

REACTI-VET - FOCUSED REQUIREMENT ANALYSIS

COUNTRY: ITALY

TARGET GROUP: VET TEACHERS

1

PREMISE

In Italy vocational training not only involves secondary schools (vocational schools at EQF level 4) but also in post-diploma vocational technical institutes (Istituti Tecnici Superiori – ITS). These institutes are at EQF level 5 and are accessible after graduation from secondary schools. They are 2-year courses and in most cases, it is possible to complete a bachelor's degree by doing one last year of studies in an associated University.

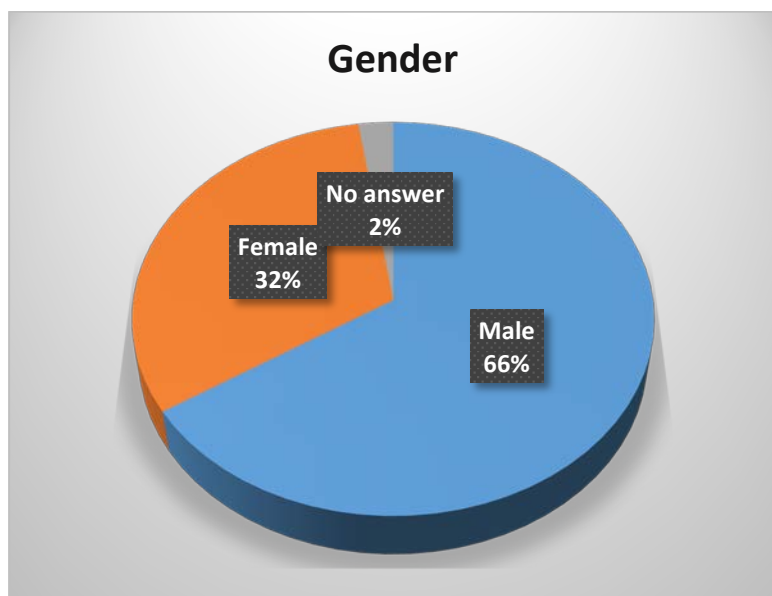
The ITS are focused on one of the following 6 technological areas: energy efficiency; sustainable mobility; new technologies for life; new technologies for the Made in Italy; innovative technologies for cultural heritage and tourism; information and communication technologies. In 2017 the ITS in Italy were 93 with over 8.000 students (source: INDIRE). The employment rate of those graduating from ITS is quite high: 79,5% (source: INDIRE) and it is probably due to the fact that on-the-job experiences and strong connections with the industrial world are the main feature of these institutes. 54% of all ITS teachers come from the SME sector.

This short premise is necessary as 44 out of 85 respondents are ITS teachers. Therefore, this will certainly affect the questions regarding the relationship between schools and SMEs in the teaching practice and on the use of practical “on-the-job” tools in teaching.

In Italy 85 responses from VET teachers were received through the online questionnaire published on the project website.

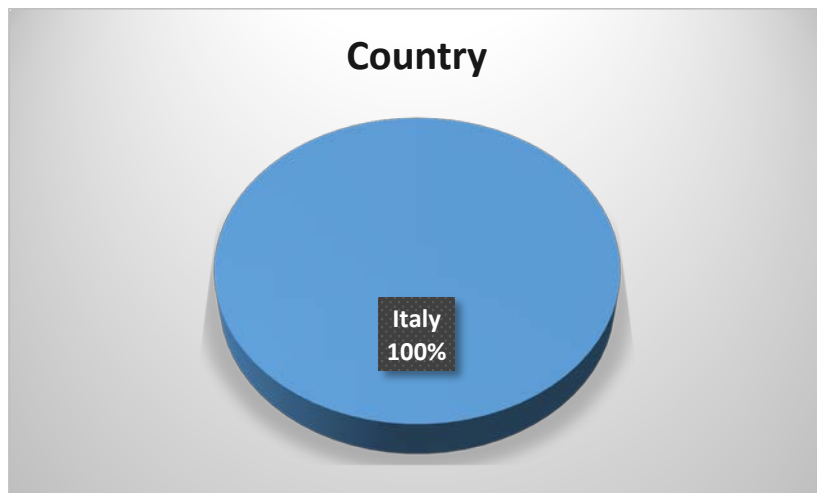
DEMOGRAPHIC DATA

1.1 GENDER



Male	56	65,9%
Female	27	31,8%
No answer	2	2,4%
Total	85	100,0%

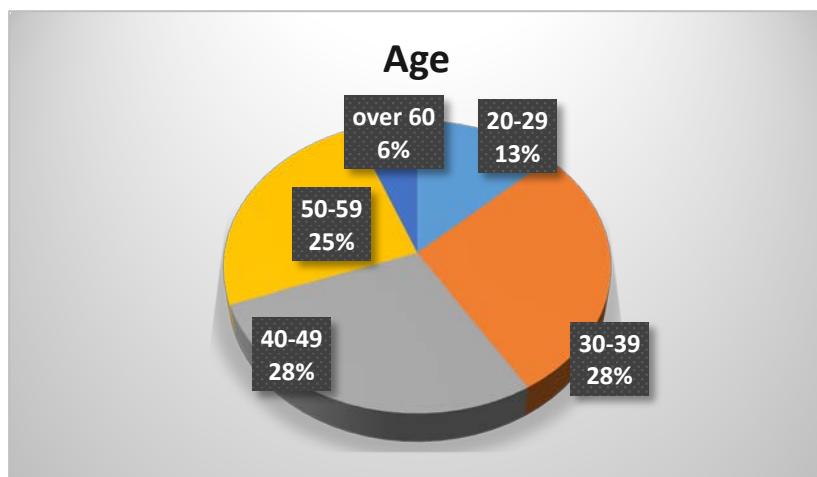
1.2 COUNTRY



Italy	85	100,0%
Total	85	100,0%

2

1.3 AGE



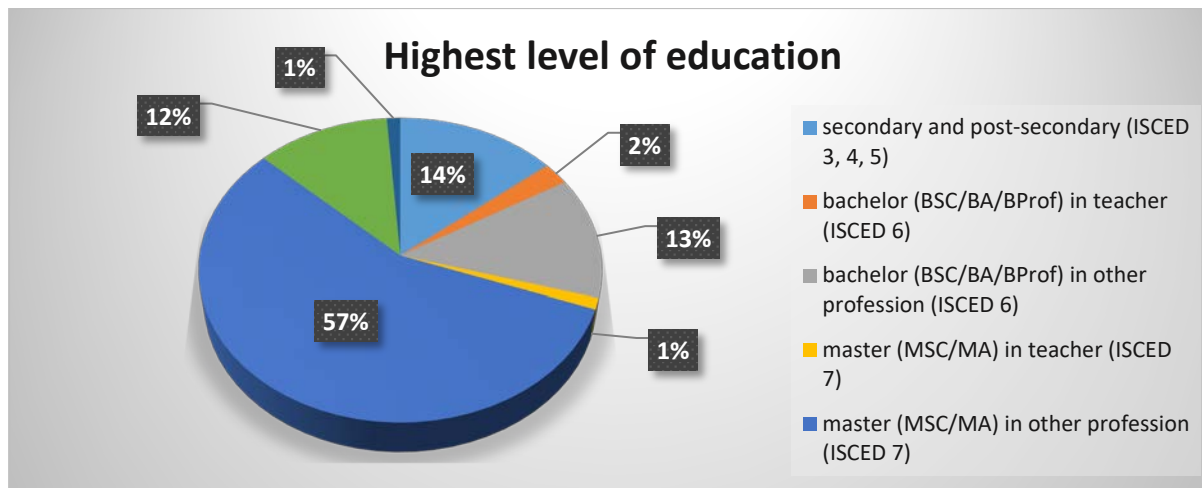
20-29	11	12,9%
30-39	24	28,2%
40-49	24	28,2%
50-59	21	24,7%
>60	5	5,9%
Total	85	100,0%

EVALUATION

In Italy in higher education (EQF 6, 7, 8) women represent 40% of all teachers, while in secondary education (EQF 4) the situation is quite the opposite, with women representing 65% of all teachers. Around half of all respondents work in Post-diploma vocational technical institutes (EQF 5), the Istituti Tecnici Superiori (ITS) that are technical vocational schools (in between secondary and higher education) with a very strong connection to the industrial world, therefore the percentage of women respondents is quite low and does not reflect the situation in the secondary school system in Italy, nor that of higher education. Everyone's nationality is Italian. In Italy teachers in secondary schools >54 years old teachers represent 40% of the total, while teachers in higher education >54 are 20% of the total. The age of the respondents to the survey is in line with the statistics on higher education in Italy.

PROFESSIONAL BACKGROUND

2.1 HIGHEST LEVEL OF EDUCATION

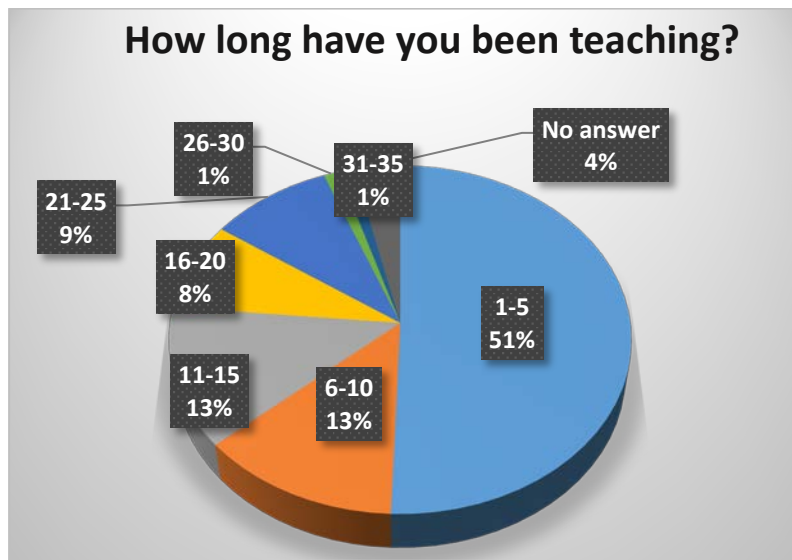


secondary and post-secondary (ISCED 3, 4, 5)	12	14,1%
bachelor (BSC/BA/BProf) in teacher (ISCED 6)	2	2,4%
bachelor (BSC/BA/BProf) in other profession (ISCED 6)	11	12,9%
master (MSC/MA) in teacher (ISCED 7)	1	1,2%
master (MSC/MA) in other profession (ISCED 7)	48	56,5%
Doctoral or equivalent (ISCED 8)	10	11,8%
No answer	1	1,2%
Total	85	100,0%

EVALUATION

A master's degree is necessary to become a teacher in the secondary school system (and of course in higher education) so 69,5% of respondents has a master's degree or PhD/equivalent. It is possible to work in schools technical-practical teacher (ITP – Insegnante Tecnico-Pratico) with a bachelor's degree but only 29,4% of respondents have a degree lower than a master's degree.

2.2 HOW LONG HAVE YOU BEEN TEACHING?

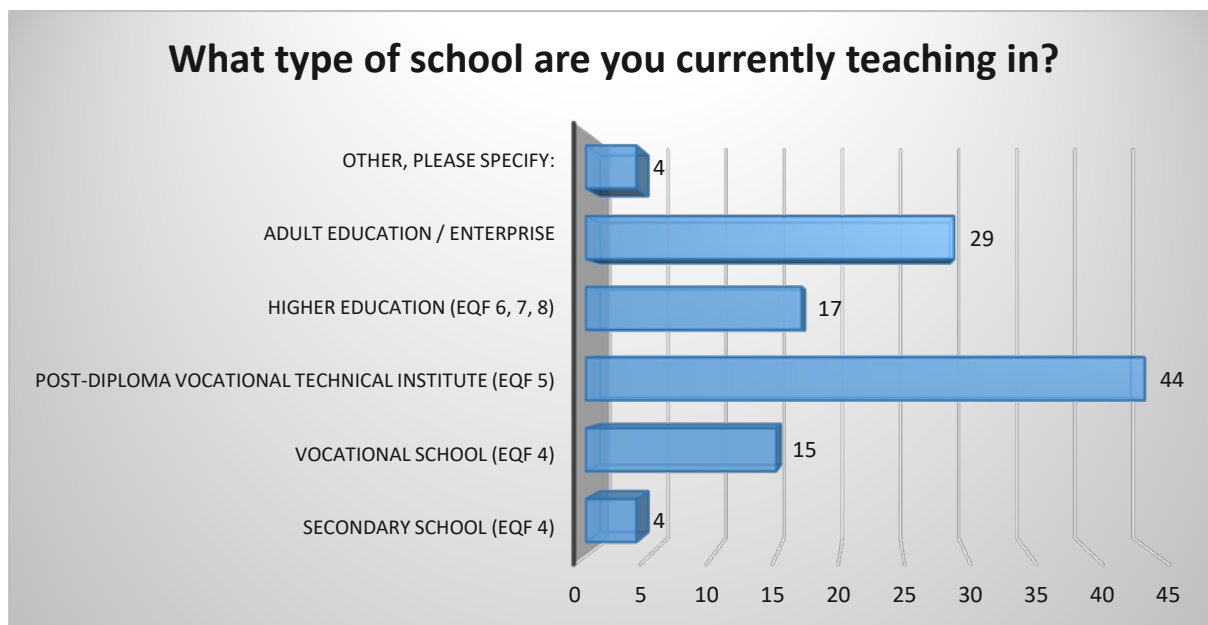


1-5	43	50,6%
6-10	11	12,9%
11-15	11	12,9%
16-20	7	8,2%
21-25	8	9,4%
26-30	1	1,2%
31-35	1	1,2%
36, or more	0	0,0%
No answer	3	3,5%
Total	85	100,0%

EVALUATION

A very high percentage of respondents is new to teaching (50,6%), mainly because – as already mentioned – most respondents work in technical vocational institutes where teachers come from the industrial sector and have a past (or a second job) working in SMEs.

2.3 WHAT TYPE OF SCHOOL ARE YOU CURRENTLY TEACHING IN?



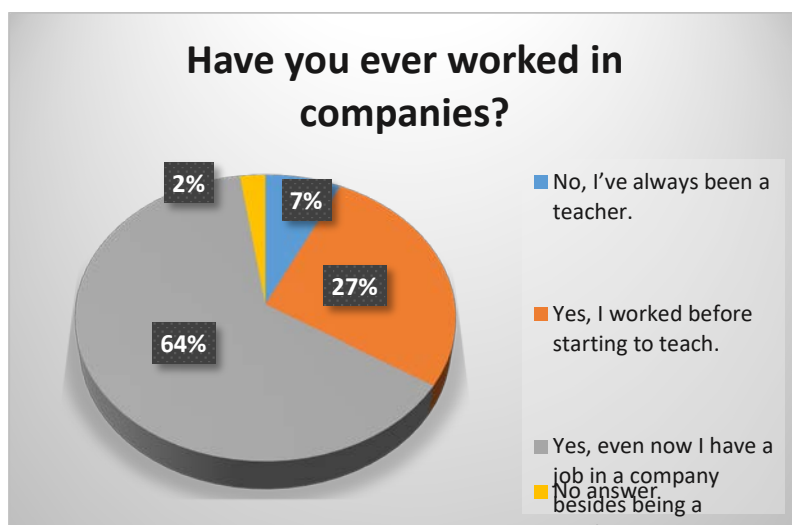
Secondary school (EQF 4)	4
Vocational school	15
Post-diploma technical institute (EQF 5)	44
Higher education (EQF 6, 7, 8)	17
Adult education / enterprise	29

Other, please specify:	4
Total	113

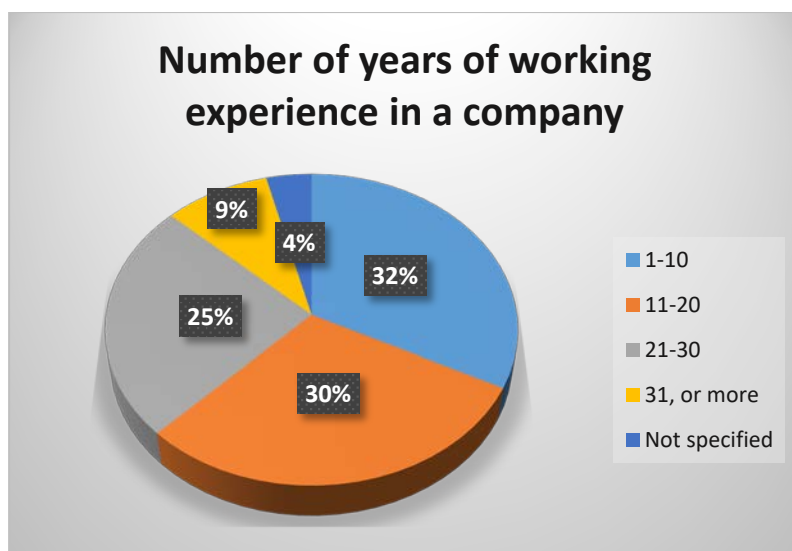
EVALUATION

Several respondents teach in more than one school/center at the same time. In general, a large majority of respondents work in technical or vocational schools/institutes. This data is very significant when it comes to evaluating the level of ICT embedded in teaching and the methodologies used in teaching. With respect to traditional secondary schools and to university faculties, ICT and practical methods are more widely used in technical and vocational schools.

2.4 HAVE YOU EVER WORKED IN COMPANIES?



No, I've always been a teacher.	6	7,1%
Yes, I worked before starting to teach.	23	27,1%
Yes, even now I have a job in a company besides being a teacher.	54	63,5%
No answer	2	2,4%
Total	85	100,0%

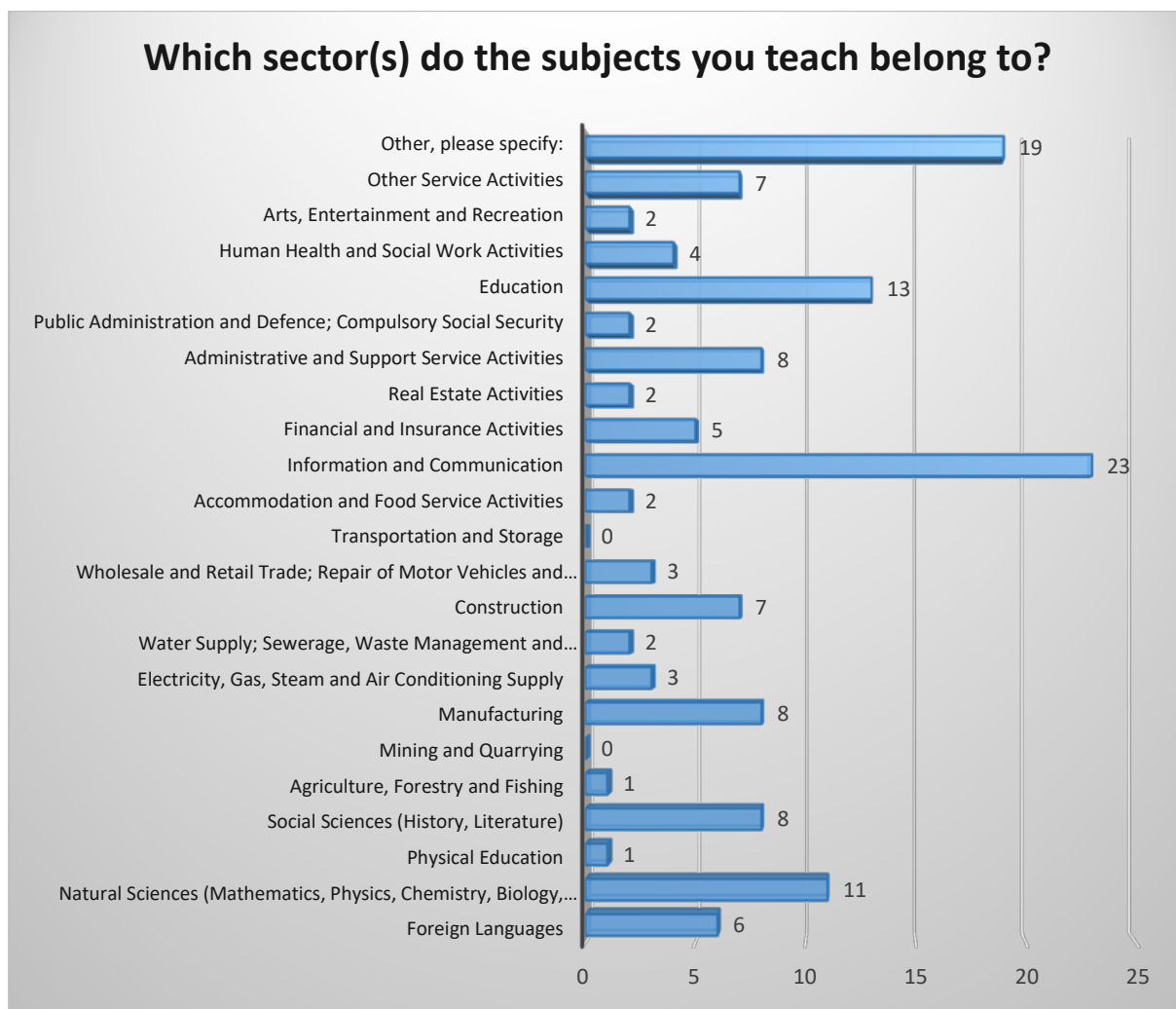


1-10	25	32,5%
11-20	23	29,9%
21-30	19	24,7%
31, or more	7	9,1%
Not specified	3	3,9%
Total	77	100,0%

EVALUATION

Over 90% of respondents works or has worked in private companies in the past. This data will certainly affect the questions regarding the relationship with companies in the teaching practice and the use of practical "on-the-job" tools.

2.5 WHICH SECTOR(S) DO THE SUBJECTS YOU TEACH BELONG TO?



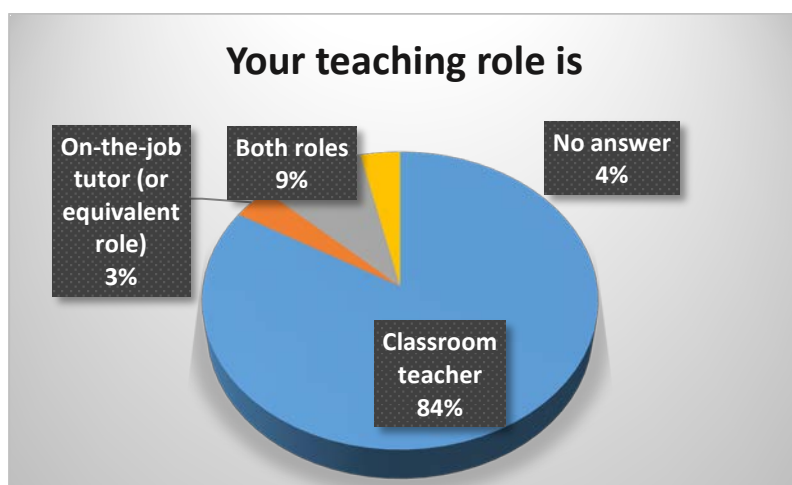
Foreign Languages	6
Natural Sciences (Mathematics, Physics, Chemistry, Biology, Geography)	11
Physical Education	1
Social Sciences (History, Literature)	8
Agriculture, Forestry and Fishing	1
Mining and Quarrying	0
Manufacturing	8
Electricity, Gas, Steam and Air Conditioning Supply	3
Water Supply; Sewerage, Waste Management and Remediation Activities	2
Construction	7
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	3
Transportation and Storage	0
Accommodation and Food Service Activities	2
Information and Communication	23
Financial and Insurance Activities	5

Real Estate Activities	2
Administrative and Support Service Activities	8
Public Administration and Defense; Compulsory Social Security	2
Education	13
Human Health and Social Work Activities	4
Arts, Entertainment and Recreation	2
Other Service Activities	7
Other, please specify:	19
Total	137

EVALUATION

Within the field of teaching Information and Communication has a leading role with 23 respondents. Other subjects covered by several respondents are natural sciences.

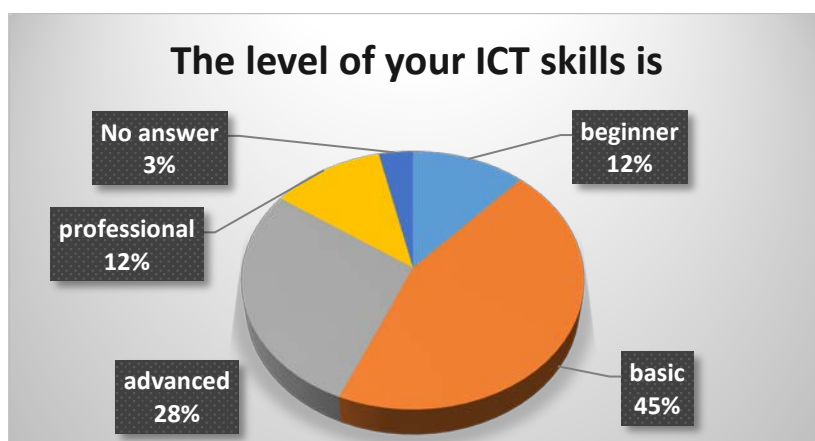
2.6 YOUR TEACHING ROLE IS



Classroom teacher	71	83,5%
On-the-job tutor (or equivalent role)	3	3,5%
Both roles	8	9,4%
No answer	3	3,5%
Total	85	100,0%

ICT SKILLS AND ICT-BASED METHODS IN TEACHING

3.1 THE LEVEL OF YOUR ICT SKILLS IS

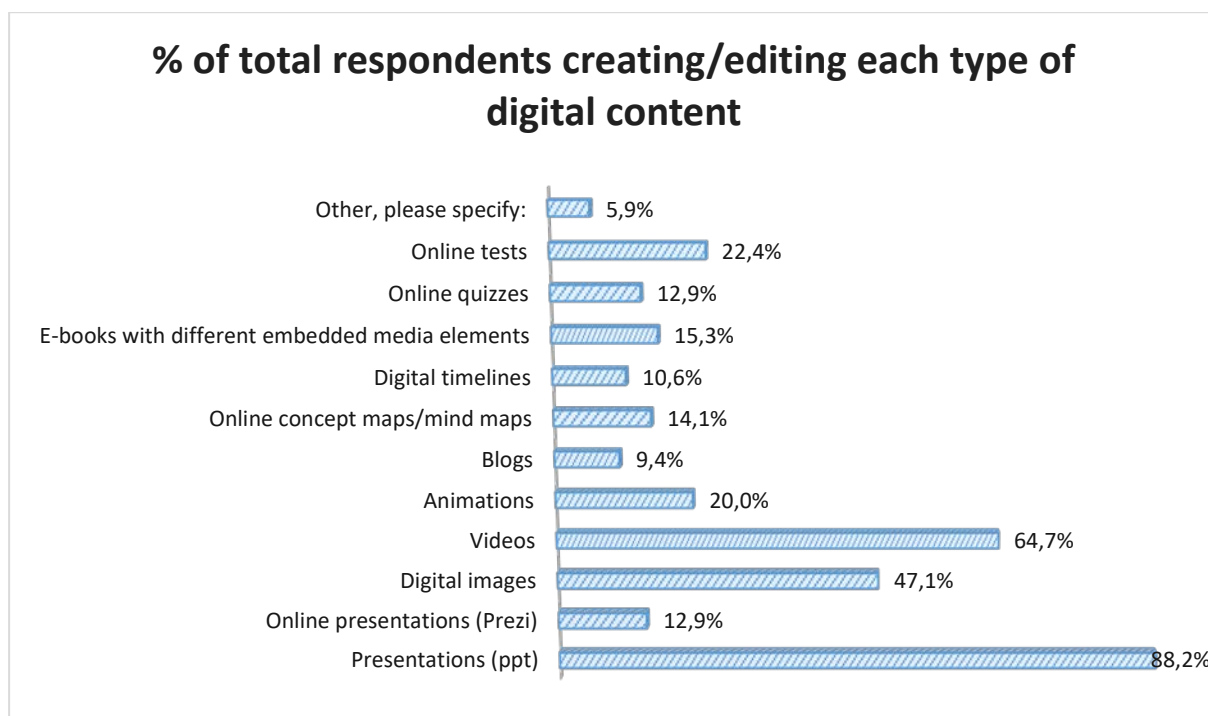
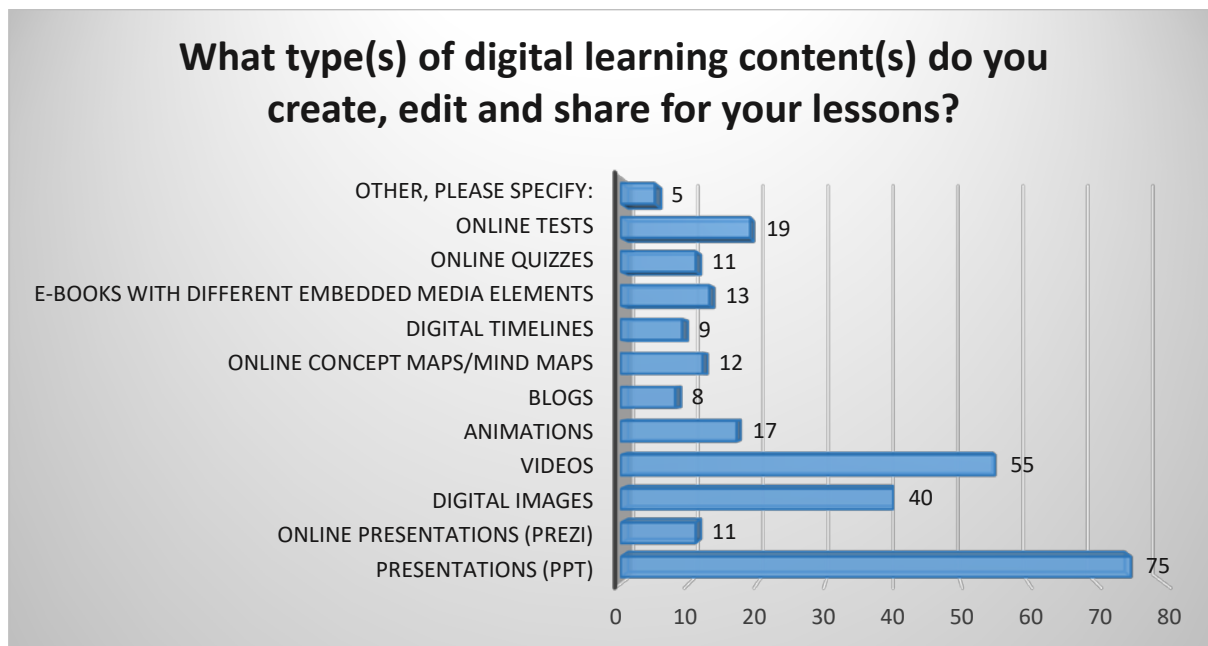


beginner	10	11,8%
basic	38	44,7%
advanced	24	28,2%
professional	10	11,8%
No answer	3	3,5%
Total	85	100,0%

EVALUATION

Despite the high number of people teaching Information and Communication subjects, only 40% of respondents declares to have an advanced or professional level of ICT skills. This is an important result as it shows that even in teaching contexts that are close to the job market and industrial world, ICTs are still not widespread in the teaching practice.

3.2 WHAT TYPE(S) OF DIGITAL LEARNING CONTENT(S) DO YOU CREATE, EDIT AND SHARE FOR YOUR LESSONS?

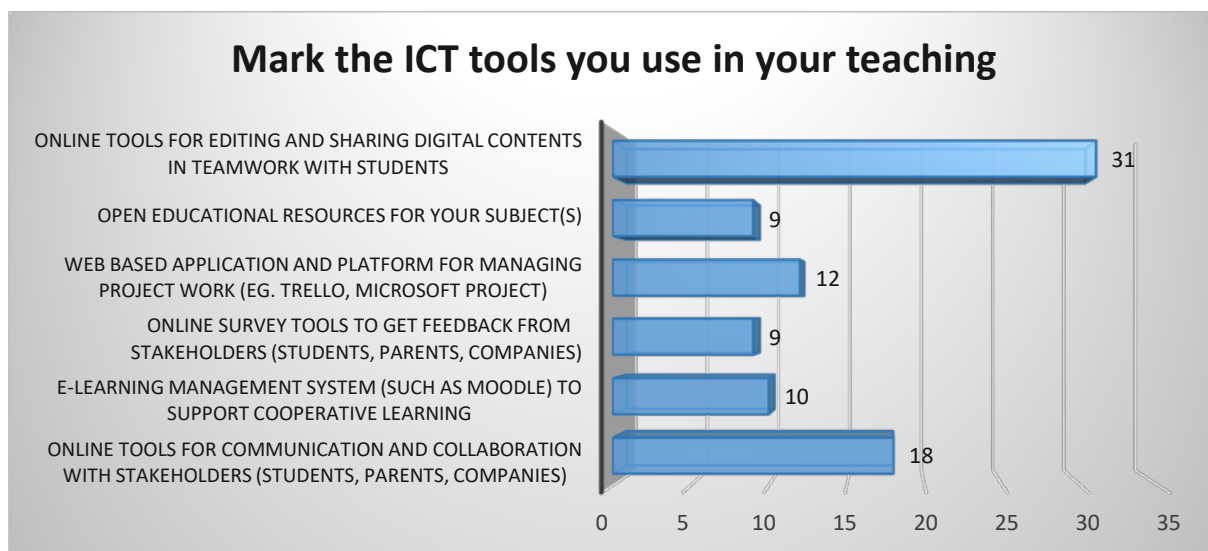


		% out of 85 respondents
Presentations (ppt)	75	88,2%
Online presentations (Prezi)	11	12,9%
Digital images	40	47,1%
Videos	55	64,7%
Animations	17	20,0%
Blogs	8	9,4%
Online concept maps/mind maps	12	14,1%
Digital timelines	9	10,6%
E-books with different embedded media elements	13	15,3%
Online quizzes	11	12,9%
Online tests	19	22,4%
Other, please specify:	5	5,9%
Total	275	/

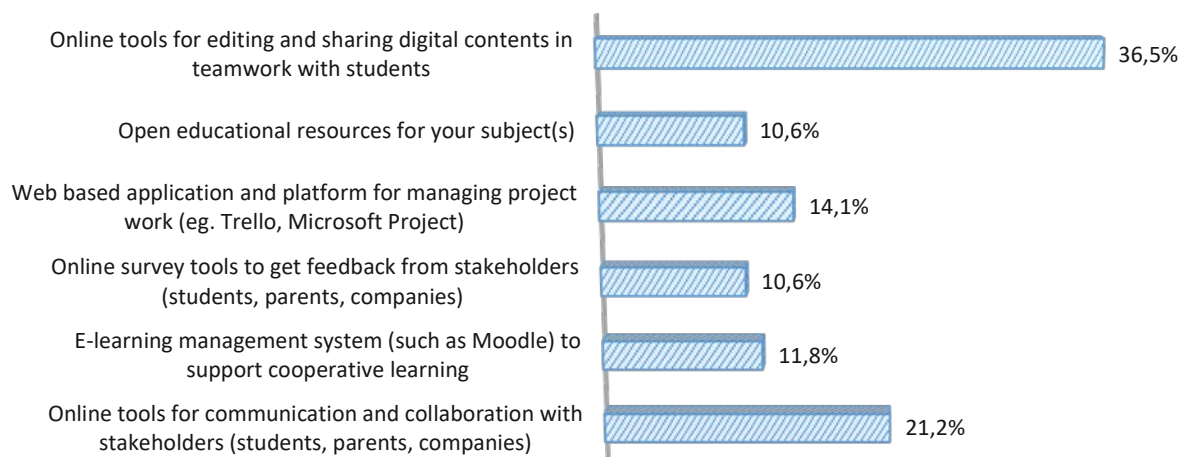
EVALUATION

Of the digital tools, almost everybody uses PPT presentations, videos and images, while the use of blogs, online tests/quizzes, e-books and digital timelines is still quite low.

3.3 MARK THE ICT TOOLS YOU USE IN YOUR TEACHING



% of total respondents using each type of ICT tool in teaching



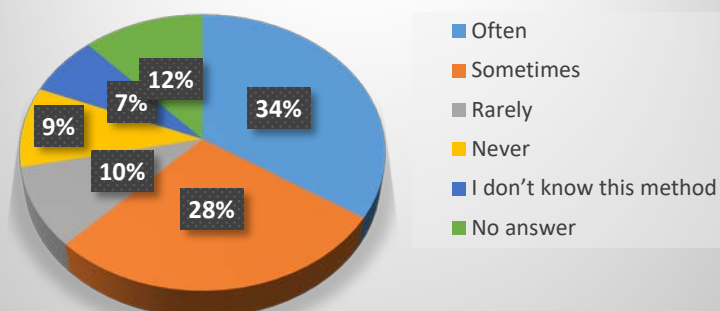
Type of ICT tool		% out of 85 respondents
Online tools for communication and collaboration with stakeholders (students, parents, companies)	18	21,2%
E-learning management system (such as Moodle) to support cooperative learning	10	11,8%
Online survey tools to get feedback from stakeholders (students, parents, companies)	9	10,6%
Web based application and platform for managing project work (e.g. Trello, Microsoft Project)	12	14,1%
Open educational resources for your subject(s)	9	10,6%
Online tools for editing and sharing digital contents in teamwork with students	31	36,5%
Total	89	/

EVALUATION

Online tools for editing and sharing digital contents in teamwork with students. The only widespread tool is represented by online tools for editing and sharing digital contents in teamwork with students (31 respondents uses these tools). It is worth noting that only 9 respondents declared to use OERs.

3.4 WHICH PEDAGOGICAL METHOD(S) DO YOU FREQUENTLY USE IN YOUR CLASSROOM?

Project-based learning

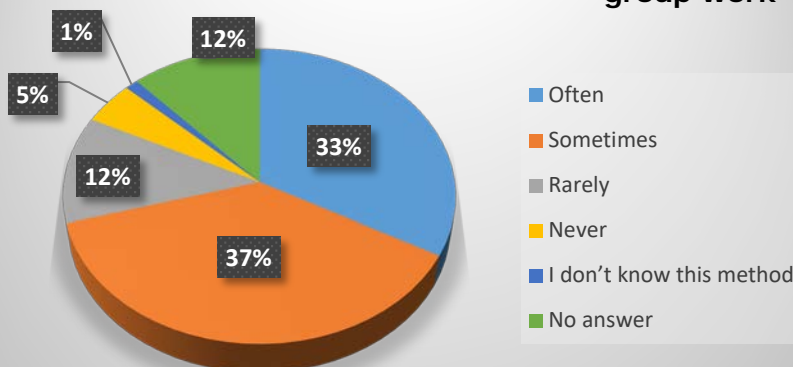


Which pedagogical method(s) do you frequently use in your classroom?

Often	29	34,1%
Sometimes	24	28,2%
Rarely	8	9,4%
Never	8	9,4%
I don't know this method	6	7,1%
No answer	10	11,8%
Total	85	100,0%

11

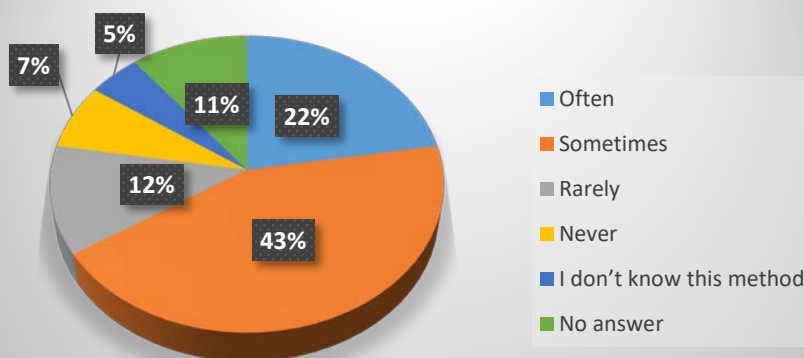
Collaborative, cooperative methods based on group work



Which pedagogical method(s) do you frequently use in your classroom?

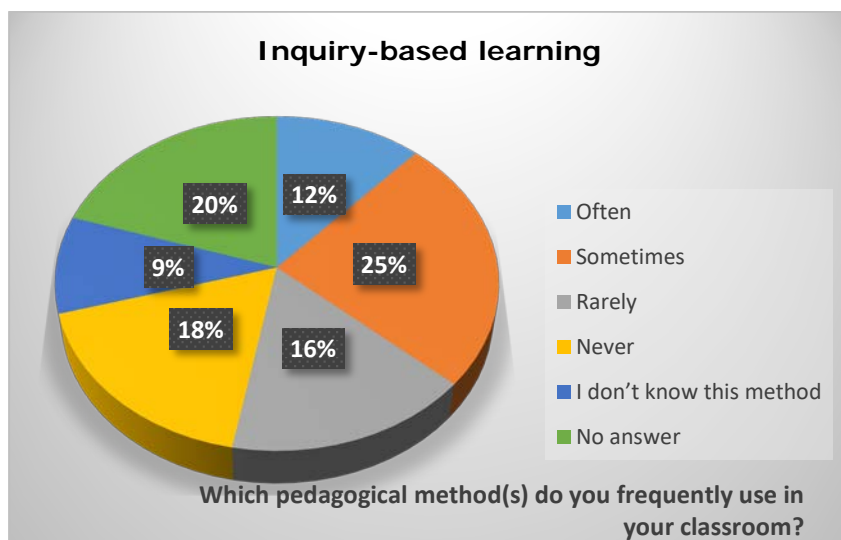
Often	28	32,9%
Sometimes	32	37,6%
Rarely	10	11,8%
Never	4	4,7%
I don't know this method	1	1,2%
No answer	10	11,8%
Total	85	100,0%

Problem-based learning

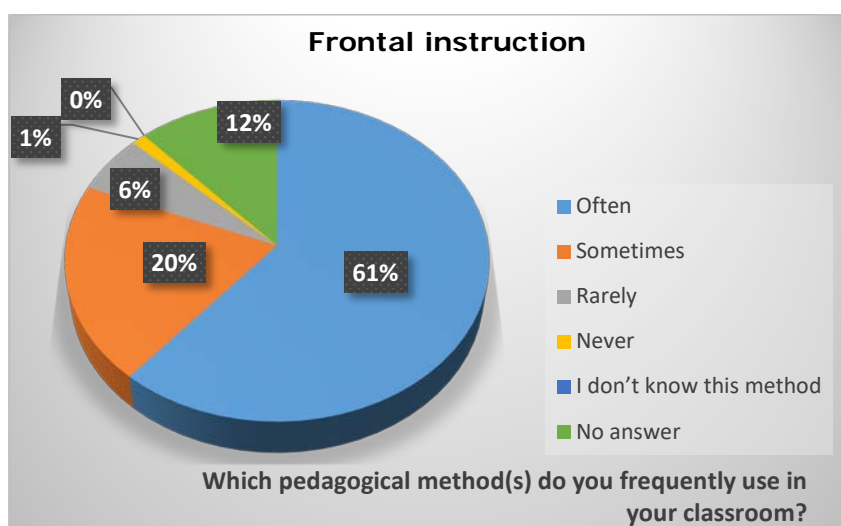


Which pedagogical method(s) do you frequently use in your classroom?

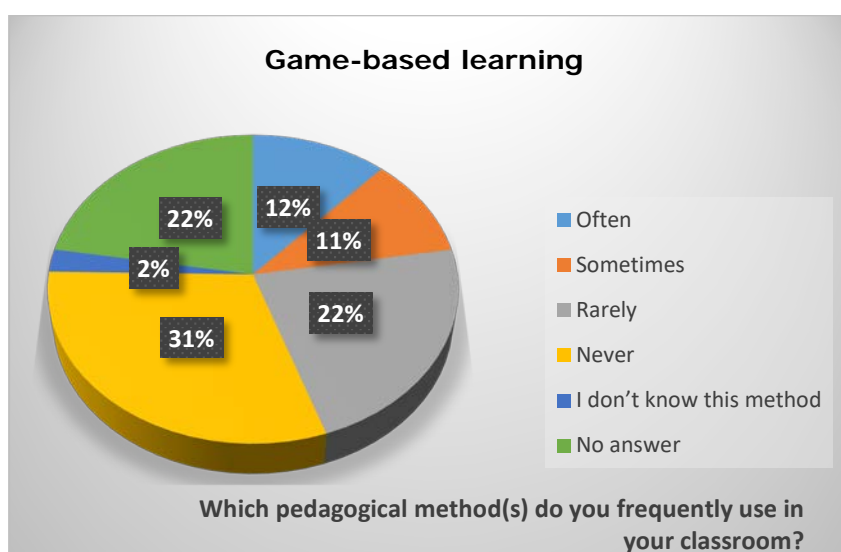
Often	19	22,4%
Sometimes	37	43,5%
Rarely	10	11,8%
Never	6	7,1%
I don't know this method	4	4,7%
No answer	9	10,6%
Total	85	100,0%



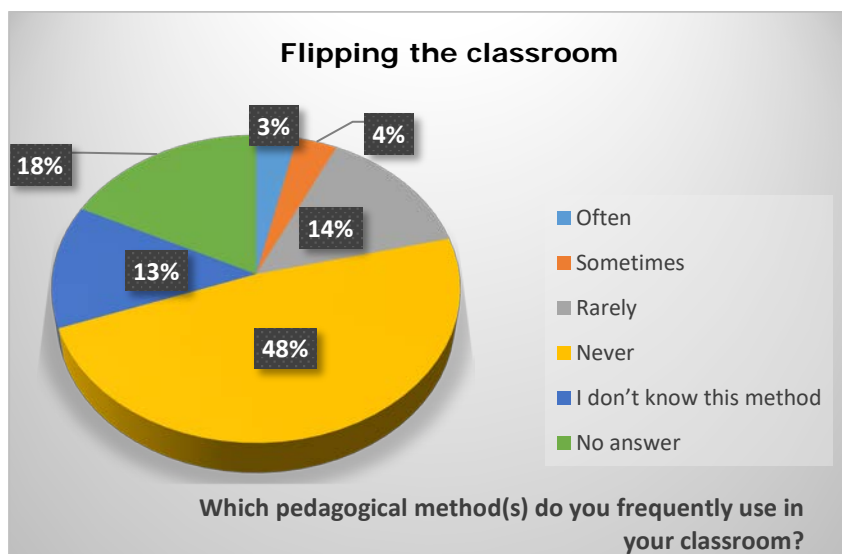
Often	10	11,8%
Sometimes	21	24,7%
Rarely	14	16,5%
Never	15	17,6%
I don't know this method	8	9,4%
No answer	17	20,0%
Total	85	100,0%



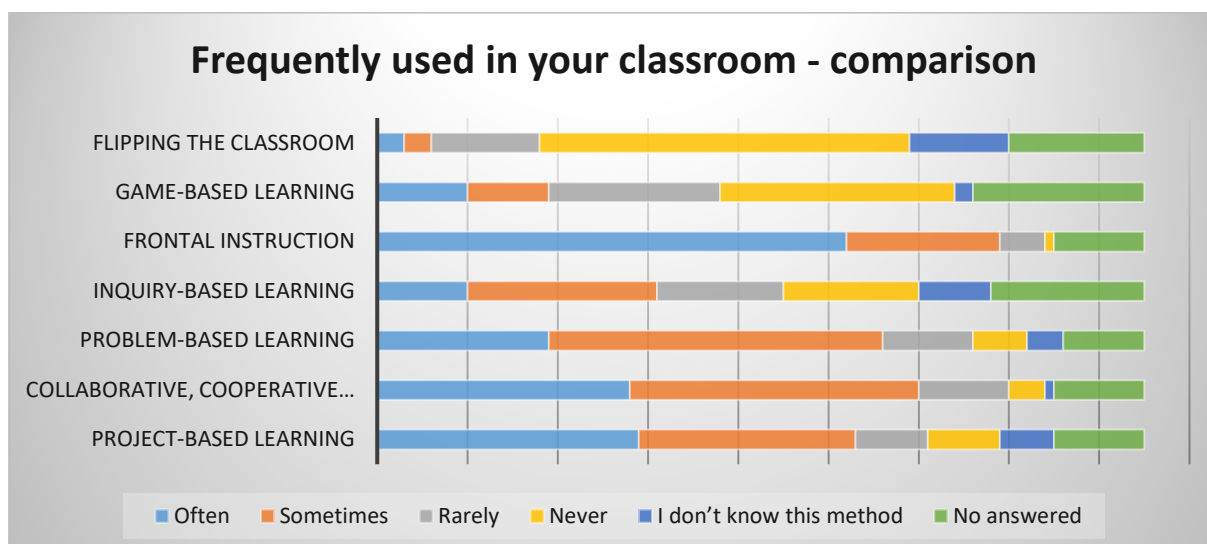
Often	52	61,2%
Sometimes	17	20,0%
Rarely	5	5,9%
Never	1	1,2%
I don't know this method	0	0,0%
No answer	10	11,8%
Total	85	100,0%



Often	10	11,8%
Sometimes	9	10,6%
Rarely	19	22,4%
Never	26	30,6%
I don't know this method	2	2,4%
No answer	19	22,4%
Total	85	100,0%

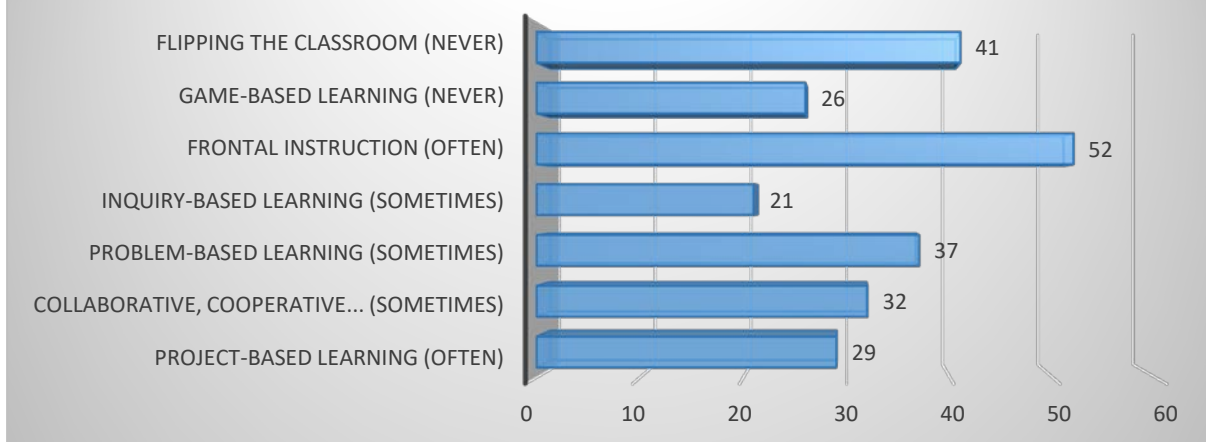


Often	3	3,5%
Sometimes	3	3,5%
Rarely	12	14,1%
Never	41	48,2%
I don't know this method	11	12,9%
No answer	15	17,6%
Total	85	100,0%



	Project-based learning	Collaborative, cooperative...	Problem-based learning	Inquiry-based learning	Frontal instruction	Game-based learning	Flipping the classroom
Often	29	28	19	10	52	10	3
Sometimes	24	32	37	21	17	9	3
Rarely	8	10	10	14	5	19	12
Never	8	4	6	15	1	26	41
I don't know this method	6	1	4	8	0	2	11
No answered	10	10	9	17	10	19	15
Total	85	85	85	85	85	85	85

Frequently used in your classroom - max

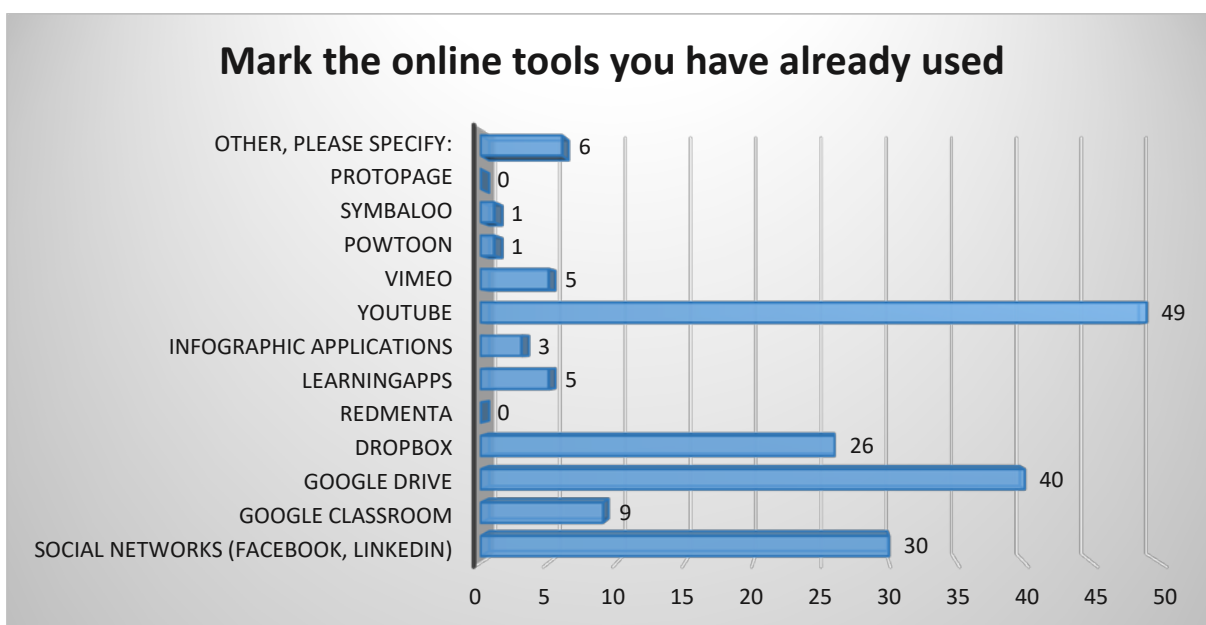


Project-based learning (often)	29
Collaborative, cooperative... (sometimes)	32
Problem-based learning (sometimes)	37
Inquiry-based learning (sometimes)	21
Frontal instruction (often)	52
Game-based learning (never)	26
Flipping the classroom (never)	41
Total	238

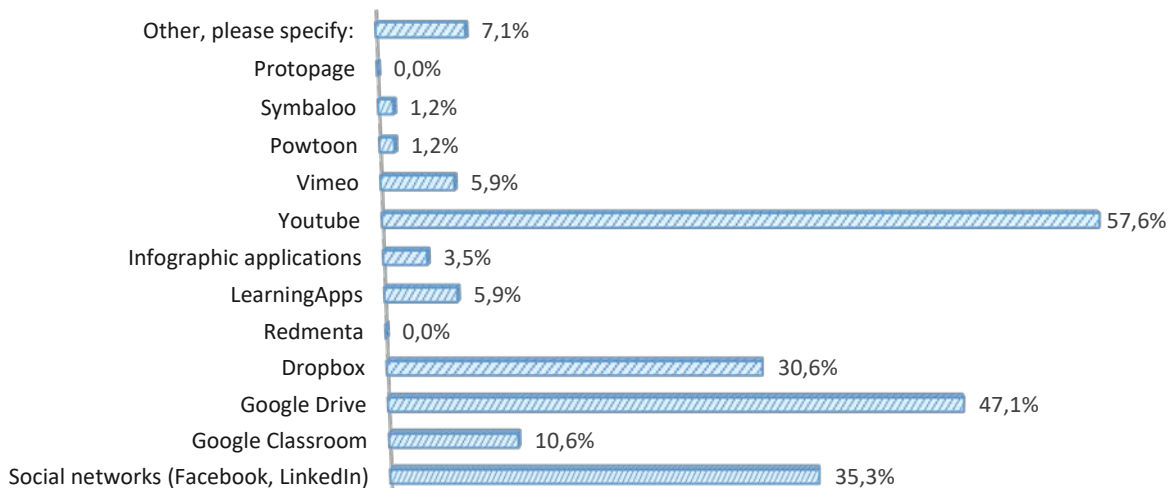
EVALUATION

While some methods, such as game-based learning and flipped classroom are not known by a large portion of respondents, project-based, problem-based and collaborative learning are used often or sometimes by many respondents, which shows a strong interest in embedding practical elements in teaching. Frontal lessons are often used by 52 people and sometimes used by 17, scoring the 1st place among all teaching methods.

3.5 MARK THE ONLINE TOOLS YOU HAVE ALREADY USED



% of total respondents using each online tool

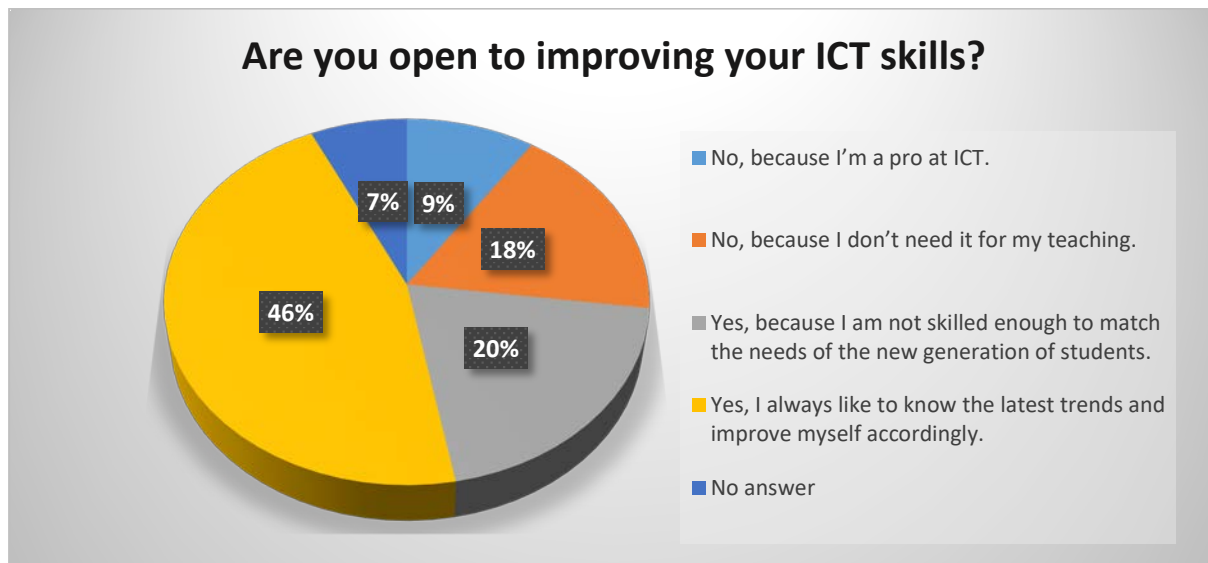


		% of total re- spondents
Social networks (Facebook, LinkedIn)	30	35,3%
Google Classroom	9	10,6%
Google Drive	40	47,1%
Dropbox	26	30,6%
Redmenta	0	0,0%
LearningApps	5	5,9%
Infographic applications	3	3,5%
YouTube	49	57,6%
Vimeo	5	5,9%
PowToon	1	1,2%
Symbaloo	1	1,2%
Protopage	0	0,0%
Other, please specify:	6	7,1%
Total	175	

EVALUATION

Most respondents only use 4 online tools: social networks, YouTube, Dropbox and Google Drive, while the other tools are almost never used.

3.6 ARE YOU OPEN TO IMPROVING YOUR ICT SKILLS?



No, because I'm a pro at ICT.	8	9,4%
No, because I don't need it for my teaching.	15	17,6%
Yes, because I am not skilled enough to match the needs of the new generation of students.	17	20,0%
Yes, I always like to know the latest trends and improve myself accordingly.	39	45,9%
No answer	6	7,1%
Total	85	100,0%

EVALUATION

66% of respondents is aware or willing to update his/her ICT skills. This demonstrates that REACTI-VET's objectives are based on a realistic context.

3.7 WOULD YOU LIKE TO TAKE A FREE COURSE?



Yes	24	28,2%
Perhaps	26	30,6%
No, thanks	5	5,9%
No answer	30	35,3%
Total	85	100,0%
Mail provided	41	48,2%

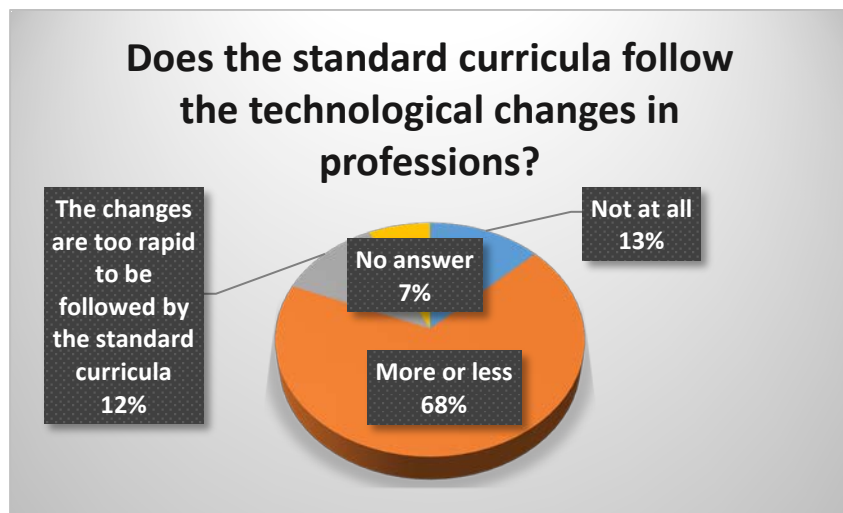
EVALUATION

Only 58% of respondents is willing to take a course to update his/her ICT skills, and about 48% inserted a valid email address, so we can state that half of the respondents is a potential target for the REACTI-VET training course (O2)

SKILL GAPS AND EFFORTS TO REDUCE THEM

17

4.1 DOES THE STANDARD CURRICULA FOLLOW THE TECHNOLOGICAL CHANGES IN PROFESSIONS?



Not at all	11	12,9%
More or less	58	68,2%
The changes are too rapid to be followed by the standard curricula	10	11,8%
No answer	6	7,1%
Total	85	100,0%

EVALUATION

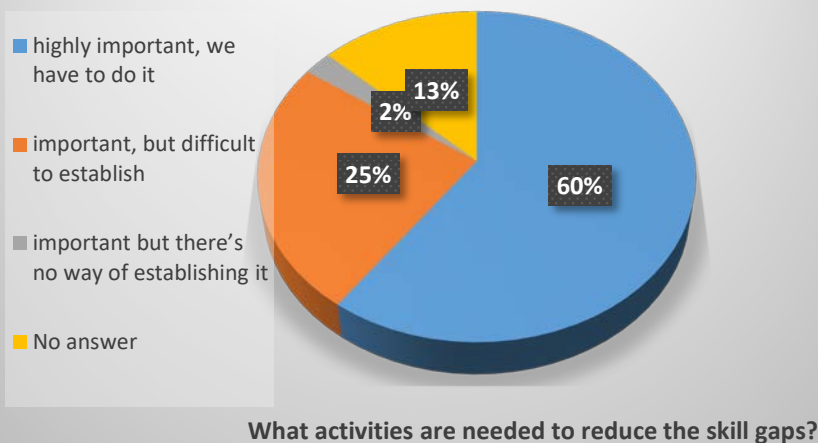
A very high percentage (68%) of respondents thinks that standard curricula are in line with the technological changes in professions. This is one of the questions that is most likely biased by the fact that respondents mostly work in technical vocational institutes, where the connection with SMEs is much stronger than in ordinary school systems.

4.2 WHAT ACTIVITIES ARE NEEDED TO REDUCE THE SKILL GAPS?



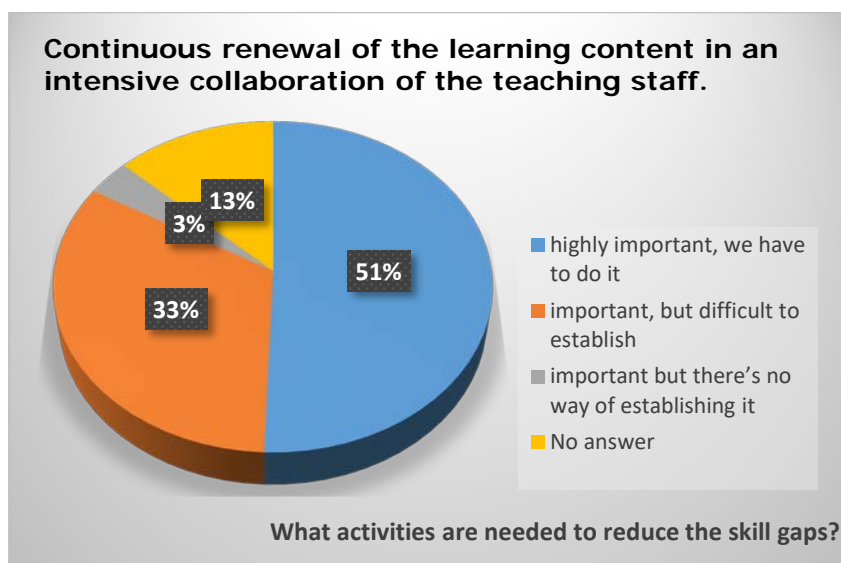
Highly important, we must do it	56	65,9%
Important, but difficult to establish	17	20,0%
Important but there's no way of establishing it	3	3,5%
No answer	9	10,6%
Total	85	100,0%

Creating real-life exercises/assignments/practical tasks for students in collaboration with companies, instead of using exam papers from previous years for drilling.

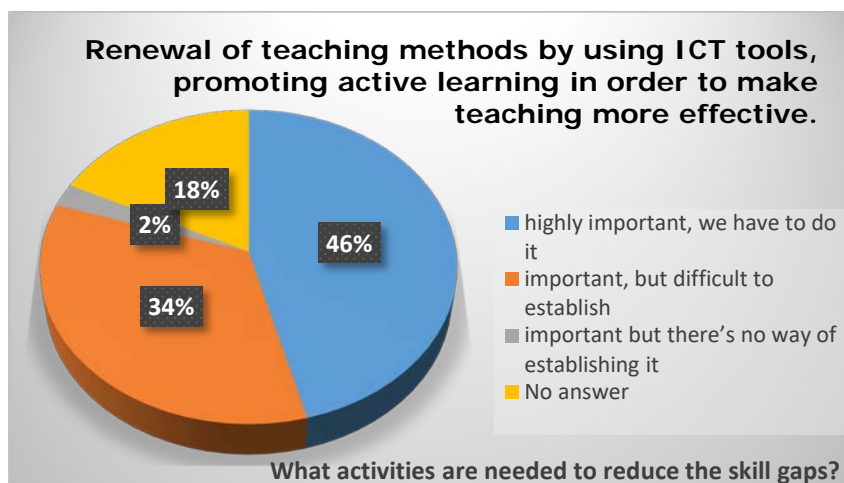


Highly important, we must do it	51	60,0%
Important, but difficult to establish	21	24,7%
Important but there's no way of establishing it	2	2,4%
No answer	11	12,9%
Total	85	100,0%

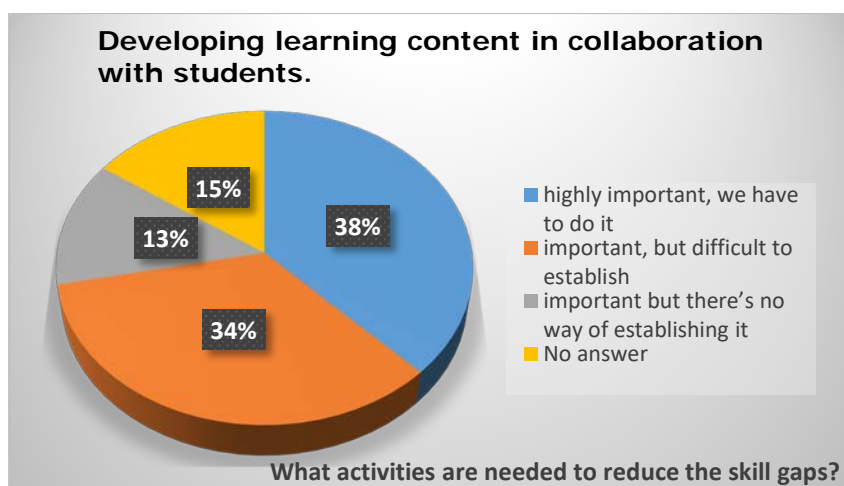
Continuous renewal of the learning content in an intensive collaboration of the teaching staff.



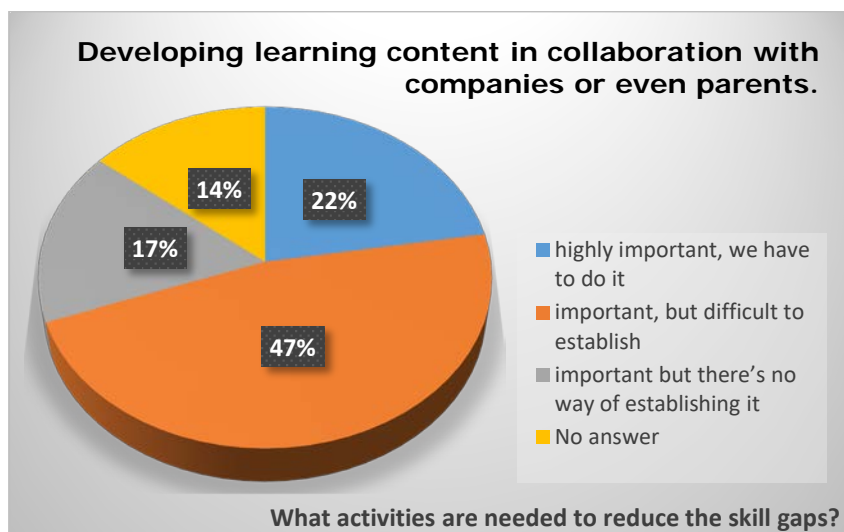
Highly important, we must do it	43	50,6%
Important, but difficult to establish	28	32,9%
Important but there's no way of establishing it	3	3,5%
No answer	11	12,9%
Total	85	100,0%



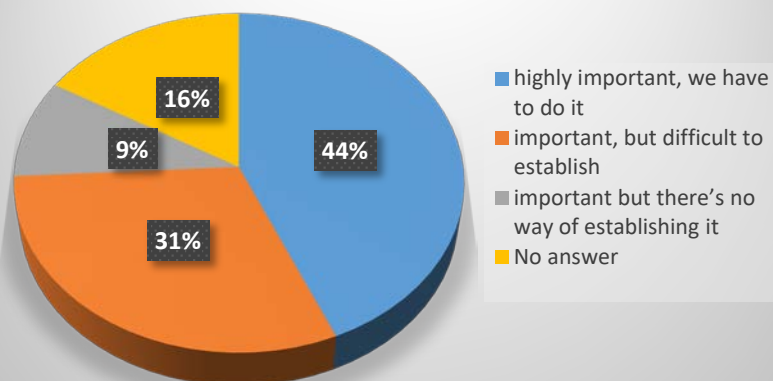
Highly important, we must do it	39	45,9%
Important, but difficult to establish	29	34,1%
Important but there's no way of establishing it	2	2,4%
No answer	15	17,6%
Total	85	100,0%



Highly important, we must do it	32	37,6%
Important, but difficult to establish	29	34,1%
Important but there's no way of establishing it	11	12,9%
No answer	13	15,3%
Total	85	100,0%

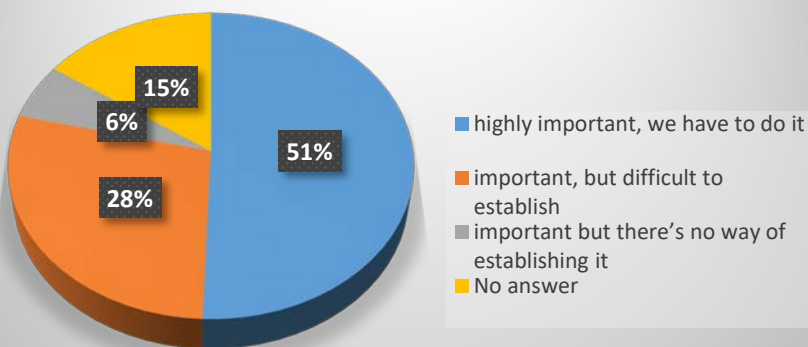


Highly important, we must do it	19	22,4%
Important, but difficult to establish	40	47,1%
Important but there's no way of establishing it	14	16,5%
No answer	12	14,1%
Total	85	100,0%

Asking feedback from formerly graduated students.


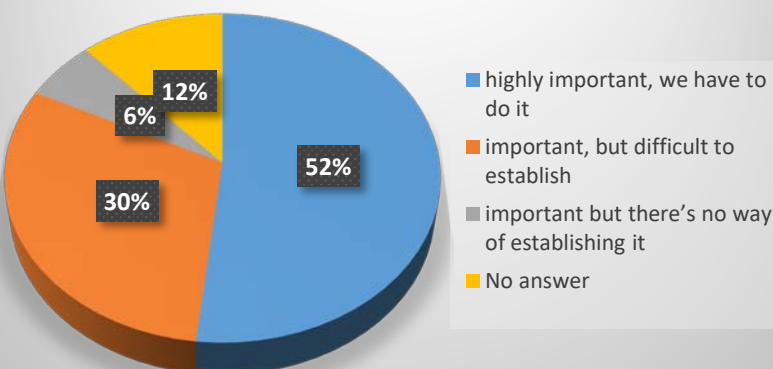
What activities are needed to reduce the skill gaps?

Highly important, we must do it	37	43,5%
Important, but difficult to establish	26	30,6%
Important but there's no way of establishing it	8	9,4%
No answer	14	16,5%
Total	85	100,0%

Integrating upskilling lessons into the standard curricula.


What activities are needed to reduce the skill gaps?

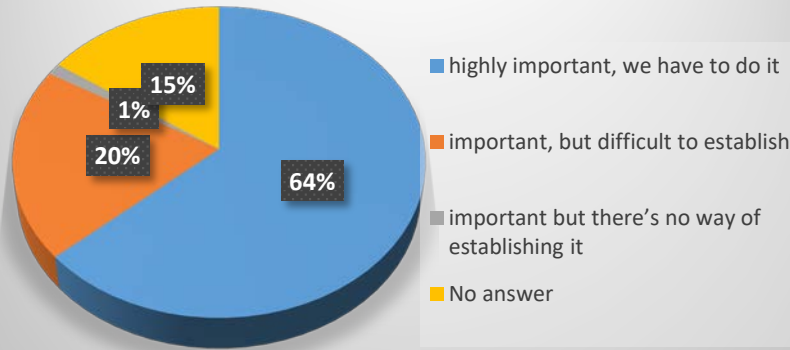
Highly important, we must do it	43	50,6%
Important, but difficult to establish	24	28,2%
Important but there's no way of establishing it	5	5,9%
No answer	13	15,3%
Total	85	100,0%

Intensive collaboration among the teachers of theoretical and practical subjects.


What activities are needed to reduce the skill gaps?

Highly important, we must do it	44	51,8%
Important, but difficult to establish	26	30,6%
Important but there's no way of establishing it	5	5,9%
No answer	10	11,8%
Total	85	100,0%

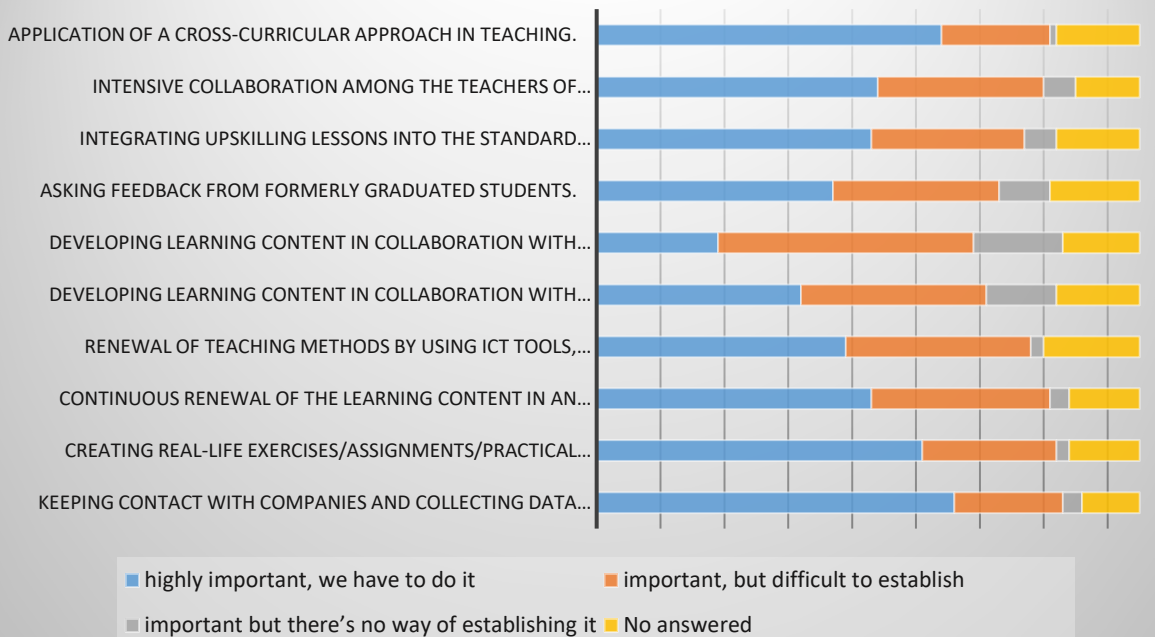
Application of a cross-curricular approach in teaching.



Highly important, we must do it	54	63,5%
Important, but difficult to establish	17	20,0%
Important but there's no way of establishing it	1	1,2%
No answer	13	15,3%
Total	85	100,0%

What activities are needed to reduce the skill gaps?

Summary of skills gaps



Keeping contact with companies and collecting data to identify	Creating real-life exercises/assignments/practical tasks for students in collaboration with companies, instead of using exam	Continuous renewal of the learning content in an intensive collaboration of	Renewal of teaching methods by using ICT tools, promoting active learning in order to make	De-veloping learning content in col-	De-veloping learning content in col-laboration with	Ask-ing feed-back from formerly	Inte-grating up-skillin g lessons into the	Inten-sive col-labora-tion among the teachers of	Ap-plica-tion of a cross-curricu-lar
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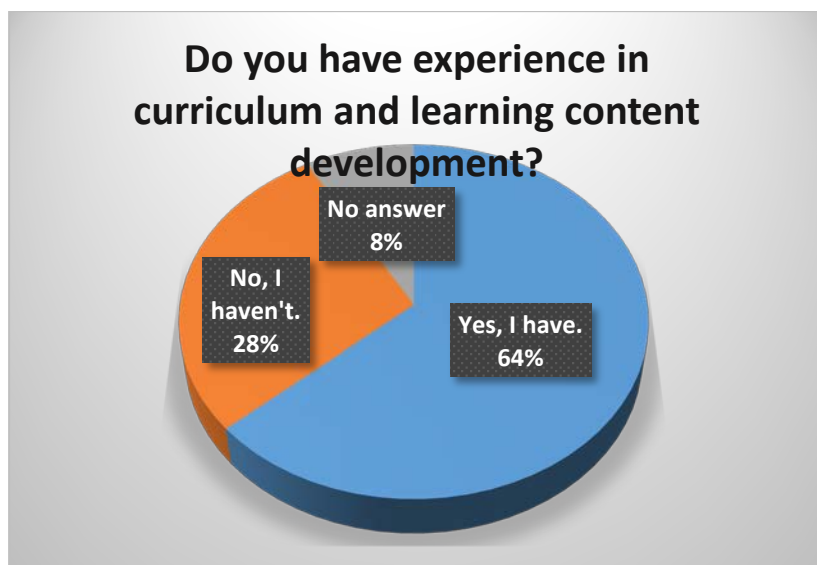
	the skill gaps.	papers from previous years for drilling.	the teaching staff.	teaching more effective.	laboration with students.	companies or even parents.	graduated students.	standard curricula.	theoretical and practical subjects.	approach in teaching.
highly important, we have to do it	56	51	43	39	32	19	37	43	44	54
important, but difficult to establish	17	21	28	29	29	40	26	24	26	17
important but there's no way of establishing it	3	2	3	2	11	14	8	5	5	1
No answered	9	11	11	15	13	12	14	13	10	13
Total	85	85	85	85	85	85	85	85	85	85

EVALUATION

The most important thing to do in order to reduce the skills gap is to “Keep contact with companies and collect data to identify the skill gaps” (it is also considered a feasible task), as well as to “Create real-life exercises/assignments/practical tasks for students in collaboration with companies”.

The most difficult thing to put in practice is “Developing learning content in collaboration with companies or even parents”, as well as “Developing learning content in collaboration with students”. It is possible to say that collaborative development of contents is found to be difficult or impossible to put in practice by many respondents.

4.3 DO YOU HAVE EXPERIENCE IN CURRICULUM AND LEARNING CONTENT DEVELOPMENT?



Yes, I have.	54	63,5%
No, I haven't.	24	28,2%
No answer	7	8,2%
Total	85	100,0%

EVALUATION

Most respondents have experience in curriculum and learning content development.

4.4 HOW MANY COMPANY EXPERTS DO YOU KEEP CONTACT WITH TO BE UP-TO-DATE?



I don't have contacts like this.	13	15,3%
I have 1-2 contacts like this.	22	25,9%
I co-operate with 3-5 experts.	16	18,8%
I regularly co-operate with 6 or more experts.	27	31,8%
No answer	7	8,2%
Total	85	100,0%

EVALUATION

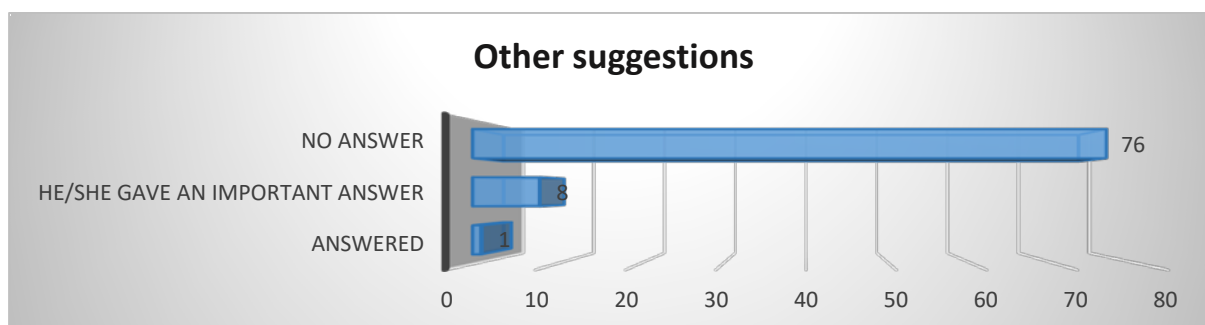
A very high percentage of respondents have contacts with at least 1-2 experts. In fact, only 15,3% declare to have no contacts in private companies. This is encouraging as it is an asset that will be very useful for the development of upskilling curricula for students.

4.5 WHEN WAS THE LAST TIME YOU VISITED A CORPORATE SITE FOR ON-HAND EXPERIENCE?



Several times a year	41	48,2%
At least once a year	8	9,4%
It happens very rarely	18	21,2%
Never	5	5,9%
Not relevant for me as I teach general subject	5	5,9%
No answer	8	9,4%
Total	85	100,0%

4.6 YOUR ADDITIONAL SUGGESTIONS ABOUT CLOSING THE GAP BETWEEN WHAT IS CURRENTLY OFFERED BY THE EDUCATION SYSTEM AND WHAT IS NEEDED IN THE JOB MARKET



Answered	1	1,2%
He/she gave an important answer	8	9,4%
No answer	76	89,4%
Total	85	100,0%

EVALUATION

Very few people wrote a free suggestion. Out of 9 answers only 8 are worth reporting and are listed below:

<i>Constant contact between teachers and companies</i>	1
<i>Internship designed by schools and companies together</i>	1
<i>Modern tools (ICT tools) into education</i>	1
<i>Transversal actions in educational paths to foster innovation</i>	1

<i>ICT and methodological trainings for teachers</i>	1
<i>Involvement of companies into further teacher training</i>	1
<i>More practical methodologies in class (project-based, etc.) also involving companies</i>	1
<i>Encourage continuous update of teachers</i>	1

CONCLUSIONS

In Italy, 85 teachers completed the questionnaire. The selection of respondents was not made through representative sampling. The questionnaire was promoted via different channels, but most respondents come from the network of Fondazione ITS Jobsacademy and AICA and are therefore teachers from vocational/adult education centers and – mostly – from Post-Diploma Technical Vocational Institutes (ITS).

The distribution according to sex and age-group does not reflect Italy's secondary school or higher education systems but it is typical of vocational schools at the secondary and post-diploma levels. The results of the questionnaire show a very encouraging profile of teachers as for what regards the connection with industries and companies on the territory, but a quite low level of ICT skills. Almost all respondents have explored several online tools and training methods (mostly project-based, collaborative and problem-based learning), nonetheless frontal lessons are still the most used method for teaching.

Around half of all respondents provided an email to be contacted to participate to a free course to update their ICT skills in teaching.