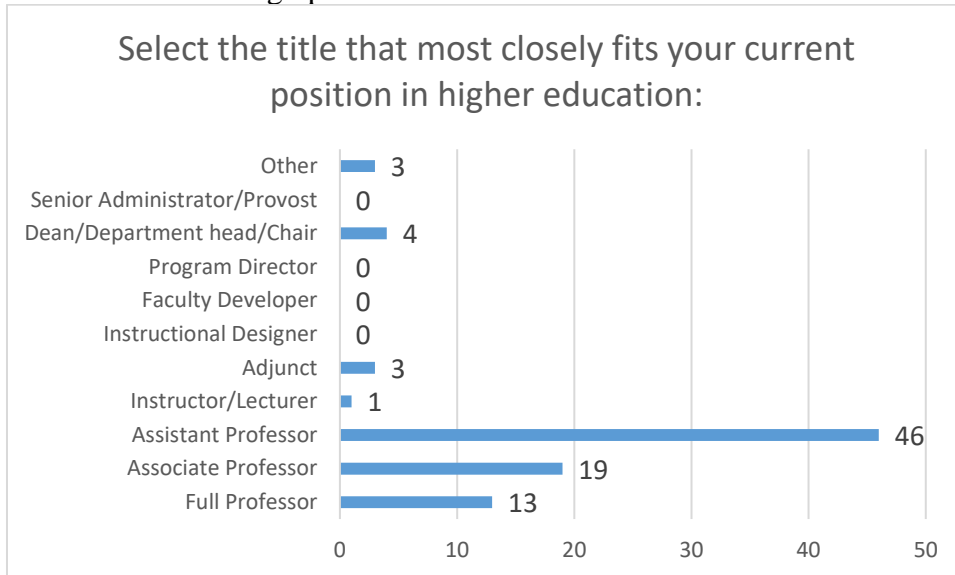
What additional support would you need to continue flipping or begin flipping, if any?

This open-ended question invited a variety of responses (total 43 answers). The answers received fall into three main categories: time, information or guidance and last but not least recognition. From all 43 answers 8 where dedicated to time factor (most of them only this factor was indicated). A further high proportion of responses (15) indicated the lack of information and knowledge as aids, seminars, workshops and other forms of education and guidance as useful help. A significant proportion of respondents (14) indicated the need for support,

emphasizing the importance of moral and intellectual recognition and support in addition to financial, hourly and technical support.

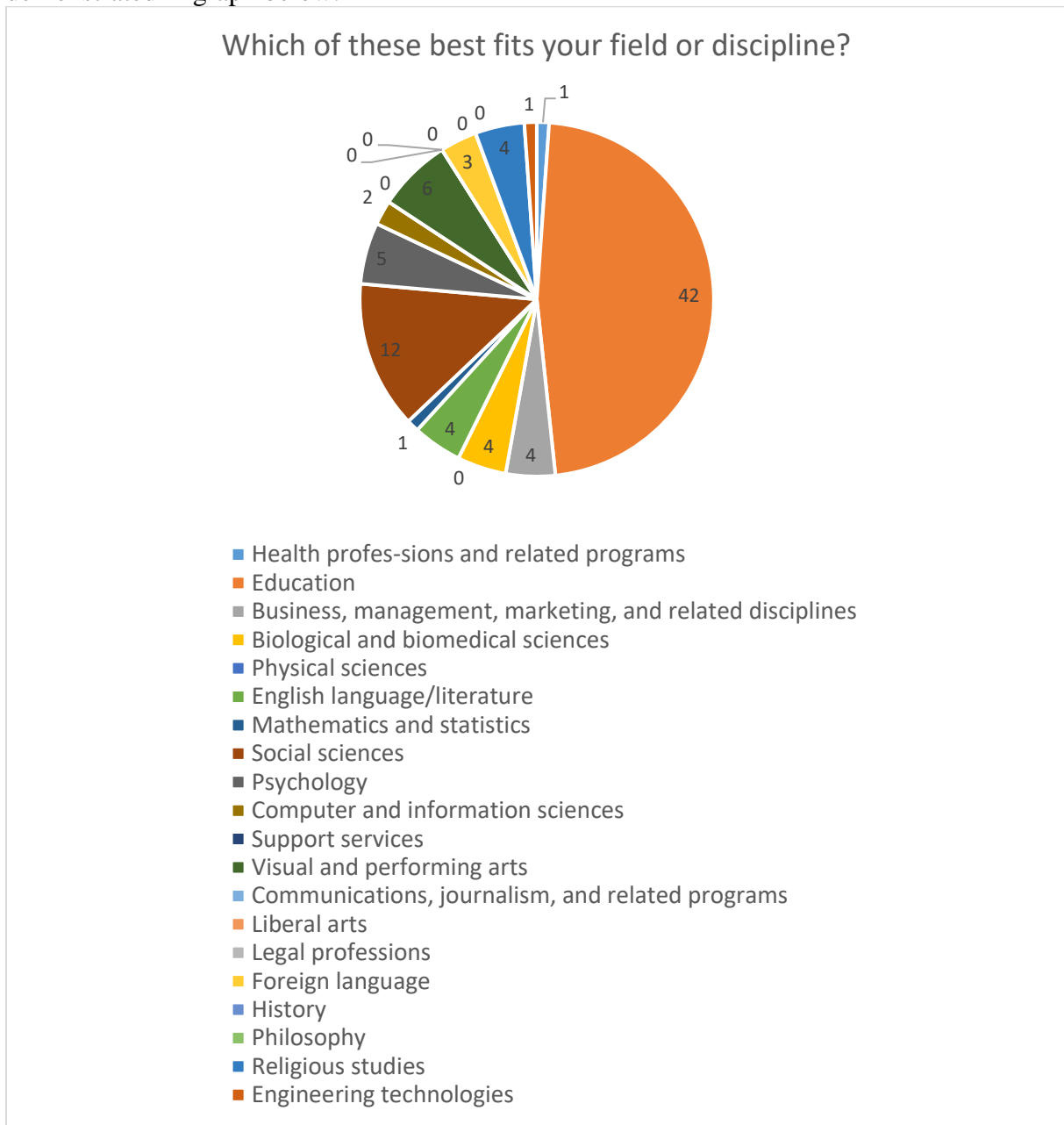
Select the title that most closely fits your current position in higher education:

Assistant professors made the largest group of respondents (46), on the second position associate professors (19) and full professors (13). In option “other” where mentioned doctoral student, teacher for professional development and vice dean. All the results with every option are demonstrated in graph below:



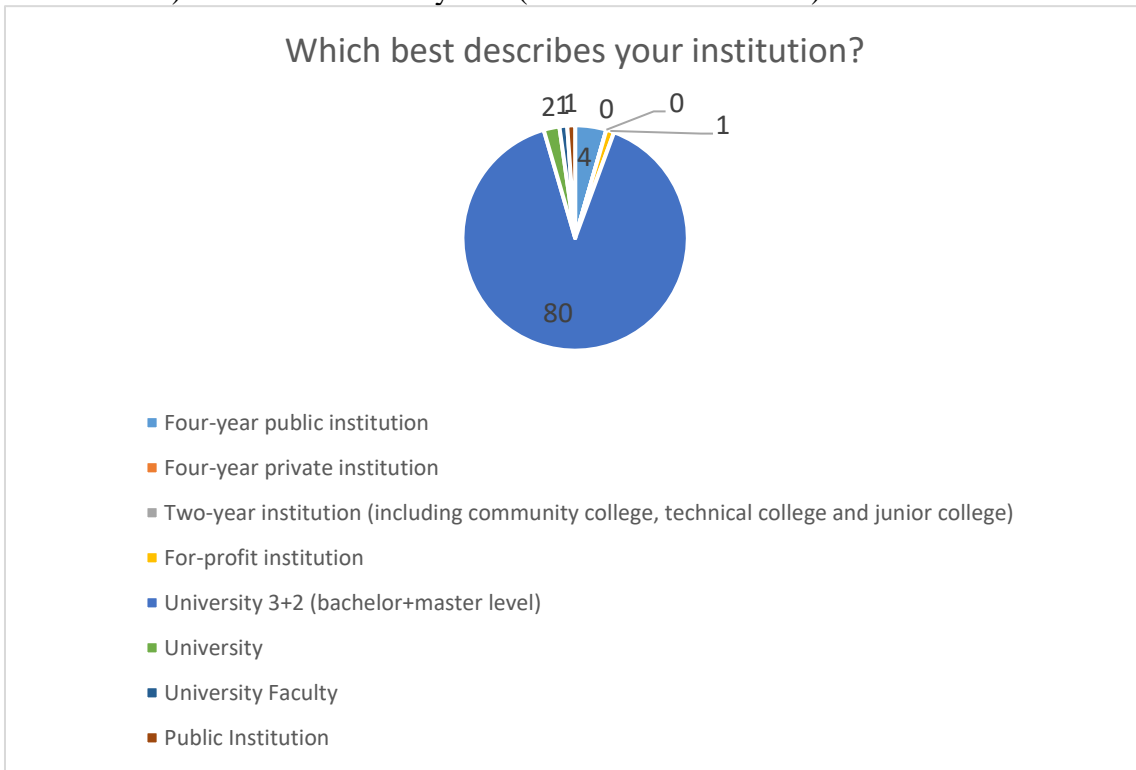
Which of these best fits your field or discipline?

The largest group of survey respondents (42 from total 89) was from field Education. The second biggest group (12) represented Social sciences. All the results with every option are demonstrated in graph below:



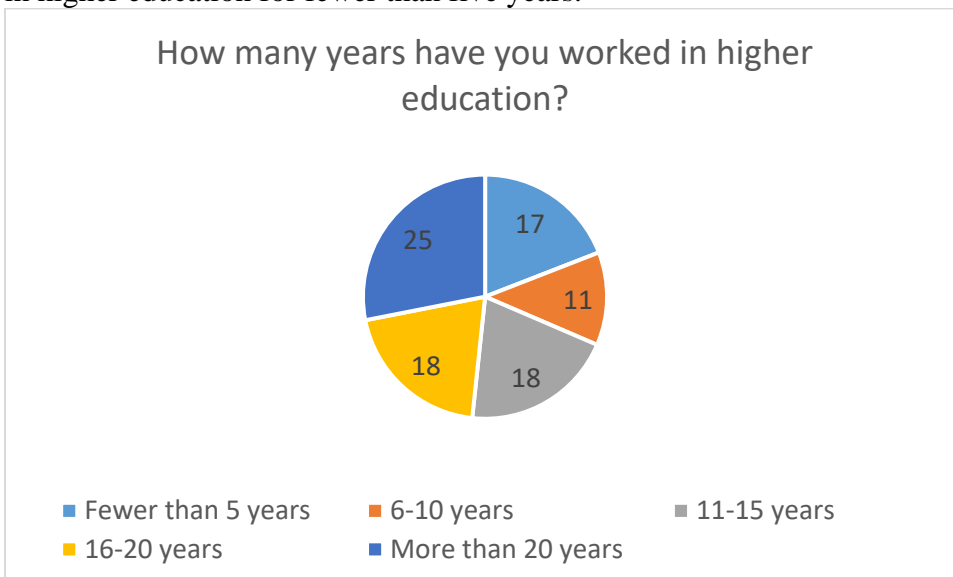
Which best describes your institution?

Survey respondents represented the wide range of institutions that make up the higher education system. The diversity among the respondents suggests that flipping is an increasingly pervasive teaching method that transcends institutions and disciplines. The vast majority of answers (80 from total 89) indicated University 3+2 (bachelor+master level).



How many years have you worked in higher education?

This survey had an experienced group of respondents. More than half of respondents (25-18) had more than 10 years of higher education experience. Only 17 respondents had been working in higher education for fewer than five years.



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DFM case study

Lecturer: Anita Tóth-Bakos, Mgr., PhD.

Institution: Selye J. University, Faculty of Education, Department of Preschool and Primary Education

Subject: Inclusive Pedagogy (for future teachers in bachelor level of teacher training study programs)

Extent of course: 1x 45 min lesson per week

Teaching methods and techniques: flipped classroom method

Strategies:

Pre-class materials: All the topics of the curriculum of subject Inclusive Pedagogy are prepared as tutorial videos and ppt presentations. All the materials are available on middle course of the University and furthermore on free available online notice board via web-application Padlet.

In-class activities: Each lesson covers one or more pre-defined topics. In the class, I ensure active work and common thinking by the following activities, methods and techniques: discussion, argumentation, presentation of case studies, independent work, teamwork, sharing experiences, individual and team work activities, collecting and sharing information, taking photographs, project work.

Assessment tools: Concept map/mind map at the beginning and at the end of the course, shared individual submitted works and tasks on the online notice board (Padlet).

Personal experiences:

In my experience, students have responded positively and enthusiastically to this (for them) new approach. It was positively assessed that the semester is completed with the completion of sub-tasks related to the topic and the in-class lesson can be used for active work. Pre-prepared materials were actively used in the preparation of the tasks to be submitted. They used the online bulletin board actively, evaluating each other's work with comments and reactions and feedback outside of class. During in-class lessons we were able to discuss concrete, practical situations, which increased their theoretical knowledge made it applicable in pedagogical practice.

I decided to use this method for more reasons: first of all, weekly 45 minutes are not enough to fully review this huge subject. On the other hand, subject of inclusive pedagogy is based on a wide range of theoretical knowledge, but its main task is to prepare for application in practice, through concrete examples and case studies. For this reason, it is extremely important to direct active work and attention to practice with students by active co-working process.

Students were surprised at the beginning and they resist to pass some-tasks. The expected frontal way of teaching. But during the first introduction activity (mind map) they realized the practice oriented character of the subject and started to be motivated and more active and co-working by every lesson. In a short time, they mastered the elements of using application Padlet, which stimulated students to become more active. This way of work, the strategies worked excellently in both offline and online teaching. During the application of the method, I gained a lot of new and useful experience, based on which I plan to teach this subject in this form in the future,

improving it based on the experience I have just gained. I would recommend it for other scholars.