

RECONNECT

Better Digital Teaching and Learning

DATA ANALYSIS REPORT

2021



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Work**
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ARSUZ
İLÇE
MILLÎ EĞİTİM
MÜDÜRLÜĞÜ



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Executive Summary

The ReConnect data analysis has the aim to develop a new pedagogical approach:

1. To make better use of digital technology for teaching and learning;
2. To develop relevant digital competencies and skills for the digital transformation; and
3. To increase students' media literacy.

The ReConnect data has been collected through two methods of inquiry; focus groups and questionnaires. The quantitative data analysis steps we have done are data validation, data editing and data coding. Our conclusion is that the questions in the questionnaires and focus groups are valid. In general, the questions and follow up questions were done consistently. All respondents were chosen according the criteria and the procedures were fully followed and we are confident that the patterns and conclusions of our data analysis are valid. We did not find any errors in data editing. After identifying the patterns and connections we have identified the themes, looking for the most common responses to the questions, and identified the patterns which answers the ReConnect project questions.

The classroom environment is initially a good place to start up the pilot ReConnect training/workshop. This should be a blended approach which will cover the 3 learning styles;



Visual	Auditory	Kinesthetic
Visual, image, reading, writing	Hearing	Feeling, doing

65% | of the students learn through a visual style,

30% | are auditory learners

5% | are kinesthetic

It is clear that both teacher and student find that using more internet and digital tools in classroom environment is a good development and is also enjoyable. Teachers are prepared to use online tools and actually already use them as support teaching tools.

The term reality is a bit diffused as regards to the meaning as we know the learning style from each student differs. Thus, it is important that we keep in mind the different learning styles. Furthermore, for many students, most of the time, reality is the smartphone. Thus, one of our remarks here would also be that this area needs to be explored further when we go into this direction: The social media usage, the use of smartphone of the target groups (teachers and students) must be upgraded for both categories to a more professional level and is maybe very interesting and appropriate when we are going to teach through smartphones.

Following up the data analysis, our recommendation would be to firstly develop a blended pilot training with emphasis on digital teaching and learning for the students and then make the Train-the-Trainer Course.

The pilot training should have more emphasis on the internet and digital tools and we should take into consideration that we could make more use of the smart phone of the student. The current class room situation is a good point to start digital teaching. The morning suits best as the most appropriate time to learn for most students (although it would be very handy that the pilot would be accessible during each moment of the day (rewind)).

The pilot should have elements of ‘working alone’, but also in ‘groups’. Elements of practice by doing needs to be included (leaving the actual class room) as well. Fact-checking is an important component when we use the internet and this should be included as part of the pilot approach as well. The visual and auditory nature of videos appeal to a wide audience and allows each student to process information in a way that’s natural: videos are good teachers, but a teacher cannot be replaced in our opinion. The teacher is very important to moderate and to be a bridge with the use of the online tools.

The pilot must be attractive and engaging. Science and social studies were mentioned as most liked lessons. This is a good to know fact and can be a starting point when adding ‘more fun’(with a more funny presentation, adding cartoons, jokes and/or using storytelling, or some kind of technology - e.g. virtual glasses, an app) and/ or practice by doing, experiments, excursions and team work in place. Playing (educational) games or online tests was also mentioned as a good support tool. It is important to ensure that with the created content, the teacher has enough time to give attention to his/her students and to prepare a ‘good lesson’. The teachers are prepared to improve themselves and upgrade their digital skills. This is needed as well to make ‘technology’ and ‘online teaching’ work and support their students appropriately.

Finally, it is important to note that it does not matter which approach / learning style it is implemented as long as it is ensured that the teachers have enough time (for preparation and implementation) and that the class size is doable as well. Also, it is important that students and teachers are facilitated (the use of smart phone can solve this). It would be very handy that the pilot would be accessible during each moment of the day (rewind / replay), when not consumed live. A Train the Trainer Course must be the follow up for the teachers to help them be more digital savvy and equip them to make the digital teaching / ‘online teaching’ work. Last but not least it is very important that making (digital) mistakes is normalized:

F	First
A	Attempt
I	In
L	Learning!

1.1. Data Analysis Report ReConnect

85.5 %

BLENDED LEARNING:

Our recommendation would be to firstly develop a blended pilot training with emphasis on digital teaching and learning for the students and then make the train the trainer training More then 85.8% of students rate 'moderatelysatisfied (13.3%) 01 higher (72.5%) with what is taught on school

67 %

The current class room situation is a good point to start digital teaching, but the class room should not be too crowded and enough time must be taken to give the Reconnect training The morning suits best as the most appropriate time to learn to most students (67%) It would be very handy that the pilot would be accessible during each moment of the day (by smart phone)

27.7 %

The pilot must be attractive and engaging, should have elements of 'working alone (33.6%), but also in groups (34.5%). Elements of Practice by doing needs to be included (leaving the actual class room) as well; 'More fun' (18%) e.g. jokes and/or using storytelling (13,8%), watching video's (18%) or some kind of technology (e.g. virtual glasses, an app). Playing (educational) games / online tests (27.7%) were also mentioned as a good support tool.



Outline Project ReConnect

Project ReConnect is a project coordinated by San Gorg Preca College Middle School Blata I-Bajda in Malta, Arsuz District National Education Directorate in Turkey, Prisms from Malta and the Dutch Foundation of Innovation Welfare 2 Work from the Netherlands.

Social media and young people are intrinsically linked to each other. As innovators, young people are the ones who get absorbed into new technological trends which makes them also heavyweight users of social media. On the one hand, young people from an early age are being exposed to social media and online tools for leisure, socialization and education. This makes the young generation, also referred to as Millennials, very savvy and skillful when it comes to using online tools and social media. On the other hand, this generation is criticized for the lack of social skills when it comes to face-to-face communication. This generation is perceived as disconnected from the 'offline' aspect of life, due to their immersion into the online aspect. There is this generational gap, struggle and tension between generations.

The primary challenge for educators and students is to find common ground which will benefit both generations. The educators need to learn how to use the characteristics of the Internet and use them to be relevant to the young generations. The students need to learn more about how to socialize offline and be equipped with the skills to navigate safely and efficiently in the online world. This project is linked to EU's Digital Education Action Plan which speaks about three main objectives:

1. Making better use of digital technology for teaching and learning
2. Developing relevant digital competencies and skills for the digital transformation
3. Increasing students' media literacy

2.1. ReConnect Project phases

ReConnect will go through 7 phases. The 7 phases are:

Phase	01	Focus Groups and Questionnaires to students and teachers
Phase	02	Analysis of the data and Mapping of contextual needs
Phase	03	Training to teachers and learners
Phase	04	Development of the new pedagogy approach
Phase	05	Implementation of the pedagogy in the classroom environment and the implementation of the project in schools by the students
Phase	06	Focus Groups and Questionnaires to students and teachers (to measure the impact)
Phase	07	Creation of online tools and dissemination of results within the schools and networks on a local and European level

In this analysis we will report about the first two phases. In Phase 1 we have carried out student and teacher Focus Groups. We have sent out questionnaires to students and teachers as well. This report is covering all answers and content of phase 1 and phase 2: The analysis of the data and mapping of contextual needs.

The research we have done was in a classroom environment to explore and analyze the following aspects of two target groups:

1. **Educators/teachers**

- ➔ Perception of the Internet in education from the educators' perspective;
- ➔ The extent of the internet and digital tools in classroom environments;
- ➔ The extent of understanding of characteristics of the millennials as learners;
- ➔ Main challenges experienced by educators in the classroom environment.

2. **Learners**

- ➔ The perception of learners of the methods of teaching which they experience;
- ➔ The challenges which learners face during their lessons;
- ➔ The level of engagement experienced by learners during their lessons;
- ➔ What changes they would like in order to increase their level of engagement and relevance;
- ➔ The extent of awareness on Internet Safety, media literacy and soft skills.

The data was collected through two methods of inquiry; focus groups and questionnaires. Focus groups assisted us on important elements on which to design the second round of questionnaires.

The quantitative data analysis steps carried out were:

- ➔ Data validation;
- ➔ Data editing; and
- ➔ Data coding

Data Validation

The aim with data validation is to convert the raw data into something meaningful and readable. We first have validated the questions of the questionnaires and then the questions in relation to the data of the focus group of students and teachers.

Moreover, the purpose of the data validation is to find out, as far as possible, whether the data collection was done as per the pre-set standards and without any bias. It includes among others to have a look at the interviews with the respondents (the students and the teachers); we have done some screening, and made sure that respondents were chosen according to the criteria agreed upon. We have also done some procedure checks, to check whether the data collection procedure was duly followed. Last but not least we have done a completeness check, to ensure that the interviewer has asked the respondents all the (relevant) questions, rather than just a few required ones.

CONCLUSIONS DATA VALIDATION

Our conclusion is that the questions in the questionnaires and focus groups are valid. In general, the questions and follow up questions were done consistently.

As regards the questions in the focus groups we can state that the interview methodology between the Turkish focus groups and the Maltese focus groups has been done a bit differently. The discussions in the Turkish focus groups were less structured and more moderated. But we still think that the answers are valid.

All respondents were chosen according to the criteria and the procedures were duly followed.

As regards to the completeness: it can be stated that there is again some difference in completeness as regards to the focus groups (not all questions were consistently asked in all focus groups: e.g. *"If you had the power to change whatever you want...what do you do to make the lessons more interesting to you?..."* was lacking in the 2nd Maltese focus group... *"Are you afraid of doing mistakes at school?"* was lacking as question in the Turkish student focus groups. But we are confident that this does not in any way obstruct the patterns and conclusions of our data analysis.

Data Editing

Data sets include sometimes errors. To make sure that there are no such errors, we have conducted basic data checks, check for outliers, and have edited the raw research data of the focus groups to identify and clear out any data points that may hamper the accuracy of the results. An error could be that certain fields were left empty by respondents. While editing the data, it is important to make sure to remove or fill all the empty fields.

CONCLUSIONS DATA EDITING

No / minor errors.

Data Coding

We have assigned groups and values to responses from the survey. The groups and values vary from the responses per questions of course, but there are a few categories which come back pretty frequent. We have not created a demographic bucket, because upfront it was already clear that we would interview students between the age of 10-12 of the respondents. And for the teachers, it's not a vital label. We also do not think gender is an issue for the approach we are going to develop. So, during the analysis, we have simplified the brackets, to Malta and Turkey, to see if there is maybe a cultural difference as regards to the answers.

Our conclusion is that the questions in the questionnaires and focus groups are valid.



Quantitative Data Analysis Methods

After successfully completing the validation process we have followed up sorting our categories. In this way our data is more or less ready for analysis. We have used the descriptive statistics analysis methodology (because we have used interview technique). The descriptive statistics/analysis, helps us to summarize the data and find patterns.

The commonly used descriptive statistics we have used are:

- ➔ **Mean:** numerical average of a set of values.
- ➔ **Median:** midpoint of a set of numerical values.
- ➔ **Mode:** most common value among a set of values.
- ➔ **Percentage:** used to express how a value or group of respondents within the data relates to a larger group of respondents.
- ➔ **Frequency:** the number of times a value is found.
- ➔ **Range:** the highest and lowest value in a set of values.

The advantage of the descriptive statistics is that we are able to provide absolute numbers and percentages to show some conclusions. In percentage we can make clear how many respondents were from Turkey or Malta; how many students and teachers want more emphasis on digital teaching and learning; what lessons are liked best?; in which moment of the day students learn best and what (digital) activities do they like? (Whether they like and learn from videos and so on). We further think the descriptive statistics are very helpful because the research is limited to our sample and a pilot pedagogical approach does not need to be generalized to a very large population (yet). Our aim is to equip educators and young people in the spheres of a pedagogical approach experiment with the Turkish and Maltese schools in the ReConnect project.



Analyzing the Qualitative Data

The open questions used provides us with a big chunk of Qualitative data analysis. With the qualitative data, due to the open question structure used and the sample size, it is important to get familiar with the data thoroughly and to address basic observations or patterns. This also includes transcribing the data and developing a framework, also known as coding (mentioned above). We have identified broad ideas, concepts, behaviors, and/or phrases and assigned codes to them, for example, coding country (Turkey, Malta) and we also used the concepts such as positive ('I like to learn', 'I like power point', 'I like YouTube video') or negative response ('boring', 'not interesting', 'no fun') to a question.

The coding has been very helpful in structuring and labeling the data. After identifying the patterns and connections, we have identified the themes, looked for the most common responses to the questions, and identified the patterns which answer the ReConnect project questions. We have also addressed an area that can be explored further (the social media usage of the target groups). As said, the methodology that was used were open question interviews, so below our analysis is shown in a descriptive way. We have also addressed an area that can be explored further (the social media usage of the target groups).

In our questionnaire, we have asked questions in a precise way in order to use the feedback to develop the right tools. In our questionnaire we chose not to use open-ended questions. We have used a variety of questions: closed-ended questions, nominal questions (multiple answer choices; the answers are non-numerical in nature and do not overlap) and Likert scale questions (a 7 - point scale that evaluates the student's level of agreement with a statement or the intensity of their reaction,

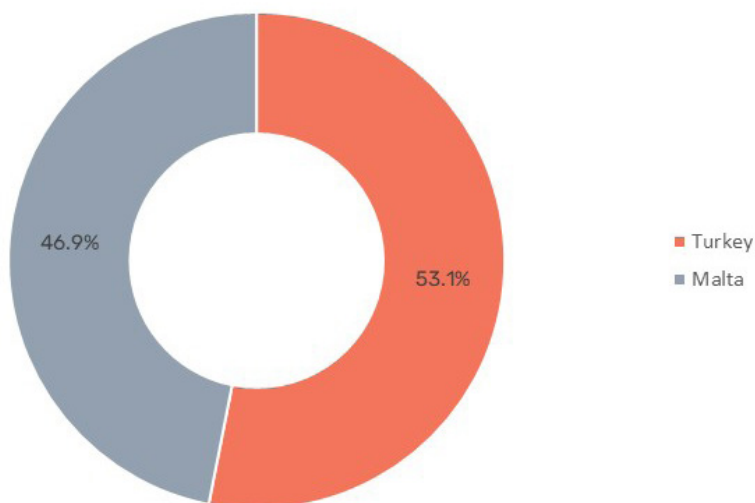
1	2	3	4	5	6	7
Very dissatisfied	Somewhat dissatisfied	Slightly dissatisfied	Neither satisfied nor dissatisfied	Slightly satisfied	Somewhat satisfied	Very satisfied

By using the above-mentioned questions, we have limited the student's response options to a set of pre-selected choices. In this way it is much easier to create graphs and trends based on the student's answers. By also using the rating scale questions (in a scale from 1 to 7) in particular we can get a good grasp of students rating the school service. In this way we can also rate our progress.

First, we start analyzing per target group. We start with the online student questionnaires. The below questionnaire is taken by 113 students from secondary schools from Malta and Turkey. The questionnaires contained 12 questions.

1. Where are you from?

113 Answers



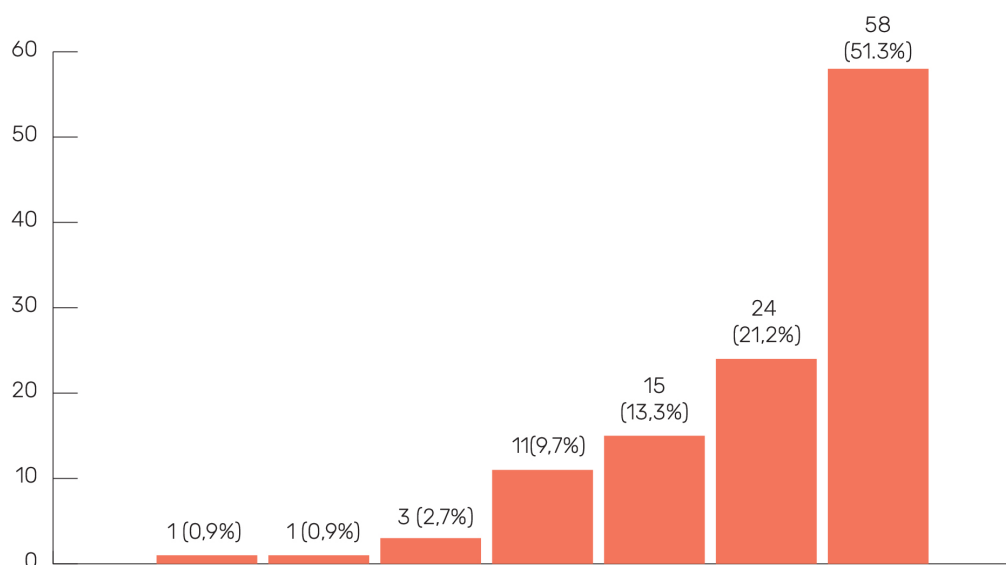
From the total of 113 students more or less an equal amount of students responded from Malta and Turkey. 60 Turkish students (53.1%) against 53 Maltese students (46.9%). We have chosen not to diversify on gender.

It is good to note here that we have not identified a significant difference in replying among the student populations from Turkey and Malta in the questions of the questionnaire and the focus groups.

Although, in relation to the student focus groups, we can state that the Music lesson is more disliked in Turkey than in Malta (no Maltese student mentioned Music). Further, as favorite lessons, only the Turkish mentioned 'social studies' specifically lots of times (this is a general summary for lessons such as History and Geography, which were also mentioned by Maltese students).

2. Are all the subjects taught in your school are useful for you?

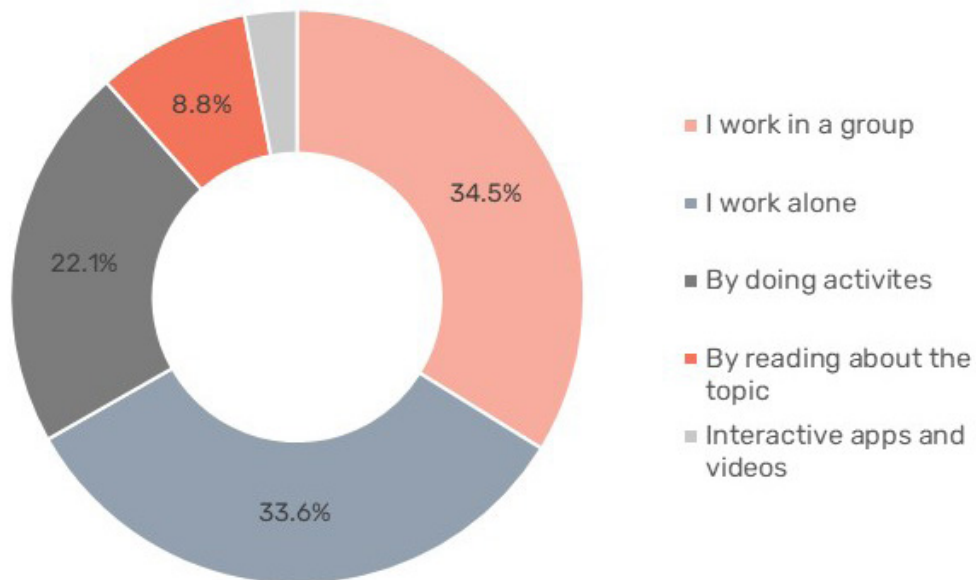
113 Answers



On a scale from 1 to 7 (1 Not at all; 2 Not really; 3 Slightly; 4 Neutral 5; Moderately 6; pretty ;7 Definitely) it is good to see that only 4 students (4.5%) have a negative attitude on what is taught in school. Only 1 student ticked the box 'Not at All'. The vast majority 96.5% are not negative on what is taught. Over 50% of students score 7 out of 7. It can be concluded from this questionnaire that students are satisfied with what is taught in school. More than 85.8% of students rate 'moderately satisfied (13.3%) or higher (72.5%)'.

3. I learn best when

113 Answers

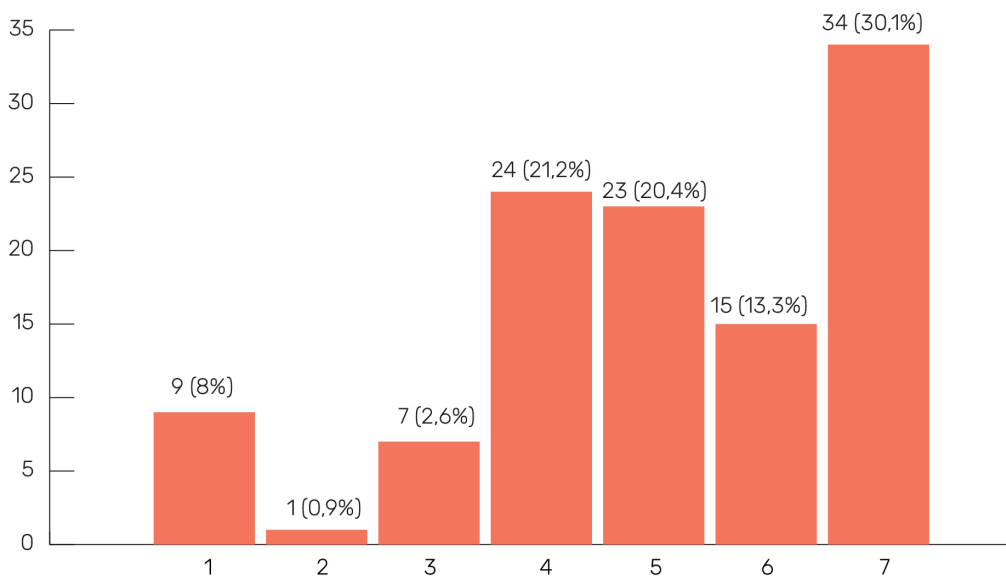


Students like to work alone (33.6%), but also in groups (34.5%). Practice by doing is also appreciated (22.1%). What really stands out and is a little puzzling is the very low percentage of students that say they learn best with interactive applications and /or videos. This is especially surprising when you keep in mind that average smart phone use per day is 3 hours and 35 minutes in our target groups in 2020 (Source: eMarketer 2020). Other research found that students currently do use applications and videos, but see this use more as ‘fun’ then as a ‘tool to learn’. So, this actual question might have sent us into a wrong direction here.

Finally, you could easily argue that you can work alone, reading a book and/or work alone and use an interactive application at the same time.

4. All the teachers use online tools during lessons

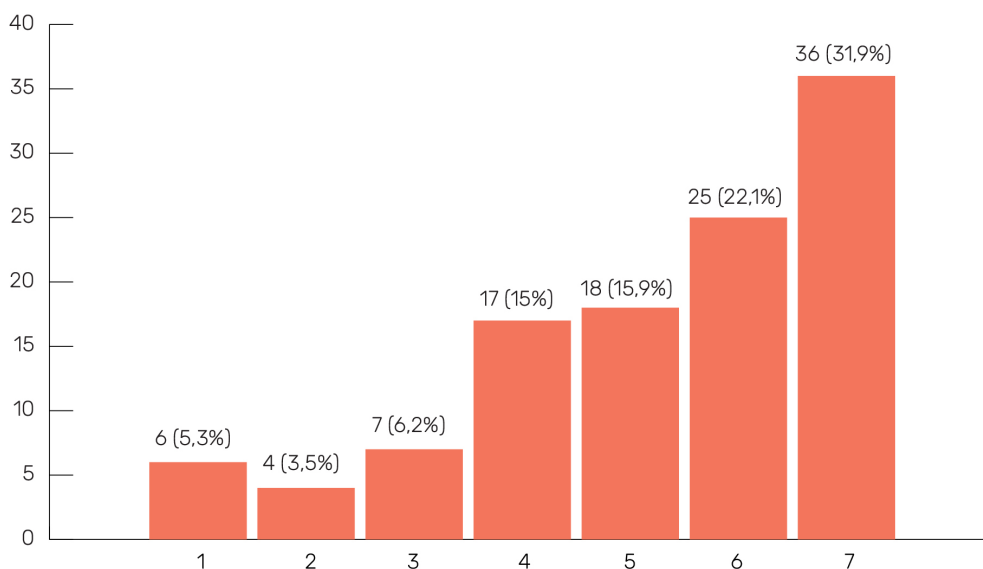
113 Answers



The statistics show that on a scale from 1 (few teachers) to 7 (all teachers), students find that in general most of the teachers use online tools during their lessons. Only 15.1% of students think otherwise. This stats can be explained as very positive and more or less emphasizes that teachers are prepared to use online tools and actually use them as support teaching tools.

5. I really enjoy using online tools to learn during the lessons

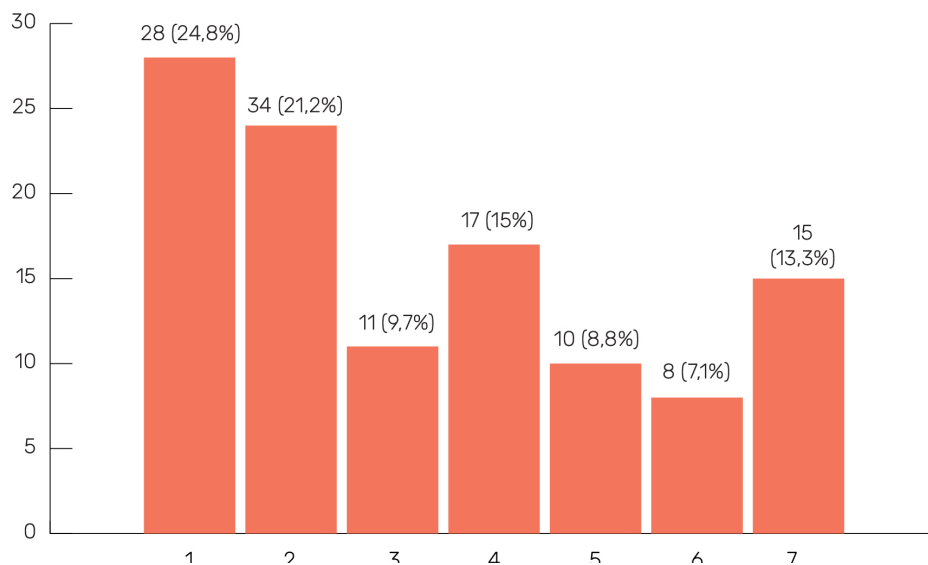
113 Answers



These statistics show that more than half of the students really enjoy using online tools during the lessons. Overall, only 15% think it is boring and don't like online tools to learn during the lessons. A 1-7 scale was used ranging from 1: Boring, to 7: Best thing ever. 15% have a neutral attitude towards usage of online tools.

6. I learn more about a topic when I watch a video than listening to the teacher

113 Answers



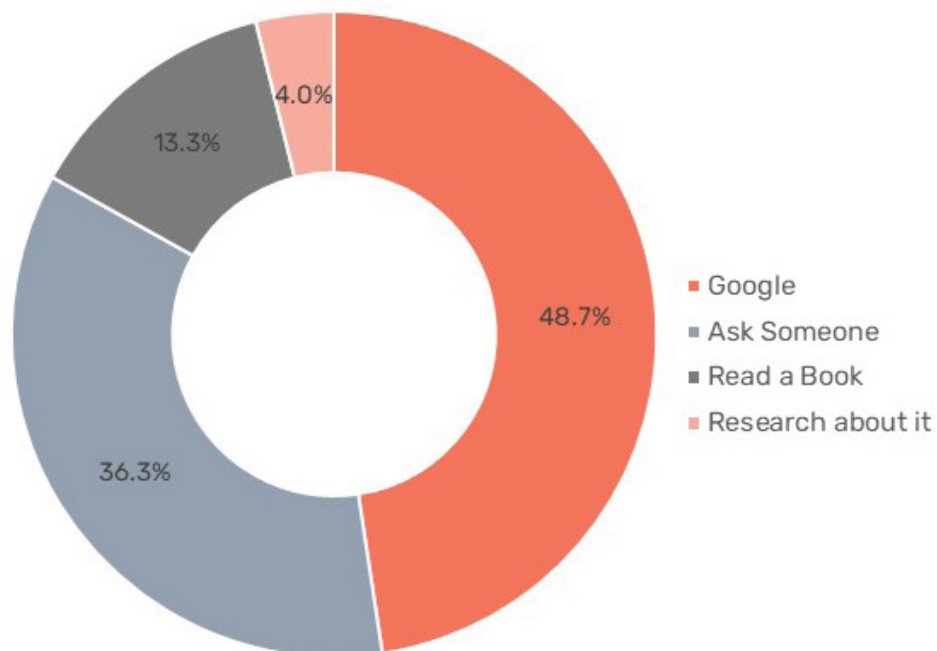
When the question is stated like this it seems like the students have to choose for the video as a replacement for their teacher. When you put it this way, it is clear that students do not want to replace their teacher for a video. The scale from 1 (not really) to 7 (always) was used. Only 13.3% think that a video is always better than a teacher. Not more than 29% are convinced a video is better than a teacher. 55.5% prefer a teacher over a video. 15% more or less think both.

On the other hand, the influence of digital videos on our day to day lives and culture is undeniable. Online video sharing sites such as YouTube, Vimeo, and Metacafe boast monthly audience numbers in the millions. With digital videos continuing to gain popularity, it seems only natural that this familiar and widespread platform should extend into the education system.

Studies have shown that the use of short video clips allows for more efficient processing and memory recall. The visual and auditory nature of videos appeals to a wide audience and allows each user to process information in a way that is natural to them. In a nutshell, videos are good teachers, but a teacher is needed as well.

7. When I want to learn something (not necessary a school-related subject), I prefer to:

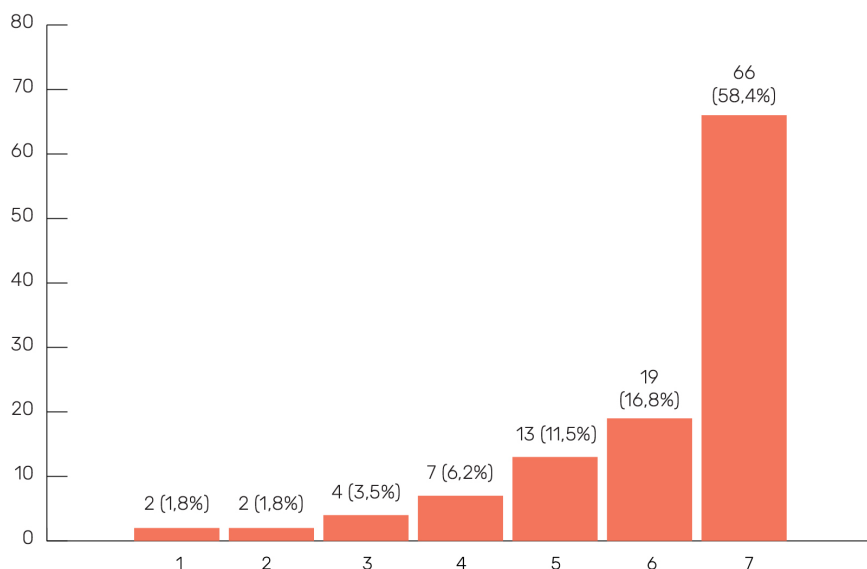
113 Answers



Almost half (48.7%) the students usually google when they want to find answers about certain subjects. One third (36.3%) just ask someone. Only 13.3% go to the library to do research/read a book. As only 1 answer could be ticked, it is clear that students will also ask someone after they could not google it (or the other way round).

8. I prefer it when we do activities during the lessons which are interesting and exciting

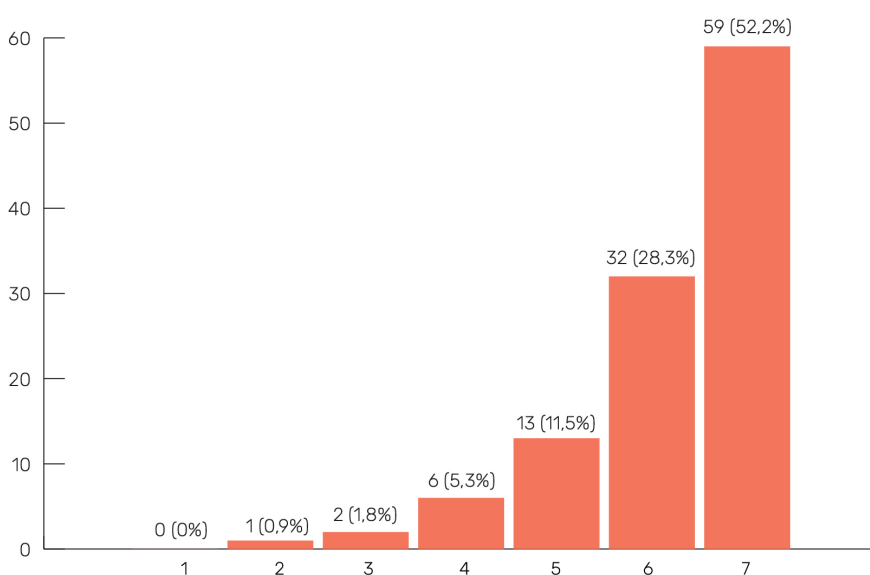
113 Answers



The answers on this question underlines that students like practice by doing (86.7%). Only 1 student does not like practice by doing. Overall, 7.1% are not so fond on practice by doing (8 students).

9. My teacher always lets me know how I can improve myself

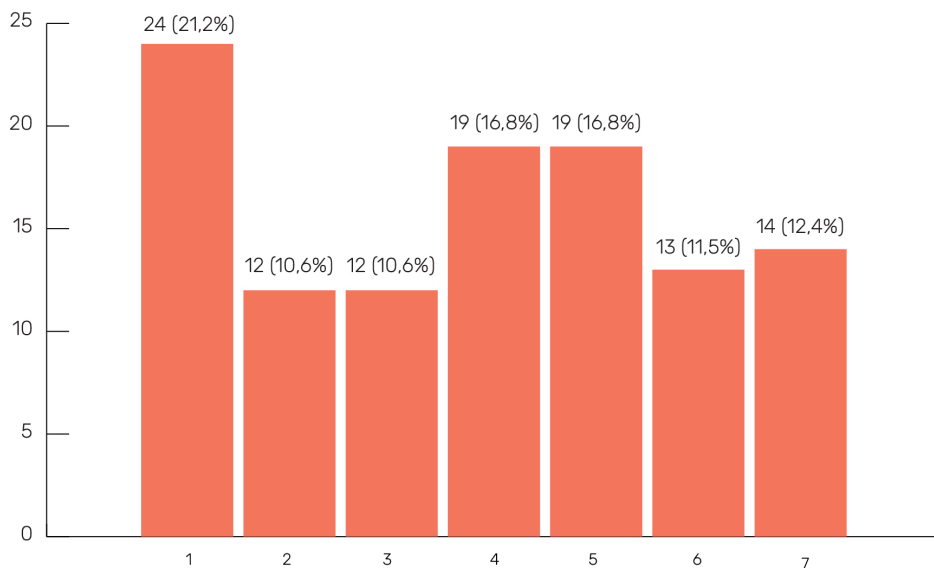
113 Answers



The students all say that their teacher always lets them know how to improve. The answer 'never' has not been given on a scale from 1 (Never) to 7 (always).

10. I am afraid of doing mistakes in school

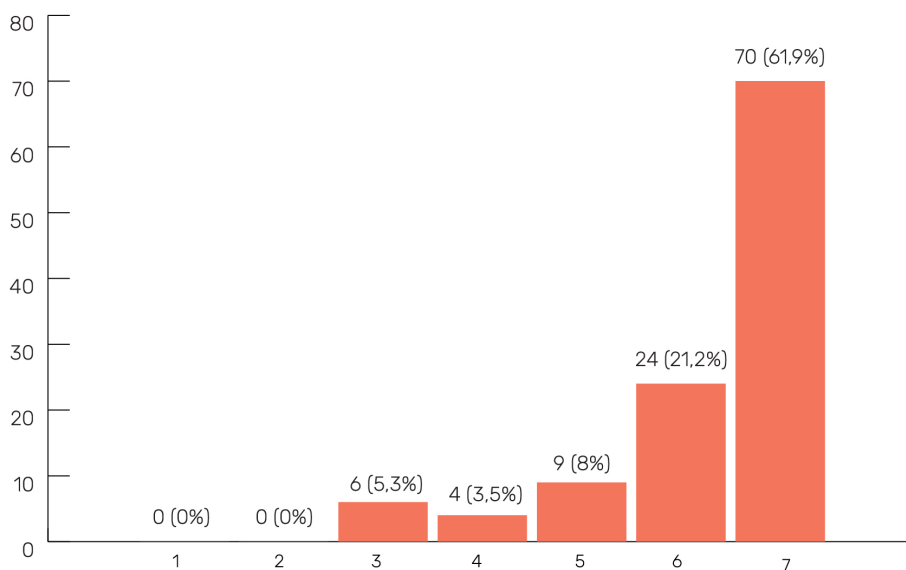
113 Answers



In a scale from 1 (not scared) to 7 (very scared) we note that on average, a lot of students are afraid of making mistakes at school.

11. The teacher always explain what will be learning in each lesson

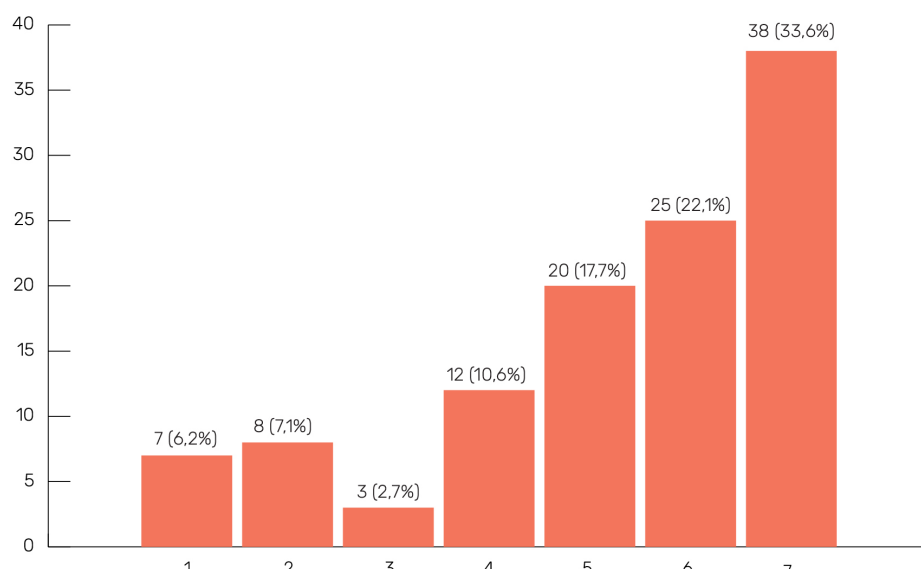
113 Answers



This is very good feedback for the teachers: The explanation in school about the learning is well received by the students. 89.1% feel that they get enough explanations from the teachers. 3.5% say it is just about right. Only 5.3% say it could be a bit more.

12. We are given time to reflect (think about what we have learnt during the lesson) during the lesson

113 Answers



38% are very satisfied with their reflection time. 73.4% of the students say they are given enough time to reflect on what they have learnt during the lessons. 10.6% are neutral. 6.2% are really not happy about the time to reflect. 16% in total are a bit to very dissatisfied.



Conclusions Student Questionnaires

From the total of 113 students filling in the Student Questionnaires, more or less an equal number of students responded from Malta and Turkey. 60 Turkish students (53.1%) against 53 Maltese students (46.9%). It is good to note here that in general we have not identified a significant difference in replying among the student populations from Turkey and Malta in the questions of the questionnaire and the focus groups.

The vast majority of the students (96.5%) are not negative on what is taught during the school lessons. Over 50% of students score 7 out of 7. So, it can be concluded from these questionnaire that students are satisfied with what is taught in school. More than 85.8% of students rate 'moderately satisfied (13.3%) or higher (72.5%)'.

Students like to work alone (33.6%), but also in groups (34.5%).

Practice by doing is also appreciated (22.1%). What really stands out and is a bit puzzling is the very low percentage of students saying that they learn best with interactive applications and/or videos. Especially when you keep in mind that the average smart phone use per day is 3 hours and 35 minutes in our target

groups in 2020 (Source: eMarketer 2020). Other research found that students currently do use applications and videos, but see this use more as 'fun' than as a 'tool to learn'. So regarding this particular question (I learn best when..?) it would be good to double check, so that we are not being led into the wrong direction: You could easily argue that you can work alone, reading a book and/ or work alone and use an interactive application at the same time.

Data Analysis Report ReConnect

The statistics show that students find that in general most of the teachers use online tools during their lessons. Only a small percentage (15.1%) of students think otherwise. These stats can be explained as very positive and more or less emphasize that teachers are prepared to use online tools and actually use them as support teaching tools. More than half of the students really enjoy using online tools during the lessons.

As regards to the question 'I learn more about a topic by watching a video than listening to the teacher': When the question is stated like this it seems like the students have to choose for the video as a replacement for their teacher. When you put it this way it is clear that students do not want to replace their teacher for a video. Only 13.3% think that a video is always better than a teacher. 55.5% prefer a teacher over a video. On the other hand, the influence of digital videos in our day-to-day life and culture is undeniable. Online video sharing sites such as YouTube, Vimeo boast monthly audience numbers in the millions. With digital videos continuing to gain popularity, it seems only natural that this familiar and widespread platform should extend into the education system. In a nutshell, videos are good teachers, but a teacher is needed as well.

Almost half the students usually google when they want to find answers about certain subjects. One third just ask someone. As only 1 answer could be ticked, it's clear that students will also ask someone after they could not google it (or the other way round). Students like to be active, practice by doing. On average a lot of students are afraid of making mistakes at school.

The explanation in school about the learning is well received by the students. 89,1% feel that they get enough explanations from the teachers. This is such great feedback for teachers.

Students are in general also very satisfied with their reflection time. 73.4% of the students say they are given enough time to reflect on what they have learnt during the lessons. Only 16% in total are a bit to very dissatisfied.

(86.7%)

Students like
practice by doing.



Analyzing Student Focus Groups

Student Focus Groups

The focus groups are formed from students and teachers in Malta and Turkey. There were 4 student focus groups, in 2 countries, consisting of 24 students in total:

- ➔ We have two Maltese Student Focus Groups (A and B) with 4 and 6 students
- ➔ We have two Turkish Student Focus groups (1 and 2) with 8 and 6 students

The format of questions asked in the student focus groups were:

Theme	Questions	Sub Questions
Probing questions	From all the subjects you are learning... which do you find most interesting?	What makes this subject more interesting than others?
	Which lesson is the most engaging for you?	What makes it engaging?
	Which lesson is the most boring?	What makes it boring?
Follow Up questions	Let us imagine you are a teacher... what would you do to make the lesson interesting to others?	Would you use online tools? Which ones? (if no why?)
	When you want to learn something (even things which are not covered in school) what do you do?	Do you prefer to use books or you find information you need online?
	If you had the power to change whatever you want...what do you do to make the lessons more interesting to you?	Why would you like to change the things mentioned?
	What happens when making a mistake?	
	Do you enjoy learning?	When is it that you learn the most?
Exit Question	Is there anything you would like to add?	

6.1. Which subject of learning you find the most interesting?



Students from both countries said they liked Science best. The Turkish focus group usually named two favorite lessons. The Maltese group voted for Science (4), History (3) and Mathematics (2) as their favorite lessons. Geography (1), Home Economics (1) and Maltese language (1) were also mentioned. The Turkish group voted for Science (10), Social Studies (6), Mathematics (5) and History (2). Turkish (1) and English (1) were also mentioned.

In total, Science (15) topped the charts in Malta and Turkey. Social Studies (6) / History (5) and Mathematics (5) ranked high as well. Social Studies includes primarily History, Geography, Civics, Economics and Sociology. Thus, it is not a very specific answer.

As described, Science and Social Studies are the most well-liked lessons. The reasons why lessons are well liked or called engaging are:

- ➔ It's interesting (4): Geography, Social Studies, Science
- ➔ I like it (6): Science, Maths (I like numbers), History, German,
- ➔ Understanding teacher (1): German
- ➔ It's my native language (1): Maltese
- ➔ No specific reason (1): History

The most common answer is that they find the lessons engaging because it's very interesting and like it very much...



6.2. Which lesson is the most boring?

In Turkey, Arts (and Music) are mentioned as the most boring lessons (5). Social Studies (3) and English (2) are mentioned more than once. Other lessons mentioned were Information Technologies, Turkish and Science.

In Malta PSED (Personal, Social and Career Development) and Maltese are mentioned as the most boring (both 2). Social Studies and English are also mentioned in Malta. Other lessons mentioned are Home Economics, Religion and Maths.

Thus, in total, Social Studies and Art stand out as the most boring (both 5).

In general, we could state that the lessons Art (including Music), Social Studies, PSED, English and Maltese are not well loved.

6.3. What makes it boring?

The reasons why lessons are not well liked, or called boring are in relation to English

- ➔ It's confusing (2) (English)
- ➔ I don't like it (2) (Turkish, Social Studies)
- ➔ I have no talent (3) (Arts and Music)
- ➔ It's boring (5) (Information Technologies, Science, Social Studies, Maltese)
- ➔ I can't remember (2) /I don't understand (1) (English)
- ➔ No practice (only books) (1) (Home Economics)

6.4. Let's imagine you are a teacher what would you do to make the lesson interesting for others? Would you use online tools? Which ones? (If not why?)

Overall students would like the lessons to be more attractive, more engaging by adding 'more fun' in the lessons (7). This can be done by the teacher; for example, presentation is more fun, by making jokes or using storytelling, or some kind of technology e.g. virtual glasses (1), or by doing more activities, practice by doing (4), experiments (2) excursions and team work. Playing (educational) games or online tests (8) were also mentioned as good support tool. Engagement can be pushed by giving awards as well. Showing students what to do by using more videos (e.g. YouTube, movies or documentaries) (8), using power points slides (5) and models and images (3).

"YouTube is good – my friends and I watch a lot of videos on YouTube because they are more engaging than when reading or when we listen to someone speaking"

When you want to learn something (Event things which are not covered in school) what do you do? How would you look for the information you need?

Students would do research (4) on the internet (16), e.g. Google, websites, read books (9) (e.g. encyclopedias, go to the library), or ask someone (9) (e.g. teacher, parents, family, close friends), and watch videos (3).

Interesting was the trend that a lot of students said that they would check what they found on the internet by also researching in libraries and books: "That the information found is not false".

In the Turkish focus group, the follow up question made it even more specific: What did they prefer? Either reading books, watching videos, or be online? Here as well was very interesting that students first ask teachers and family and do research on book and scroll on internet (in that order). So students first prefer to ask someone (16) close to them (e.g. family, teacher), and then check books (7) and the internet (8). Watching videos and technology are mentioned three times.

6.5. Do you enjoy learning? When do you learn the most?

Most students say they do like/love learning (15) and that is a good sign. One says s/he doesn't (when the topic is not of interest). 'Sometimes' is also given as an answer (5) several times (but this is mostly depending on mood).

When students enjoy learning, this mostly depends on a lot of factors. Very frequently the moment of the day (morning, afternoon, and before going to bed) are mentioned as 'best learning moment'. It is clear it depends a lot per individual. The morning is mentioned as the most appropriate moment (12), which also implies that this is during school time. Studying before going to bed (4) comes next. The afternoon (2) is not mentioned a lot as the best moment / time to learn.

As regards the best learning environment at home, school, and a quiet environment are mentioned a few times.

The mood of the student is also addressed a lot of times. Having a 'good mood' makes learning more enjoyable. And it helps of course when the lesson is interesting (4), the teacher takes (enough) time to give attention to his/her students and prepares a 'good lesson' (4).

'Yes, I enjoy learning. Some days you wake up and you want to learn. But I like to learn the things that interest me like science and art. But in other subjects like Maltese, unless it is really interesting, I do not enjoy learning as it is not my passion.'

6.6. If you had the power to change whatever you want...what do you do to make the lessons more interesting to you?

Most students would like to have more 'learning/practice by doing'. Excursions through trips, being active, 'more fun applications', 'more realistic'. In general, it is said that the teaching is too much 'dry' theory (through, writing / reading). This way of learning does not appeal e.g. to the auditory and kinesthetic learners (hands on). Suggestions to have less homework is also mentioned multiple times.

6.7. Are you afraid of making mistakes at school?

More or less students are unequally afraid of (not) making mistakes. 33% say they are not afraid, because they learn from mistakes and it does not matter when you do your best. 33% say they do not want to make mistakes. 33% sometimes, it depends on the consequence: When the consequence is a lower grade, they feel judged or are more scared of the reply of the teacher.



Student Focus Group Conclusions

Most focus groups do not really come up with amazing answers when it comes to why lessons are engaging: 'Because it's very interesting and like it very much' are the most obvious answers.

Students from both countries said they liked Science best. So, in total, Science (15) topped the charts in Malta and Turkey. Social studies (6) / History (5) and Mathematics (5) ranked high as well. Social Studies includes primarily History, Geography, Civics, Economics and Sociology. Students mention as the most boring lessons Arts (and Music) (5) and Social Studies (5). English (2) and Maltese are mentioned as well (both 2).

Overall students would like the lessons to be more attractive and more engaging. This could be done by adding 'more fun' in the lessons (7). The teacher could present funnier lessons, by making jokes or using storytelling, or some kind of technology (e.g. virtual glasses) and/ or by doing more activities, practice by doing, experiments, excursions and team work. Playing (educational) games or online tests was also mentioned as a good support tool. Engagement can be pushed by giving awards as well. Showing students what to do by using more videos (e.g. YouTube, movies or documentaries), using power points slides and models and images.

Students from both countries both said they liked science best. Social studies is ranked on second place. Students mention as the most boring lessons Arts and Social studies

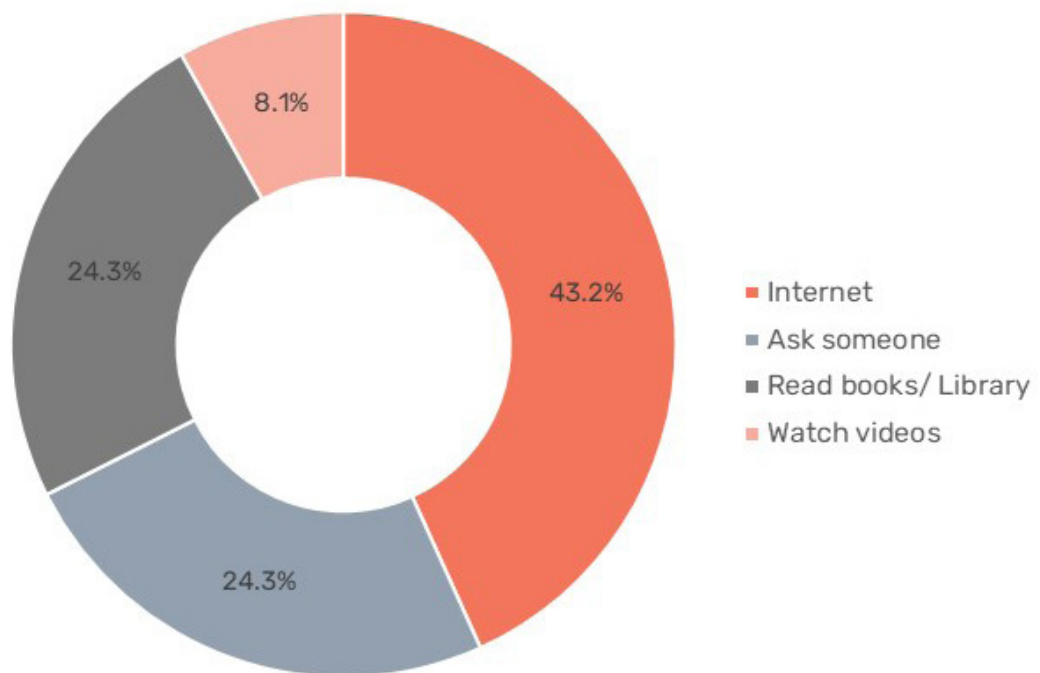
Data Analysis Report ReConnect

“YouTube is good – my friends and I watch a lot of videos on YouTube because they are more engaging than when reading or when we listen to someone speaking”

Students say that when they want to learn something or have to look for information needed, they would mostly do research on the internet (e.g. Google, websites) and read books (e.g. encyclopedias, go to the library) and or ask someone (e.g. teacher, parents, family, close friends). Watching videos was also mentioned separately (but is of course connected to internet).

Data Analysis Report ReConnect

Student Focus Groups • When you want to learn something (even things which are not covered in school) what do you do?



Interesting was the trend that a lot of students said that they would verify what they found on the internet by also researching in libraries and books: "That the information found is not false".

Most student enjoy learning. Only one student doesn't (when the topic is not of interest). Having a 'good mood' is mentioned that it makes a big difference to consume the learning as enjoyable. It helps of course when the lesson is interesting, the teacher takes (enough) time to give attention to his/her students and prepares a 'good lesson'.

Students would do research (4) on the Internet (16), e.g. google, websites, read books (9) (e.g. encyclopedias, go to the library), or ask someone (9) (e.g. teacher, parents, family, close friends), and watch videos (3).

When students enjoy learning this mostly depends on a lot of factors. Very frequently the moment of the day (morning, afternoon, and before going to bed) are mentioned as 'best learning moment'. It is clear it depends a lot per individual. The morning is mentioned as the most appropriate moment, which also implies that this is during school time. Studying before going to bed comes next. The afternoon is not mentioned a lot as the best moment / time to learn.

As regards to the best learning environment at home, school, and a quiet environment are mentioned a few times.

When students had the power to change whatever they could, *they would change lessons more towards 'learning/practice by doing'*. Excursions through trips, being active, 'more fun applications', 'more realistic'. In general, it is said that the teaching is too much 'dry' theory (through, writing / reading). This way of learning does not appeal for example to the auditory and kinesthetic learners (hands on). Suggestions to have less homework is also mentioned multiple times.

More or less students are equally afraid of (not) making mistakes. 33% say they are not afraid, because they learn from mistakes and it does not matter when you do your best. 33% say they do not want to make mistakes. 33% sometimes, it depends on the consequence: When the consequence is a lower grade, they feel judged or are more scared of the reply of the teacher.

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Analyzing the Questionnaires for Teachers

In the questionnaire for the teachers, we have asked questions in a precise way in order to use the feedback to develop the right tools. In the questionnaire for the teachers we have chosen again a variation of questions: Closed-ended questions, nominal questions (multiple answer choices; the answers are non-numerical in nature and do not overlap) and Likert scale questions (a 7- point scale that evaluates the teachers' level of agreement with a statement or the intensity of their reaction, from

1	2	3	4	5	6	7
Very dissatisfied	Somewhat dissatisfied	Slightly dissatisfied	Neither satisfied nor dissatisfied	Slightly satisfied	Somewhat satisfied	Very satisfied

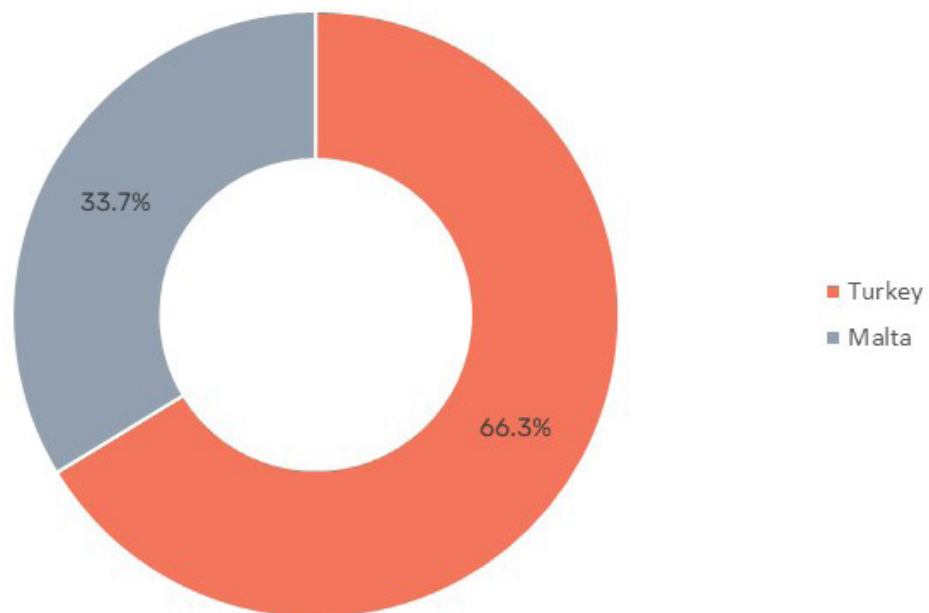
By using the above mentioned questions, we have limited the teachers' response options to a set of pre-selected choices. In this way it is much easier to create graphs and trends based on the teachers' answers.

By also using the rating scale questions (in a scale from 1 to 7) in particular we can get a good grasp of the teachers rating learning. In this way we can also rate our progress.

The below questionnaire is taken by 92 teachers from secondary schools from Malta and Turkey. The objective of the 15 questions of this questionnaire is to understand better the perception of students and teachers with regards to their education process and methodologies used.

1. Where are you from?

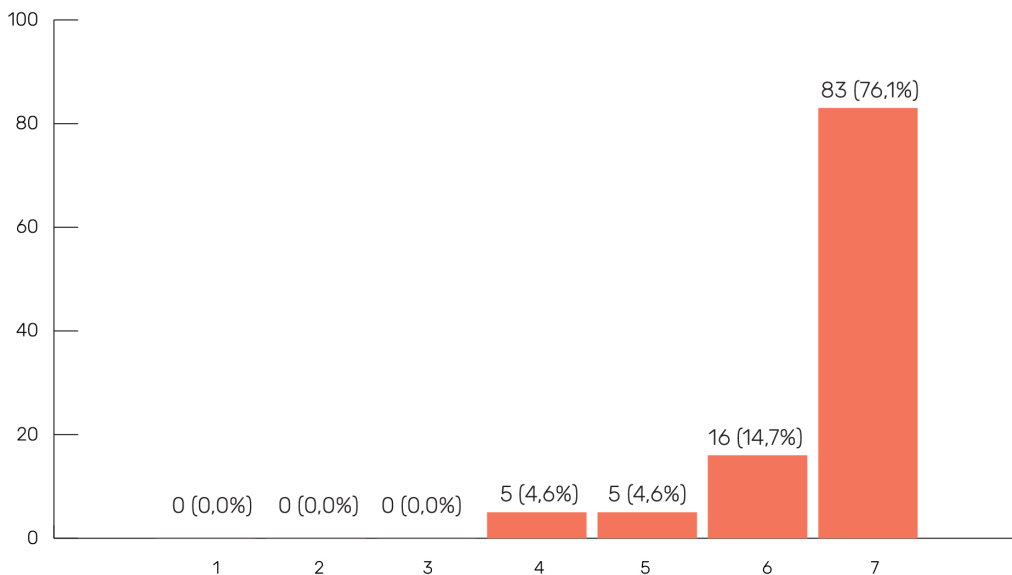
92 Answers



Sixty (66.3%) teachers who have filled the questionnaire come from Malta. The other thirty-two (33.7%) are Turkish teachers. We did not see a significant change of opinion between the Maltese and Turkish teachers.

2. I feel that the student’s knowledge should be taken into consideration and used in the lessons

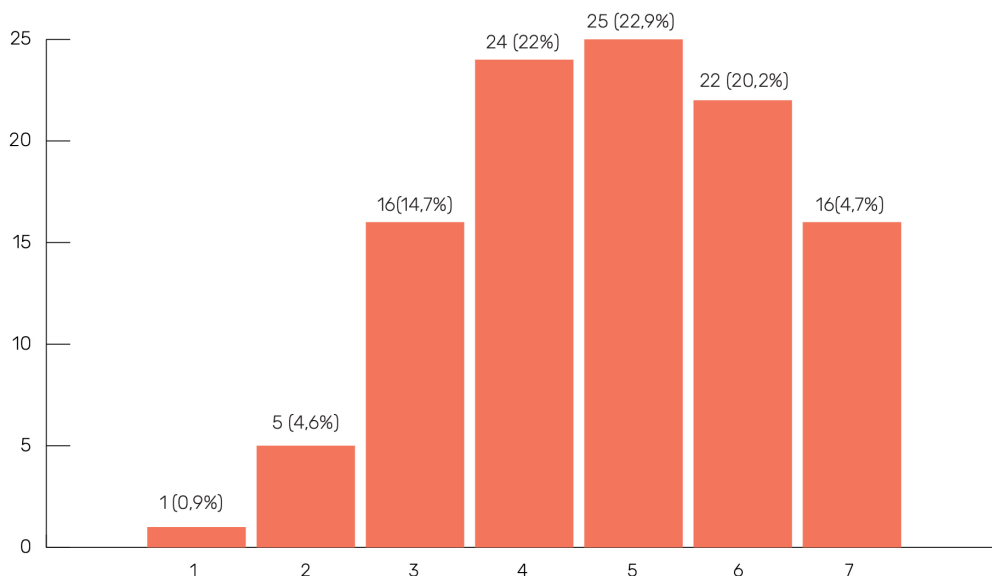
109 Answers



All teachers think it is very important to take into account the knowledge of the student when lessons are given. On a scale from 1 (not at all) to 7 (definitely) more than 90% (90.8%)gave very high scores.

3. I always use online tools in lessons I plan

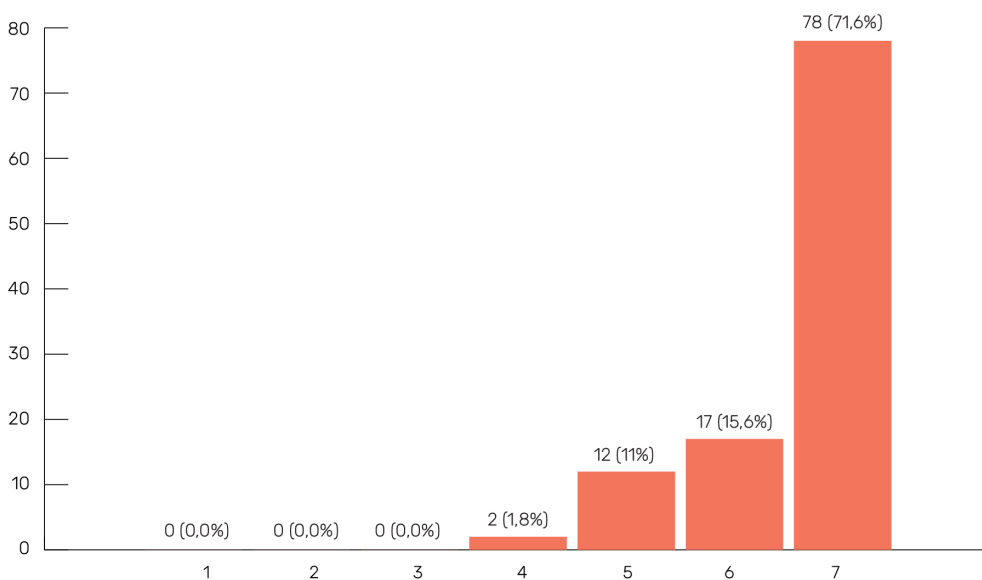
109 Answers



Only 1 teacher does not really use online tools. On a scale from 1 (not really) to 7 (always), 14.7% of teachers always use online tools. On average we can state that teachers still can make some technical development and should consider using more online tools during their lessons. When we relate this question to the focus groups, we know that a lot of teachers want to educate themselves on 'technology' and 'online teaching'.

4. I think that students need to enjoy their learning. They learn the most when they are having fun

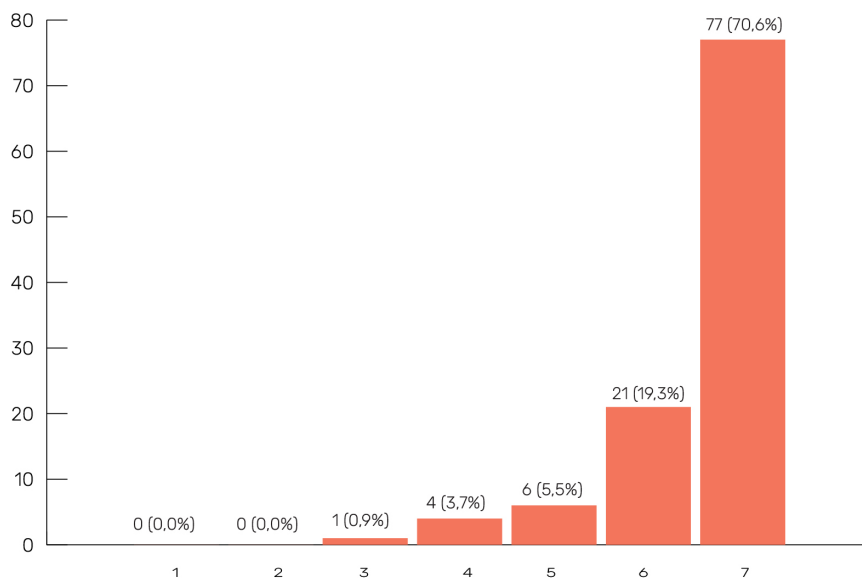
109 Answers



On a scale from 1 (Not important) to 7 (extremely important) all teachers think it is important that students are aware of their own learning styles (94.9%). 70.6% think it is extremely important. Only 1 teacher thinks it is not that much needed and 4 teachers respond neutral.

5. It is very important that students are aware of their own learning styles

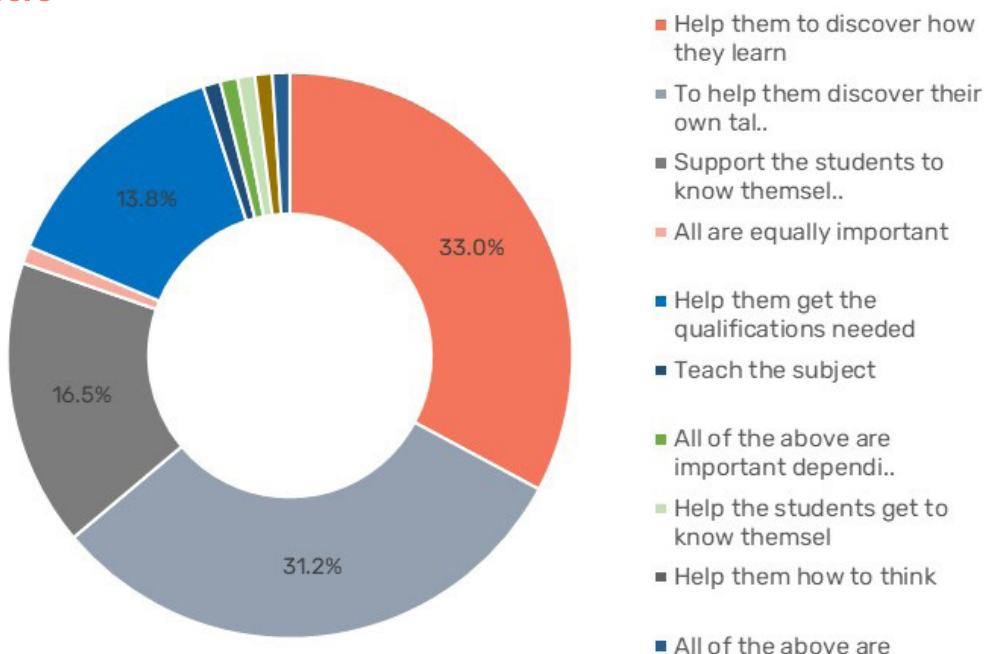
109 Answers



On a scale from 1 (Not important) to 7 (extremely important) all teachers think it is important that students are aware of their own learning styles (94.9%). 70.6% think it is extremely important. Only 1 teacher thinks it is not that much needed and 4 teachers respond neutral.

6. As a teacher the most important thing to do is to

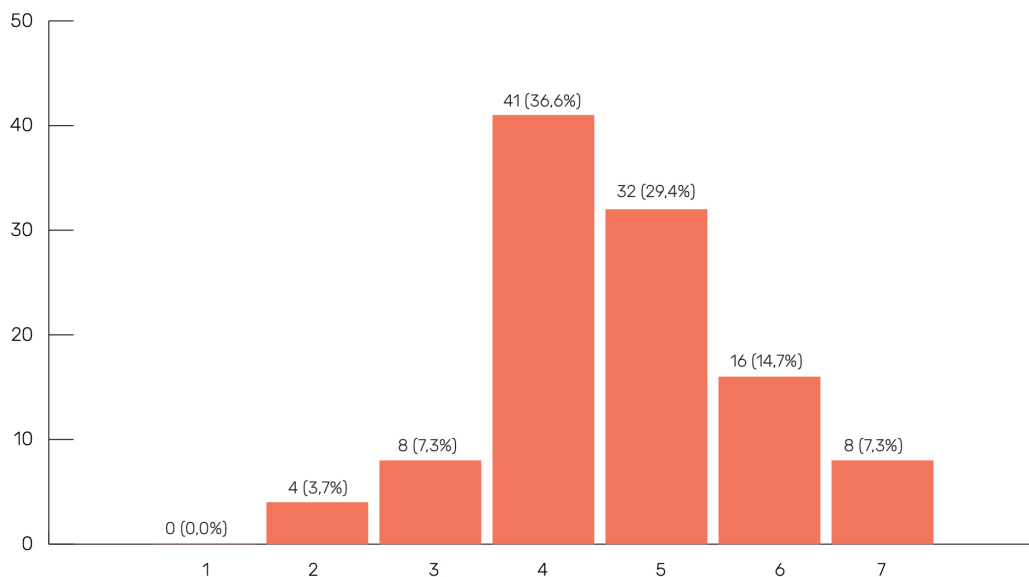
109 Answers



Considering the options given, as a teacher, 13.8% rate that all categories mentioned are equally important. 33% choose that a teacher needs to help them to discover how the students learn best. 31.2% think that the most important thing to do is to help them to discover their own talents and passions in life. You could argue that these categories are somewhat the same. Anyways, it is clear that in the tools given to the students we should emphasize that students are in control of their own journey of discovery in learning. 13.8% of teachers help students to get the qualifications needed to succeed in life. 16.5% support the students to know themselves better. To teach the subject is not chosen a lot. A few different options had low scores and were sometimes more or less the same as the options given.

7. I think that students learn more when they work in groups

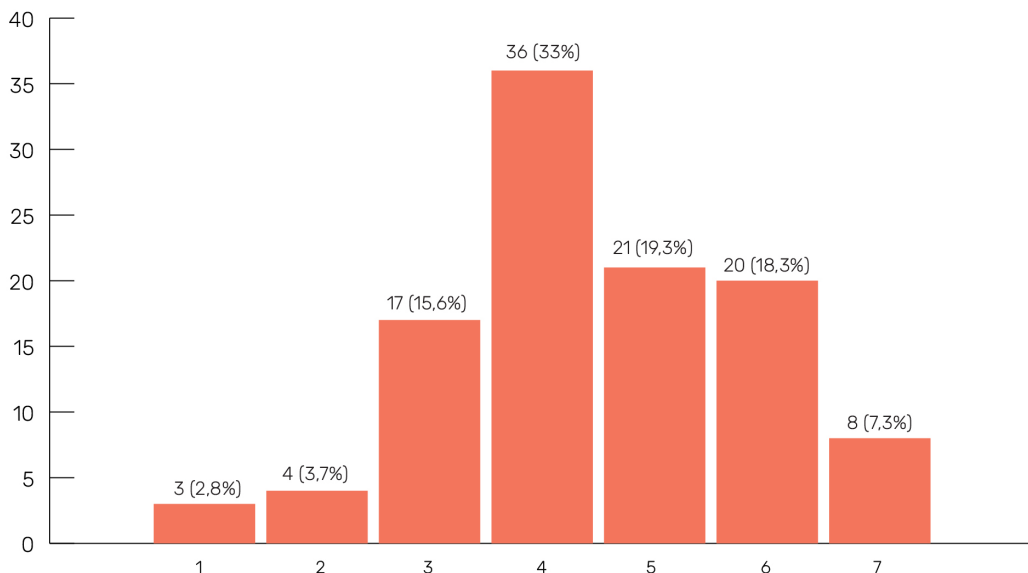
109 Answers



Only 11% of teachers think that not working in groups is a good idea. Most teachers think that it should be a mix (working in groups and working individually) and in fact the highest score (37.6%) was given to this category.

8. Students learn most when they work on an individual level

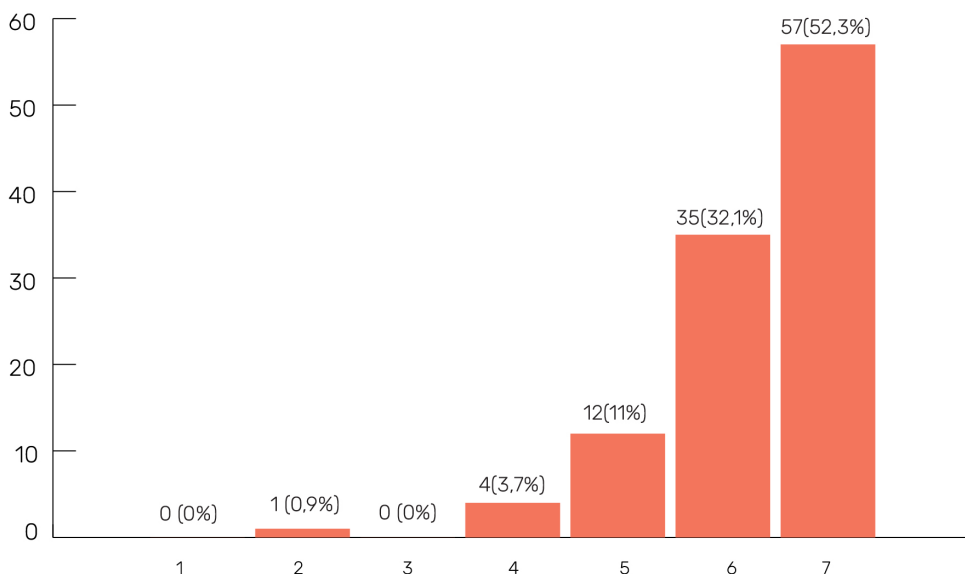
109 Answers



It is interesting to note that the highest category more or less corresponds with the stats in the previous question (which more or last underlines our conclusion that teachers do think that individual learning is also very important (next to working in groups). 79.9% of teachers find that working on an individual level adds value gaining knowledge for the student.

9. I think that mistakes are important in the learning journey of the student's life

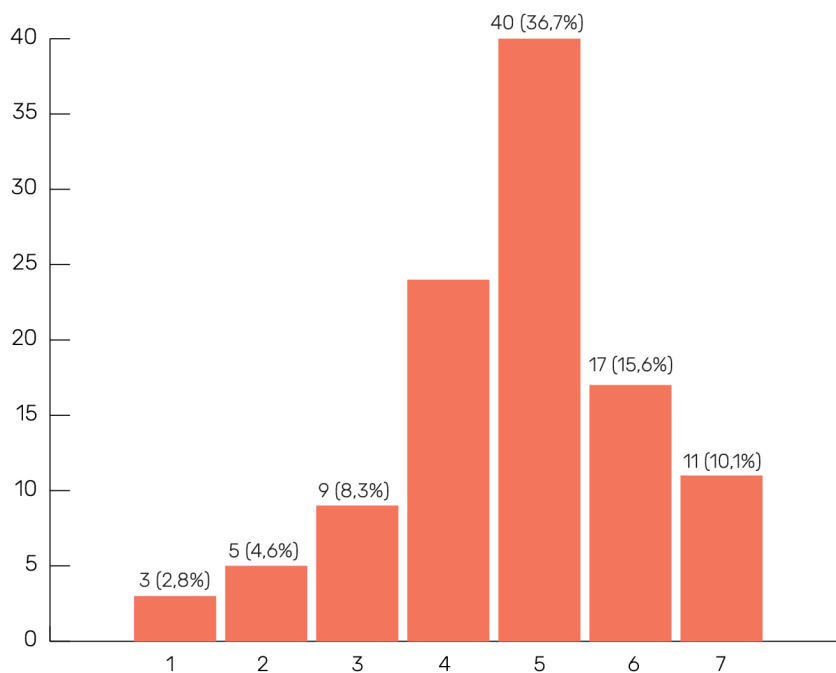
109 Answers



First Attempt In Learning (FAIL): All teachers (except 1) think that mistakes are an important part in the learning journey of a student. The scale ranged from 1 (mistakes have to be avoided) to 7 (mistakes are a learning opportunity).

10. I have extensive knowledge of the online tools and how they can be used the classroom

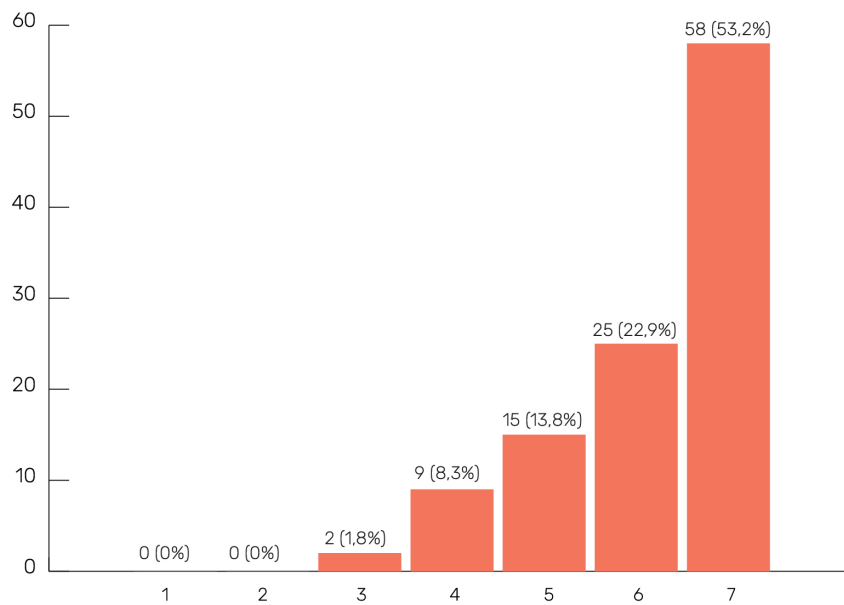
109 Answers



62.4% of teachers state they have enough knowledge of online tools and how to use it in the classroom. 17 teachers confess that they think their 'online tools knowledge' is lacking. The scale used is from 1 (not really) to 7 (very knowledgeable). Only 10.1% of the teachers indicate that they are very knowledgeable.

11. I think that being creative is as important as mathematics, languages and other subjects

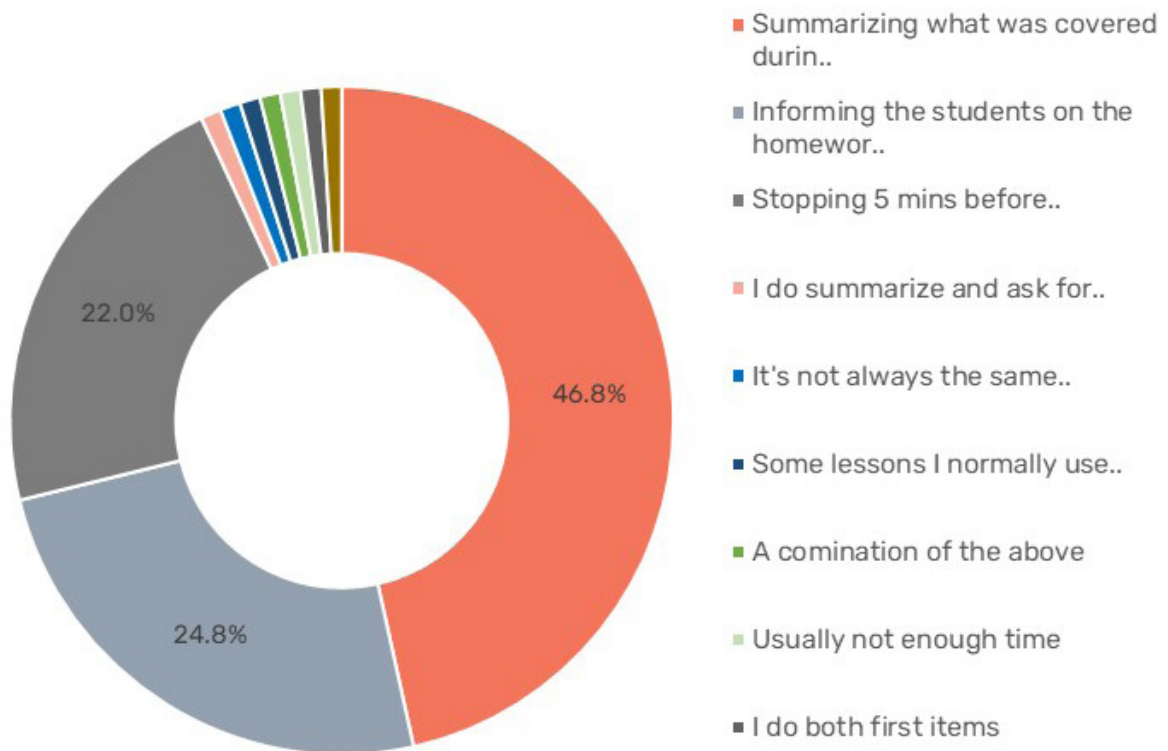
109 Answers



Creativity as a competence is highly valued among teachers (89.9%). A 1–7-point scale is used (1: Creativity is overrated – 7: Creativity is essential).

12. I always finish my lessons by

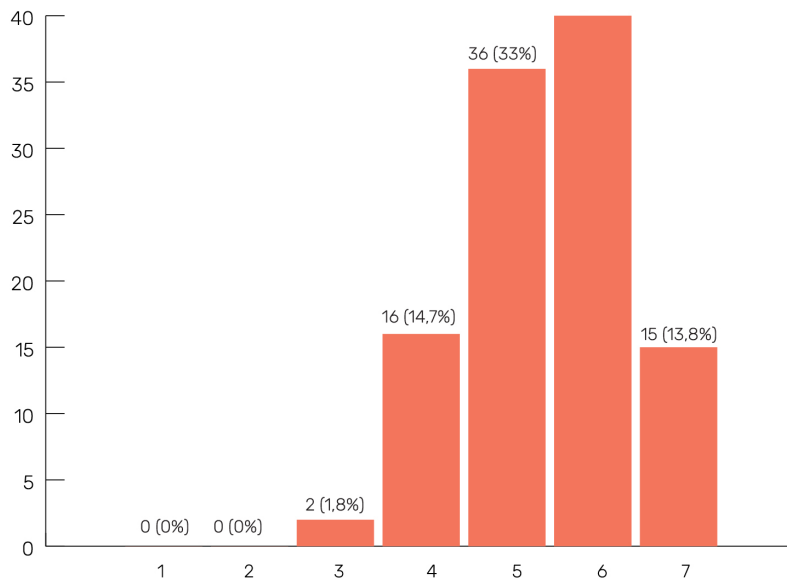
109 Answers



When teachers finish their lessons, 46.8% of them summarize what was covered during the lesson, 24.8% inform the students on the homework to be done and 22% stop 5 minutes before to support the students to reflect on the learning which took place. A mixture of all the above was mentioned several times as well.

13. I feel that students that the students are engaged with the pedagogical approach I use

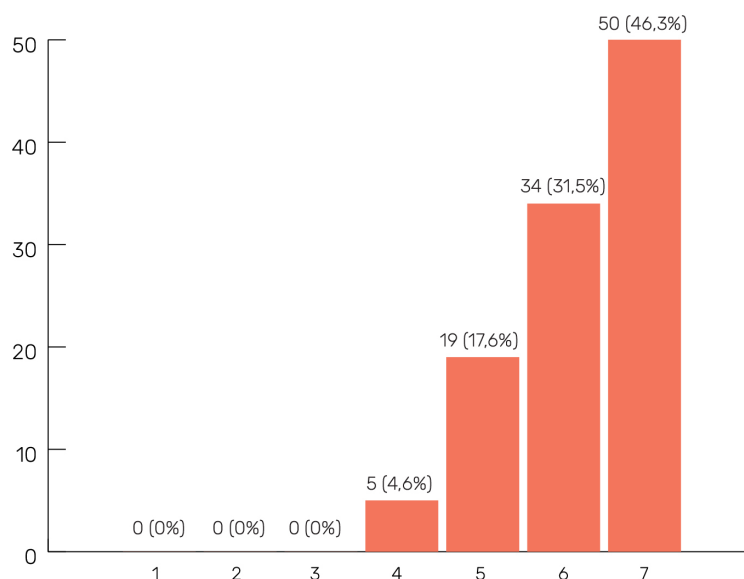
109 Answers



Most teachers feel that the pedagogical approach used more or less, pretty much, or all the time work. Only 2 teachers are more negative. A 1-7 point scale was used from 1 (not always) 7 (all the time).

14. Linking classroom education with the reality of the students is important

109 Answers



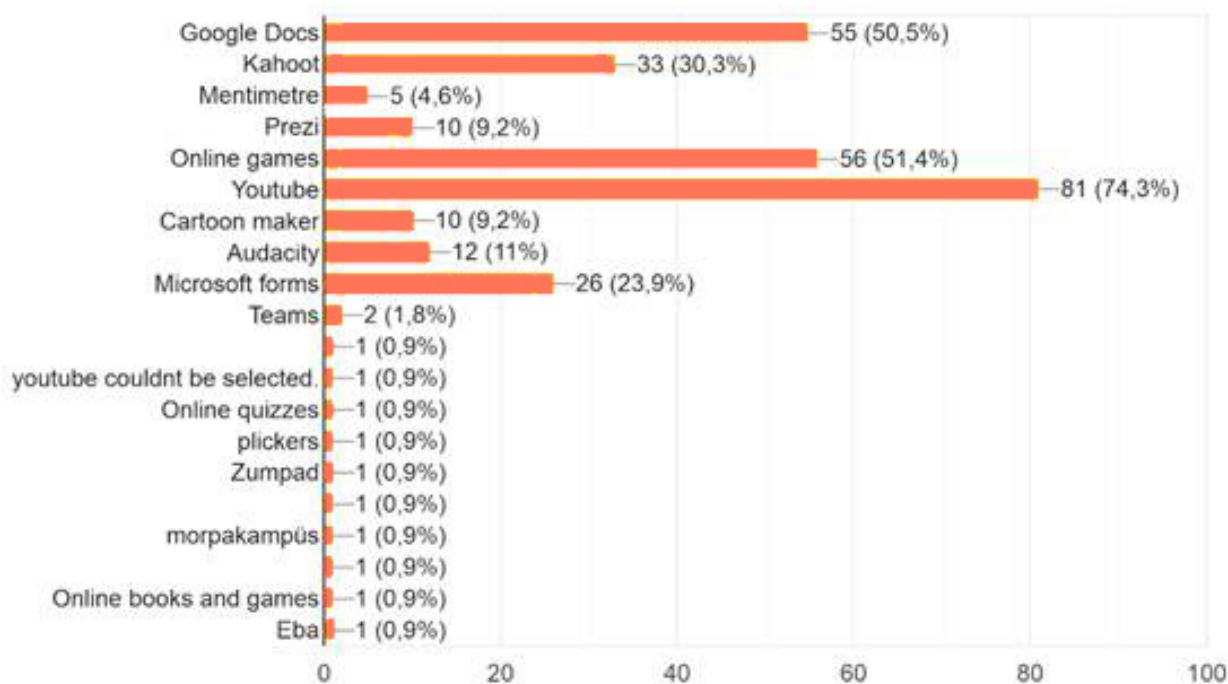
On a point scale from 1 (not always) to 7 (all the time) all teachers agree that education should link with the reality of the student. The term reality is a bit diffused as regards to the meaning. As we know the learning style from each student differs. Thus, it is important that this is taken into consideration. Furthermore, we would like to remark here that the reality is currently the smartphone as well most of the times.

15. What are the online tools you use during your delivery in the classroom?

109 Answers

What are the online tools you use during your delivery in the classroom?

109 antwoorden



The most common used online tools are YouTube (corrected 75.2%), online games (51.4%), Google docs (50.5%) and Kahoot (30.3%). Prezi and Cartoon maker (both 9.2%) are also sometimes used.



Conclusions Teacher Questionnaires

The Teacher Questionnaire were taken by 92 teachers from secondary schools from Malta and Turkey. The objective of the 15 questions of this questionnaire is to understand better the perception of students and teachers with regards to their education process and methodologies used. 66.3% of the teachers who have filled the questionnaire come from Malta. The other 33.7% were Turkish teachers. We did not see a significant change of opinion between teachers of Malta and Turkey.

All teachers think it is very important to take into account the knowledge of the student when lessons are given.

Only 1 teacher does not really use online tools. 14.7% of teachers always use online tools. On average we can state that teachers still can make some technical development and should consider using more online tools during their lessons. When we relate this question to the focus groups, we know that a lot of teachers want to educate themselves on 'technology' and 'online teaching'.

It's pretty clear that all teachers value that students enjoy their learning and that they learn the most when they have fun.

Data Analysis Report ReConnect

It is pretty clear that all teachers value that students enjoy their learning and that they learn the most when they have fun. All teachers think it is important that students are aware of their own learning styles.

A teacher wants to help the students discover how they learn best and want to support their students while discovering their own talents and passions in life. Most teachers think that working in groups and working individually must be a mixture to work best. Creativity as a competence is highly valued among teachers (89.9%).

First Attempt In Learning (FAIL): All teachers (except 1) think that mistakes is an important part in the learning journey of a student.

62.4% of teachers state they have enough knowledge of online tools and how to use it in the classroom. 17 teachers confess that they think their 'online tools knowledge' is lacking. Only 10.1% of the teachers indicate that they are very knowledgeable.

When teachers finish their lessons most of them summarize what was covered during the lesson and inform the students on the homework to be done. Sometimes they stop 5 minutes before to support the students to reflect on the learning which took place. A mixture of all the above was mentioned several times as well.

Most teachers feel that the pedagogical approach used more or less, pretty much, or all the time work. All teachers agree that education should link with the reality of the student. The term reality is a bit diffused as regards to the meaning. As we know the learning style from each student differs. It is needed that we stick close to the reality of the learning styles. Furthermore, we would like to remark here, that the reality is currently the smartphone as well most of the times.

The most common used online tools are YouTube (corrected 75.2%), online games (51.4%), Google docs (50.5%) and Kahoot (30.3%). Prezi and Cartoon maker (both 9.2%) are also sometimes used.



Analyzing Focus Group Teachers

We had 4 Teacher Focus Groups, in 2 countries, consisting in 18 teachers in total.

- ➔ We have two Turkish Teacher Focus Groups (Group 1 and Group 2), both with 5 teachers
- ➔ We have 2 Maltese Teacher Focus Group (Group 3 and Group 4) with 5 and 3 teachers.

The format used in Malta and Turkey was according to the same 7 questions. These questions were asked in both teacher focus groups. The 7 questions were:

1. What are your success stories in the classroom?
2. The biggest challenge you face as an educator.
3. What do you think is the best way to engage students?
4. If you had to choose a training which you need to make you more engaging as a teacher...what would it be?

5. Which online tools do you use?
6. When you don't use online tools, students are still engaged? (additional question)
7. If you had all the resources, you need and no time restriction, what changes would you apply?

NOTE

The format used in the Teacher Focus groups in Turkey were more informal.

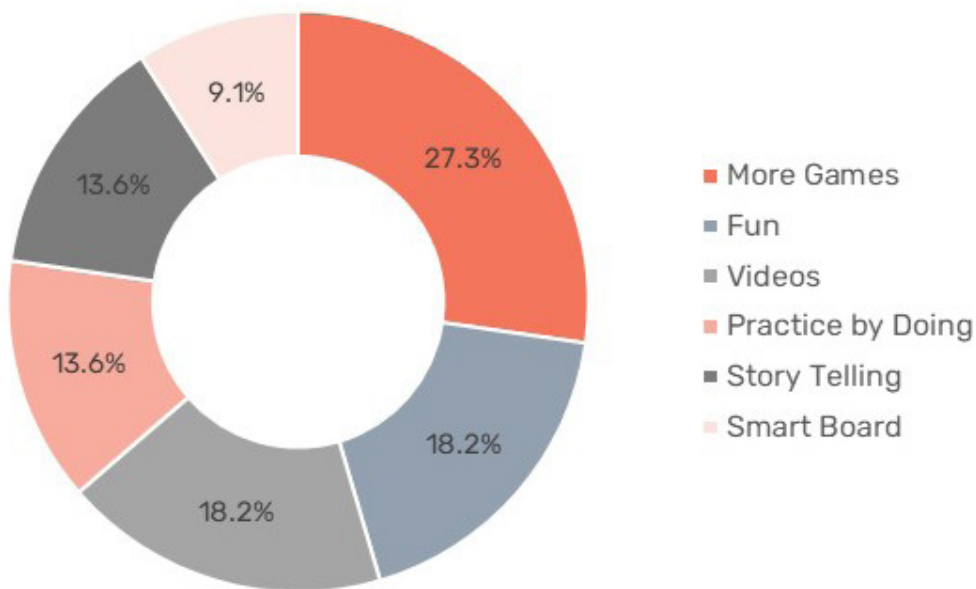
With regards to the questionnaires and focus groups; the first set of questions have the aim to present the current situation and the analysis (that we will be carrying out) will give us the data needed to formulate the training courses. Following these, the teachers/educators will implement the new pedagogical suggestions. This will then be followed by a second set of questionnaires.

10.1. What are your success stories in the classroom? What made them successful?

The definition of success is usually connected to good grades: 'It is satisfying when students gain good grades but, for me success is when I meet ex-students and see them happy. The emphasis should not be on schooling or academic outcome but on being happy in their lives.'

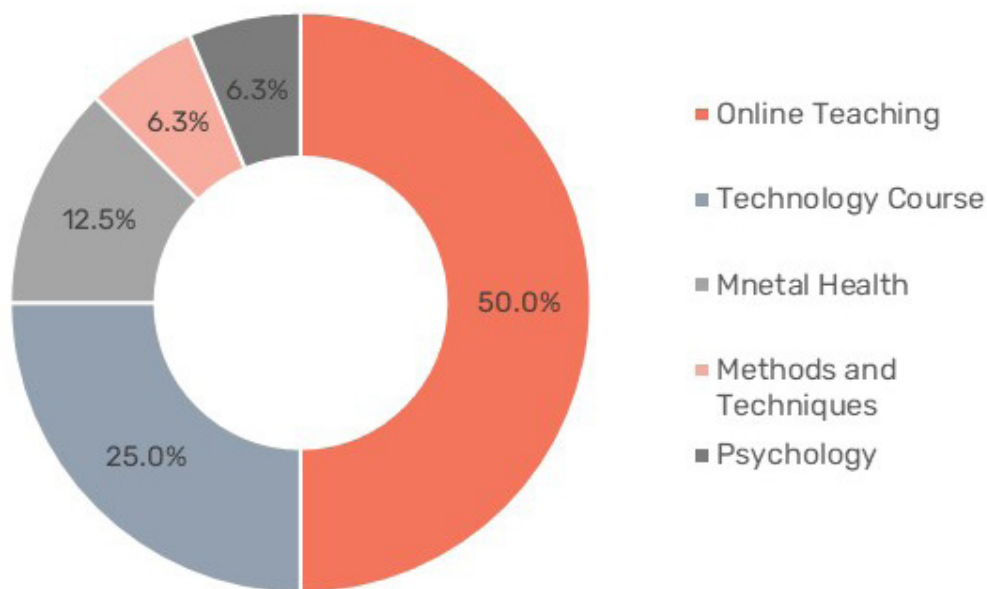
It is successful when you can get your students motivated, grab their attention, keep it interesting for your students. The use of Smart Board and NetSport are mentioned as tools which actually help with getting more effective results with teaching and ask more easily questions (NetSport). Overall teachers say that making lessons more fun (4) (e.g. jokes), through games (3), visualize the lessons through videos (4) (e.g. documentaries) story telling (3) and practice by doing (3) (e.g. experiments) will get more engagement and success.

Data Analysis Report ReConnect



The competition element was also mentioned as an important tool to engage students: “Believe me, even the student who remains passive usually wants to be involved in the process. In terms of supporting each other, come on. As I said, I try to support them with videos in a more understandable way in accordance with their level, but games are very effective, especially if there is an environment of competition awareness, it is more effective for children”

Data Analysis Report ReConnect



10.2. The biggest challenge you face as an educator? What makes them difficult?

Challenges mentioned are:

- ➔ Lack of technological materials (number of good computers, no smart board, sound system difficulties are mentioned) (5)
- ➔ To get a good relationship with the student (12): e.g. prejudice about the lesson, or personal issues, lack of trust, unwillingness of the student/ no motivation (8) (attention seeking students)
- ➔ Too crowded / big classes (4) (hard to experiment in a crowded place, no time for personal development)
- ➔ Lack of time (6) (I cannot use technology due to lack of time, desired outcome in relation to time)
- ➔ Syllabus is too vast (4): not much room for the personal development of the student, it is hard to make the lesson more interesting if we need to stick to the syllabus all the time; what is taught needs to be meaningful, related to the world of the students.

Lack of technological knowledge/education of the teacher is also a pretty big problem: 'Our biggest problem is to try to explain the lesson to children by learning within our own efforts to do without education: "What makes all of this difficult is that we don't have enough education in technology." We can conclude that most teachers are lacking professional skills when it comes to usage of most digital and social media tools. Not all teachers are convinced that technology is an advantage: "Technology also does harm (and creates laziness)"

A lot of teachers are prepared to digitally educate themselves and invest in their human capital.

10.3. What do you think it's the best way to engage students?

Teachers say it's needed to do more than just teach from books. Connecting the lessons to real life (5), their student life, their interests and passions, make them feel seen, get to know them, make them feel loved, get them motivated. Tools and instruments that you can use to engage students are of more computer usage; using applications (like Magic by Code, Screech), more visual (4) (video, animation (e.g. English cartoons (2), images (3)), audio tools and practice by doing (dance games, motivation by example (e.g. conversation lessons, group sessions, activities like games) (4)).

If you had to choose a training which you need to make you more engaging as a teacher...what would it be? Which skills?

Some teacher stress that not having enough time and the class size remain an issue, even when you train yourself. Teachers want to invest and improve themselves for themselves and for their students. They want to do a training in: *"Digital education, thus there are a lot of points I want to learn. But we can do it only up to a point; everything remains in theory. You have to transform it to practice. The atmosphere of class, number of students, the physical conditions of the class..."*

A lot of teachers want to invest in their own human capital. Courses mentioned are: digital (approaches on) education/online teaching (8) and doing a technology (e.g. web tools, programming, coding and building using apps) (4) course. Training course in Teaching methods and techniques, communication, mental health, balance work and life and Psychology are mentioned as well.

Their aim is be more easily of service for their students. There is a big demand for a course they feel they need on technology/ online teaching.

A side note is of course that students also have to be facilitated with tablets/computers (3), otherwise you cannot practice what you have been trained on. Also, missed classes should be able to be revisited when missed.

Furthermore, they would love to be taught more on tips and tricks to get better equipped to facilitate and support their students. A Maltese teacher says: *"I would like to know how to tackle every situation or at least give them ways to reach out, it would be easier"*

10.4. Which online tools do you use?

The following tools are currently used while teaching: Videos (9); by using videos students engage more and understand better, songs (4), interviews, quizzes (3) and visuals (4) (e.g. use of the interactive white smart board) (4) and presentations (5) (web-2 tool like e.g. PowerPoint. Kahoot, Microsoft cartoon maker, Hoplit, Padlet and interactive games (6), such as Kodla Büyü"(1) *are all tools with which students can see both theirs and their friend's level. The lesson is fun because they learn by playing games. That's why I find it very useful. EBA (2), Morpa Campus (2) are also mentioned as very useful.*

10.5. When you don't use online tools, students are still engaged? If you had all the resources you need and no time restriction, what changes would you apply?

Most teachers think the lessons are still engaging and fun without online tools and/or games. A teacher has to present well anyways to engage with his/her students, even when they use online tools. When teachers do not use online tools, they would go out of the classroom (outdoor education) (2): "The perfect lesson would be where the students practice everyday life skills.", do group work (1), more games (1). Access to different tools (e.g. visual, Kodla, PowerPoint presentations (4), online websites (3), EBA (2), Morpa Campus, smart book (2): These applications make learning permanent for the students because they have a lot of

visuals, and you are able to reach out to more students (1), virtual tours, interactive sites, laptops, sound systems, videos (YouTube).

A lot of teachers still don't use online tools (2) (due to e.g. lack of information): "I observe that they listen to the lesson well. Students are mostly interested in virtual tours: *"If I think about taking them on a trip, before going, for example, I bring the students who will join this trip together and watch them these places by virtual tour. This is very attractive for the students and very effective"*.

10.6. If you had all materials you needed and if you didn't have a time restriction which differences would you make in teaching methods?

Answers are:

- ➔ Project-based training (1)
- ➔ Practice by doing: I wish we had a well-equipped lab (3), where the students could sit separately, use their headphones, fully adapt to the lesson and respond to us. There was a 'DAYNED' app that they wanted us to do every year. We couldn't do it because we didn't have a language lab.
- ➔ To learn by practicing (e.g. could do this using virtual reality glasses or virtual tours, wish there was a separate class where students could experiment individually)
- ➔ Technology is very important (3): I believe that technology will make my lesson more effective and efficient. So, we should all learn technology. I would use the tools more active. In fact, we have materials like cube, scale. Very useful if I could use online tools (1)
- ➔ Group Work: I would make group work a necessity. These are areas which they can learn by themselves: The teacher should be a guide, not the one who gives the information.
- ➔ Use of games: There are very good games. Playing math games with students is very important, but we have this exam-oriented mind
- ➔ Elimination memorization event(s)
- ➔ Have more time (3)
- ➔ Less students (2)
- ➔ More extracurricular activities (Syllabus should be in a thematic approach)

- ➔ More critical thinking (Students need to learn how they think and be critical)
- ➔ More self-assessment and teaching how to give feedback on each other's work.

“

“Interactive lessons are always good lessons but they do not need to include online tools. Students should not just be taught through online tools, but they need to learn about them”

“

“The majority of students spend a lot of time online but still do not know how to send an email or an attachment. They have the tools but they are not trained to use them”.



Conclusions Teacher Focus Groups

Four teacher focus groups from Malta and Turkey, consisting of 18 teachers in total were involved.

The definition of success is usually connected to good grades. But teachers conclude that success is connected when you get the students motivated, grab their attention and keep it interesting for your students. The use of Smart Board and NetSport are mentioned as tools which actually help with getting more effective results with teaching and ask more easily questions (NetSport). Overall teachers say that making lessons more fun (4) (e.g. jokes), through games (3), visualize the lessons through videos (4) (e.g. documentaries) story-telling (3) and practice by doing (3) (e.g. experiments) will get more engagement and success.

The competition element was also mentioned as an important tool to engage students.

The competition element was also mentioned as an important tool to engage students.

Challenges teachers are faced with were:

- ➔ Lack of technological materials (number of good computers, no smart board, sound system difficulties is mentioned) (5)
- ➔ To get a good relationship with the student (12): e.g. prejudice about the lesson, or personal issues, lack of trust, unwillingness of the student/ no motivation (8) (attention seeking students)
- ➔ Too crowded / too big classes (4) (it is hard to experiment in a crowded place; no time for personal development)
- ➔ Lack of time (6) (I cannot use technology due to lack of time, desired outcome in relation to time)
- ➔ The syllabus is too vast (4): not much room for the personal development of the student, it is hard to make the lesson more interesting if we need to stick to the syllabus all the time; what is taught needs to be meaningful, related to the world of the student
- ➔ Lack of technological knowledgeable teachers

Not all teachers are convinced that technology is an advantage: *“Technology also does harm (and creates laziness)”*

Teachers say that to engage and connect the lessons to real life (5), their student lives, their interests and passions, make them feel seen, get to know them, make them feel loved, get them motivated. Tools and instruments that you can use are more computers, using applications (like Magic by Code, Screech), more visual (4) (video, animation, e.g. English cartoons, (2), images (3) and audio tools and practice by doing (dance games, motivation by example (e.g. conversation lessons, group sessions, activities like games) (4)

About the tools they would use, some teacher stress that not having enough time, and the class size remains an issue, even when you can train yourself. Teachers want to invest and improve themselves for themselves and for their students: They want to do a training in: *“Digital education, thus there are a lot of points I want to learn. But we can do it only up to a point; everything remains in theory. You have to transform it to practice. The atmosphere of class, the number of students, the physical conditions of the class...”*

A lot of teachers want to invest in their own human capital. Courses mentioned are: digital (approaches on) education/online teaching (8) and doing a technology (e.g. web tools, programming, coding and building using apps) (4) course. Training course in Teaching methods and techniques, communication, mental health, balance work and life and Psychology are mentioned as well.

Their aim is be more easily of service for their students. There is a big demand, they need a course on technology/ online teaching.

A side note is of course that students also have to be facilitated with tablets and/or computers to be able to work properly, otherwise you cannot practice what you have been trained in. Also, that missed class should be able to be (digitally) revisited when missed.

Furthermore, they would love to be taught more on tips and tricks to get more equipped to facilitate and support their students. A Maltese teacher says: *“I would like to know how to tackle every situation or at least give them ways to reach out, it would be easier”*

The use of videos (9) is mentioned a lot by teachers as an online tool which they currently use during teaching: by using videos students are more engaged and understand better. Using songs (4), interviews, quizzes (3) and other visuals (4) (e.g. use of the interactive white smart board (4) and presentations (5) (web-2 tool like e.g. PowerPoint). Kahoot, Microsoft cartoon maker, Hoplit, Padlet and interactive games(6); such as Kodla Būyū'(1) (*an app in which students can see both theirs and their friend's level. The lesson is fun because they learn by playing games. That is why I find it very useful*); EBA (2), Morpa Campus (2) are also mentioned as very useful.

Most teachers think the lessons are still engaging and fun without online tools and/or games.

However, it is clear that a teacher has to present well anyways to engage with his/her students, even when online tools are used. When teachers do not use online tools they would go out of the classroom (outdoor education): *“The perfect lesson would be where the students practice everyday life skills.”*, do group work and play more games. Access to different tools applications make learning permanent for the students because they have a lot of visuals, and you are able to reach out to more students, virtual tours, interactive sites, laptops, sound systems, videos (YouTube).

A lot of teachers still do not use online tools (due to e.g. lack of information): *“I observe that they listen to the lesson well. Students are mostly interested in virtual tours: “If I think about taking them on a trip, before going, for example, I bring the students who will join this trip together and watch them these places by virtual tour. This is very attractive for the students and very effective”*.

Sometimes it seems it would be a good idea that the students study apart at home with a smartphone app including grammar, vocabulary, online studies; of course, I can only recommend them.

A lot of teachers are prepared to digitally educate themselves and invest in their human capital

The teachers would use the following tools if they could:

- ➔ More project-based training
- ➔ Practice by doing (in e.g. a well-equipped lab) (3), or by using e.g. 'DAYNED' app or through virtual reality glasses or virtual tours
- ➔ Use more online technology: Very important because the technology will make my lesson more effective and efficient.
- ➔ Do more Group Work: "These are areas which they can learn by themselves: The teacher should be a guide, not the one who gives the information."
- ➔ Use of games: "There are very good games. Playing math games with students is very important, but we have this exam-oriented mind"
- ➔ Elimination memorization event(s)
- ➔ Make sure there was more time
- ➔ Make sure there were less students in class
- ➔ More extracurricular activities (Syllabus should be in a thematic approach)
- ➔ More critical thinking (students need to learn how they think and be critical)
- ➔ More self-assessment and teaching how to give feedback on each other's work.
- ➔ More interactive lessons: These are always good lessons but they do not need to include online tools.
- ➔ Students should not just be taught through online tools, but they need to learn about them: "The majority of students spend a lot of time online but still do not know how to send an email or an attachment. They have the tools but they are not trained to use them".

"The majority of students spend a lot of time online but still do not know how to send an email or an attachment. They have the tools but are not trained to use them professionally".

11.1. Way forward: a pedagogical approach for ReConnect through blended learning

Each student learns in a different way. Some prefer to learn from a book before putting something into practice, others through trial and error: just do it and see what happens. Psychologist and educator David Kolb has distinguished 4 phases in the learning process, which everyone goes through who learns something new:

- ➔ Concrete experience (gaining or undergoing an experience)
- ➔ Observing and reflecting (reflecting on the experience)
- ➔ Abstract understanding (learning from experience)
- ➔ Active experimentation (trying out what you have learned)

This model is a cycle. The learning process is always followed. But the learning cycle does not necessarily have to start with “concrete experience”: the starting point can also be “understanding”. Students often have a preference for a particular phase in this cycle.

It is thus clear that it is very important to know what your own learning style is. Different students equals different preferences of learning. Everyone absorbs new information in different ways. The 3 learning styles are:



Visual

Visual, image, reading, writing



Auditory

Hearing



Kinesthetic

Feeling, doing

Visual learning style

Does the student prefer to receive new information in images? For example, with diagrams, graphs, maps and flow charts? Then the student probably has a visual learning style. When students with a visual learning style learn something new, they like to draw it out. This is how they process the new information.

Auditory learning style

If a student has an auditory learning style, then the student prefers listening to information. Students who enjoy this way of learning learn best from lectures, classroom lessons and group discussions. The student process information not only by listening, but also by talking about it out loud themselves.

Kinesthetic learning style

Does the student like to learn new things by being active? The student will probably prefer the kinesthetic learning style. For students with this learning style, the information should preferably be something concrete. Something that can be held, tasted or felt helps them absorb new information. Other examples are case studies, demonstrations, exercises and applications.

11.2. Why is it important to know the learning style of the student?

If we know the learning style of the student, we can let the student learn faster and more effectively. That way, the information and learning stays in the mind. And the student can apply it more easily in practice. In addition, it is useful to be able to recognize in which phase of the learning cycle the students are. This way you can go through the learning process optimally. If the student knows his/her way of learning, we can also better choose which education, training and courses suit the student best.

Blended Learning

Students have different preferences for learning styles. Still, using one learning style is usually not enough and students need more ways to absorb information. It is more effective to combine learning styles. That is why ReConnect must offer a number of training courses in which Blended Learning is applied. Blended

Learning literally means “blended learning”. And that is exactly what it entails. Instead of the traditional teaching method, Blended Learning combines different teaching methods: online learning (e-learning), classroom learning and learning by practice by doing (e.g. in the workplace).

“YouTube is good - my friends and I watch a lot of videos on YouTube because they are more engaging than when reading or when we listen to someone speaking”

A Blended Approach

Our recommendation would be to firstly develop a blended pilot training with emphasis on digital teaching and learning for the students and then develop the train the trainer training. More than 85.8% of students rate ‘moderately satisfied (13.3%) or higher (72.5%)’ with what is taught on school. This is good to know, because we are more or less framed in the curriculum. Also, the analysis implies that the current classroom situation needs to be transformed in a similar environment and digital teaching in the morning suits best to most students.

The recommendation is that the pilot should have more emphasis on the internet and digital tools. We should take into consideration the use of the smart phone of the student: Then you also deal with the lack of facilities (tablets/computers), and in this way you can always practice what you have been trained in. Both teacher and trainer can be trained through the smart phone.

Furthermore, with certain parts it is clear that students prefer to work alone, but also in groups. Elements of practice by doing need to be included. It is also important to include fact-checking (when we use the internet). Because the visual and auditory nature of videos appeals to a wide audience and allows each student to process information in a way that is natural to them we also recommend to use videos. In a nutshell, videos facilitate learning but a teacher is needed as well.

We should make sure that pilot is attractive and engaging. Science and social studies were mentioned as well-liked lessons. This is a good to know fact. We could add ‘more fun’; present funnier lessons, adding cartoons, jokes and/or using storytelling, or some kind of technology (e.g. virtual glasses) and/ or practice by doing, experiments, excursions and team work. Playing (educational) games or online tests was also

mentioned as a good support tool. The competition element was also mentioned as an important tool to engage students and is a component we should consider to add to our blended approach. Teachers are encouraged to introduce gamification methods. These might be simple approaches such as points given to students for task completion, working in groups or including an element of reflection as part of the lesson. We need to make sure that with content created the teacher has enough time to give attention to his/her students and to prepare a 'good lesson'. The teachers are prepared to improve themselves and upgrade their digital skills. This is needed as well to make 'technology' and 'online teaching' work.

Important to note that it does not matter which approach / learning you implement you also have to make sure that the teachers have enough time and the class size is doable as well. Additionally, the students must be facilitated with sufficient technological equipment.

Last but not least it is very important to highlight to students that it is ok to make (digital) mistakes: F.A.I.L.: First Attempt In Learning.



Recommendations and Conclusions

In conclusion, through this data analysis, it is being recommended that the training activities and the tools developed for blended learning and for Project ReConnect are based on 5 main themes that have clearly emerged from the findings: -

12.1. Customization

- ➔ Students appreciate the element of choice,
- ➔ Educators' challenge is to structure the classroom in which students can choose how to receive information
- ➔ Work alone or in groups

12.2. Information linked with student's reality (Hands on)

- ➔ Where possible the educators need to link the content of the subject with the reality of the students.
- ➔ The educators need to evaluate any pre-existent knowledge the students might have about the topic.

12.3. Reflection as part of the learning

- ➔ Reflection should be an integral part of each lesson. Reflection time should be made throughout the lesson (not just at the end)

12.4. Building of relationships

- ➔ Methodologies used by the educator need to give space to build relationships with students.

12.5. Collaboration

- ➔ Students enjoy it a lot when they collaborate on projects. This is essential also for today's work reality, Communication, leadership, team dynamics etc are valued in the industry.



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