

Questions for evaluation by teachers.

1. Did the project lead to any changes in your teaching?

Made me reflect, how to improve

We use all the things we learned in the two readings inDK and Sweden. I have tried to strengthen my relationship with all my students

I have words with most of the subjects before but not in this structured manner and it has helped me to be more conscious about when I use the different approaches and why. It is also very helpful to be conscious about which students to focus on

I've gained awareness in modelling lessons. In fact doing some physics activity before lessons make students more concentrated: we run in the school's back yard, do math game using hands and muscles, and when it rains we stay in classroom doing some exercise from the seat. This shows us how much important is the "playtime", in fact it makes the remaining part of the lessons more productive.

Erasmus project – the structure.. witch elements did I use before and witch elements were new for my teaching and how did it work in my lessons and teaching.

	Before	During the Erasmus project	comment
1.Focus on two weak students in two weeks		This was very successful on some (4) of the weak students.. but I never got round to all of the 8 weak students, mainly because they don't come regularly.	
2.Start the lesson by telling the goal of the lesson – and writing it on the blackboard.	yes	yes	I hope it gives all the students an idea of what they are going to learn.
3.Activities - physical	no	Only a few times I had the students to do isolated physical activities, mostly I used the practical activities to get the students up from their chairs and walk around and	
4.Activities - Oral	a little bit	Especially I used "think, pair, share" a lot, in maybe a less strict form.	This, I will use a lot in the future – just to get all the students to think about a question and talk to their "neighbor" about the answer before anyone are allowed to answer. The result is that a lot more students are active.
5.Activities – practical -Practical statistic inquiry -Quiz and change -battles(pair cards together) -"0,1,andet" -puzzles(pair cards	To some extent, I did this before... but during the project, I was more focused on having something for almost every lesson.		The activity has to be meaningful in the contexts – you should not just do the activity for "The sake of it" . I think this part is motivating for the students, it gives a "break" and puts math in another

together)			contexts, especially (of course) if the activity supply the math.
6.End the lesson by summing up.	No	Unfortunate I only managed to sum up a few times.	This part I think is important and I hope to get better at summing up at the end of a lesson.

Various activities have been used before. The Erasmus+- project inspired to some new activities. Focusing on students was partly new.

2. What do the students' evaluations show?

They don't like math, appreciate the teacher's effort and have noticed the change in the way of teaching

The students are more engaged. They think that the teacher care about if they are learning, better results after the project was implemented. They think that working in pairs/groups, making the lessons more dynamic with different "games" or activities, or watching/making videos with their explanations motivate them. They think that this kind of lessons is "different" than the rest of the subjects. They enjoy and don't get bored or lose concentration

Unfortunately, I was so eager to start that I just started and forgot everything about evaluation.

There was a lot of work to do in question of making the puzzles and the pair cards together, that took all my attention. It is very important to notice, that even though the students have been very fond of the physical games and the puzzle games and the pair cards together games, they do not mention this spontaneously as an answer to, what motivates them the most. What they mention spontaneously is the relation to the teacher. It seems to me that this short experiment shows, that the relation to the teacher means the most to the student.

The students' evaluations shown us now the interest in math has grown up and now they are more involved in the subject.

Unfortunate there are only 22 out of 28 that answered the "before" evaluation and only 19 out of 28 that answered the "after" evaluation, and it might not be the same students...

It is difficult to conclude from the students' evaluation; maybe there is a slight tendency to a success.

Motivation increase is shown in the social science program. Even if the interest for math did not increase substantially, the motivation was apparent. Besides the project activities, the nationwide tests in different math courses could explain the increased motivation.

In the natural science classes, the motivation for math was already high before the project. Due to a, probably, more complicated/difficult course in math, the motivation even decreased.

3. What is the teachers' impression?

Enriching experience, difficult to entertain more and at the same time maintain the students' concentration.

I see that they enjoy much more and that they feel happier, also in the way that they feel themselves important for the teacher. Lessons are more interesting and dynamic and they learn more than with the traditional teaching. Feeling the teacher closer makes them feel more confident and special even though they do not have good marks in our subject.

Even though the students do not mention the games and the physical activities it is my impression that they gained much from it and that they liked it.

Some of them don't think this project will work and don't like it because they think it's better for students know how to stay sit down all the time; on the other hands some of them liked it very much and they appreciated the math modeling.

4. Which activities have been the most successful? In what way (motivation, grades ...)?

Oral explanations, work in group, recording of experimental work

- Physical activities in the beginning of the session.
- -Small games to do in pairs and changing pairs. These changes make them talk with the rest of students and be the principal of the teaching, apart from being physically moving around the class.
- The student liked both puzzles, pair cards together and physical activities and I have plans to do much more after the summer holiday when I have had time to prepare more because it takes a long time to prepare these activities but it seems worth it since the students are happier and more focused.
- The most appreciated activity has been the "playtime", according to students the most interesting thing was a competition concerning remarkable products, in which the winner gained a sweet; now all my students can easily work with them.
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- "Focus on two weak students in two weeks" has brought 2-4 students to believe more in themselves and to move theme from no mat - confidence to a little bit of mat – confidence.
- TPS (Think, Pair, Share) is always a good method for learning and reflection.
- Focusing on students gave positive results for the students with at least some capacity to manage math.
- Variation in teaching methods is also always a good way to stay focused on math especially for the less motivated students. High-performance students benefit less than low-performance students but they still benefit from the different activities that were tested.
- The lesson should include a clear structure with e.g. a schedule of "today's activities" or a repetition of the contents in the latest lesson – repetition should also be performed at the end of the lesson.
- The activities must always be adjusted to the students' abilities and skills.
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5. Which influence did the project have on the amount of working hours (teachers)?
Did not work more but better

It has consumed a lot of my time to the extend, that I almost was exhausted but it was all worth it and I plan to continue on this path

You need more time to think about the activities and it is hard to do that when you are short of time.

With this project the teachers' working hours have increased.

It was/is time consuming to produce and organize most of the practical activities (f.ex. Quiz and change, battles (pair cards together), "0,1,andet", puzzles(pair cards together),....)

The workload has not increased. The planning of a lesson is always carried out.

6. Which effect will the project have on your future teaching?
More reflecting and continuous improving feedback circuit

I think I will always remember all the tips and things we learnt during our meeting in order to improve my future teaching and relationship with the students: physical activities, oral explanations, strengthen the relationship between student and teacher, take care about them as a person not as a good or bad student, small games... Students' evaluation and their comments are also very important to take into account: what do they like, how do they feel, what do they need... In fact, they are the principal in our teaching.

I will do much more physical activities and games in the future and I will keep chosing two students to focus on.

I'll continue to use the "playtime" during my lessons because; in fact it makes kids more productive.

I will take most of the elements with me in my future teaching, especially the "Focus on two weak students in two weeks".

The Erasmus+-project has reminded of the possibilities that exist. The exchanging of new ideas and experiences are always valuable. Also focusing extra on some of the students is an interesting element in teaching.

7. Which effect will the project have on your colleagues' teaching?

Introducing practical work in every lesson

We have talked to them and we will do it again after the evaluation. We will try to make them aware about all we have learnt so as to put it in practice. This way, they will also make changes in their teaching so as to prevent early school leaving.

Some of my colleagues have started using my puzzles and pair cards together and they told me, that they had the same experience as I. As soon as you give the students a new puzzle, the students ask for more. Since the preparation of the games is very time consuming, I let all the colleagues use the games. Maybe some of my colleagues will start making games on their own and share with everyone as I do. If they cannot find the time to make new games, it still seems more worth it that all my workhours gives joy to other teachers and students. I guess that the more teachers who use the games more new ideas will pop up.

We decided with some of them to change the math's textbook to take one which talks about "real problems", that can make students more interested in the subject. More computers will be used during lessons.

We have told all our colleges about the project.

Next year there might be a mat- project on the school involving 3-4 teachers, and hopefully we can use some of the elements from this project, and build up more experience about mat-teaching and learning.

All of the math teachers have tried at least one of the activities adapted to the different groups (age, course, program). They have different experiences which have been discussed in the subject meetings.

8. Which advices would you give the teachers of foreign languages and national languages?

Reflect and do not be afraid of changes

They should try to implement the same measures and type of activities that we have done. In fact, they are acceptable for any subject.

Do not be afraid to try new things even though they will be time consuming in the start it will be all worth it in the end. I am sure they can try some of the approaches we have tried since these approaches are not mathematical in nature, they can work in all subjects.

I would suggested them to be open-minded and live this experience as well as possible, In fact the best way to improve our attitudes is compare our self with other cultures and different ways of working.

Maybe we in this project had too many elements that we intended to incorporate .. so maybe it would be better to keep it more simple.

Comment

I think it has been very interesting and very giving to be in the project, I have learnt a lot and I hope I have developed a better teaching-practice. 😊

It is rational to appoint a group leader and a secretary from the beginning.

Visiting lessons/classes combined (preferably participating teachers) with interviews with the students. Each teacher brings their favorite activities – books are not necessary (many of the books are available digitally).