REACTI-VET - FOCUSED REQUIREMENT ANALYSIS

COUNTRY: **HUNGARY**

TARGET GROUP: **VET TEACHERS**

CONTEXT

Vocational schools have to meet two opposing requirements simultaneously: to remain true to tradition, delivering stable, tested knowledge approved by relevant parties in society and economy; and to equip students with a set of skills and competencies relevant to newly emerging demands of labour market.

How can we transform the strategies of vocational schools to be more labor market responsive? How could vocational schools prepare their students to meet the requirements of the rapidly changing technological environment in their future workplace? These are the questions we want to answer in the Reacti-VET project.

In the first project phase (focused requirement analysis) the Consortium implemented a survey for VET teachers which will serve as a basis for the next outcome, the development of an upskilling training for teachers.

The aim of the survey was to gather information about the ICT skills of VET teachers and the ICT-based methods and tools they use in teaching. We also wanted to know what efforts they have been making so far to reduce the skills gaps, and what type of contact they currently have with companies.

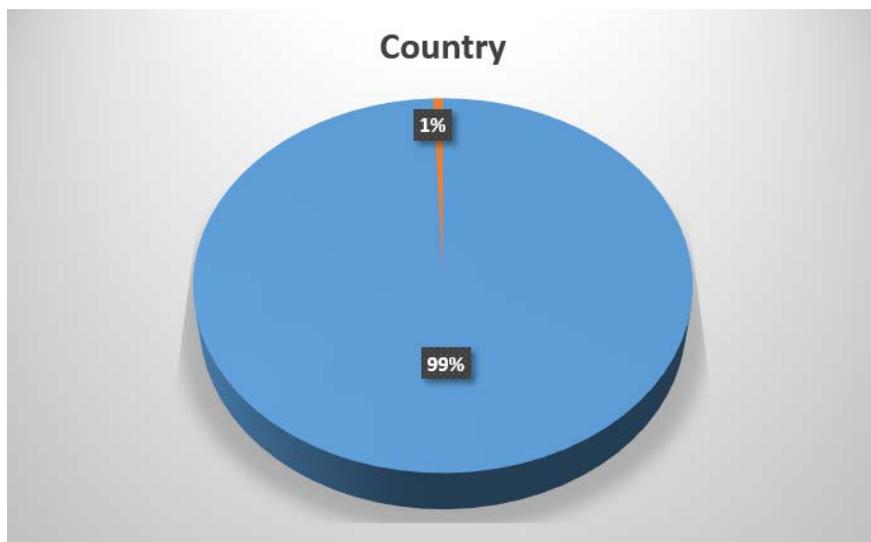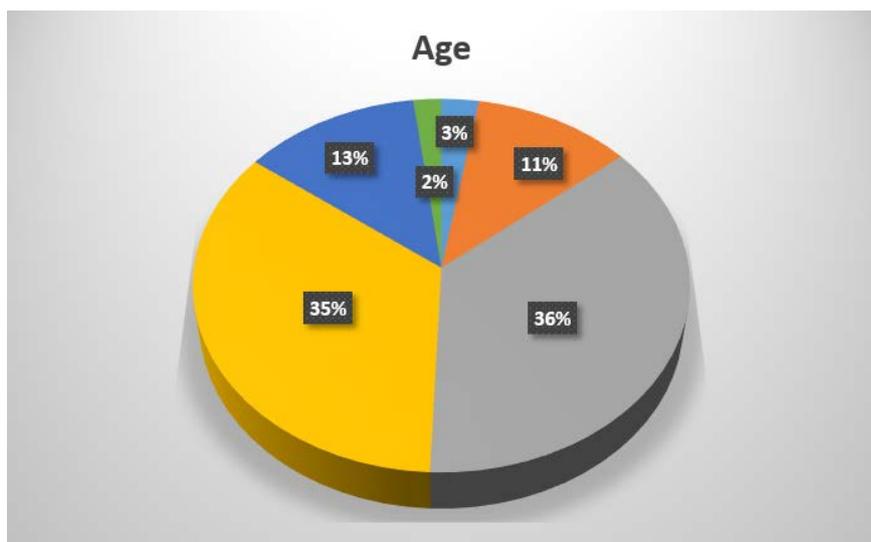In Hungary 150 responses from VET teachers were received through the online questionnaire published on the project website (http://reactivet.itstudy.hu/hu/forms/teachers).

DEMOGRAPHIC DATA

1.1 GENDER
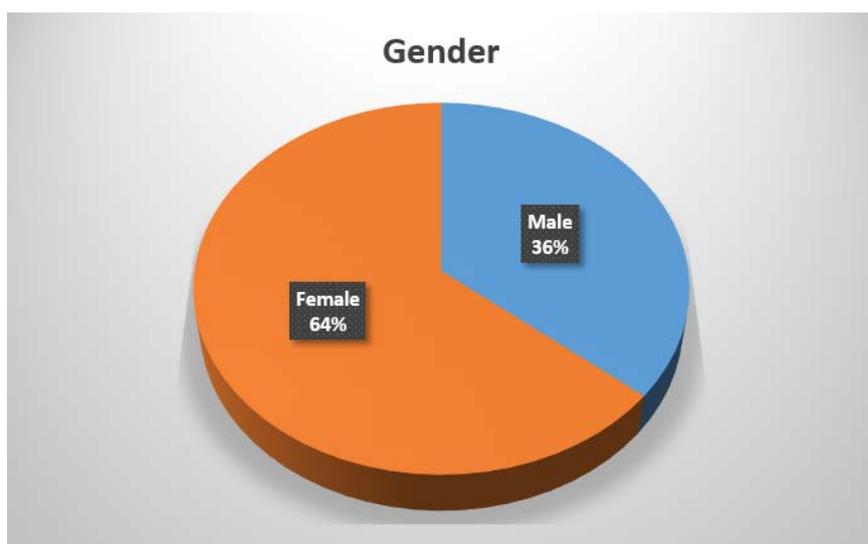
Male	54	36,0%
Female	96	64,0%
Total	150	

1.2 Country

Hungary	149	99,3%
No answer	1	0,7%
Total	150	

1.3 AGE

20-29	4	2,7%
30-39	17	11,3%
40-49	55	36,7%
50-59	52	34,7%
over 60	19	12,7%
No answer	3	2,0%
Total	150	

EVALUATION

The ratio of male/female teachers reflect the general situation of secondary education in Hungary. Everyone's nationality was Hungarian, and the age group shows normal deviation. This latter is partially the result of the aging of the teaching profession.

PROFESSIONAL BACKGROUND

2.1 HIGHEST LEVEL OF EDUCATION
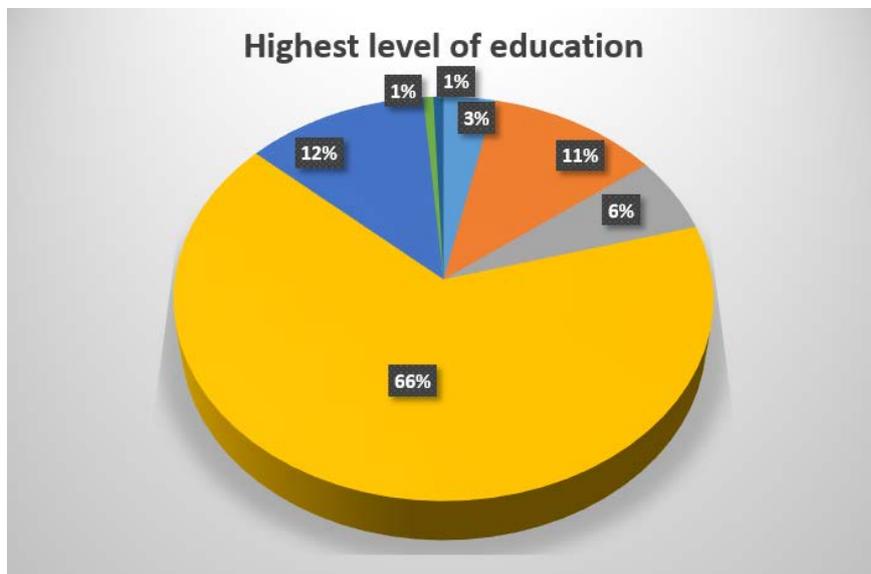
secondary and post-secondary (ISCED 3, 4, 5)	5	3,3%
bachelor (BSC/BA/BProf) in teaching (ISCED 6)	17	11,3%
bachelor (BSC/BA/BProf) in other profession (ISCED 6)	9	6,0%
master (MSC/MA) in teaching (ISCED 7)	99	66,0%
master (MSC/MA) in other profession (ISCED 7)	18	12,0%
Doctoral or equivalent (ISCED 8)	1	0,7%
Other	1	0,7%
Total	150	

EVALUATION

A bachelor's or a master's degree is a prerequisite for in-service teachers; accordingly, the majority of respondents had an MA.

2.2 HOW LONG HAVE YOU BEEN TEACHING?
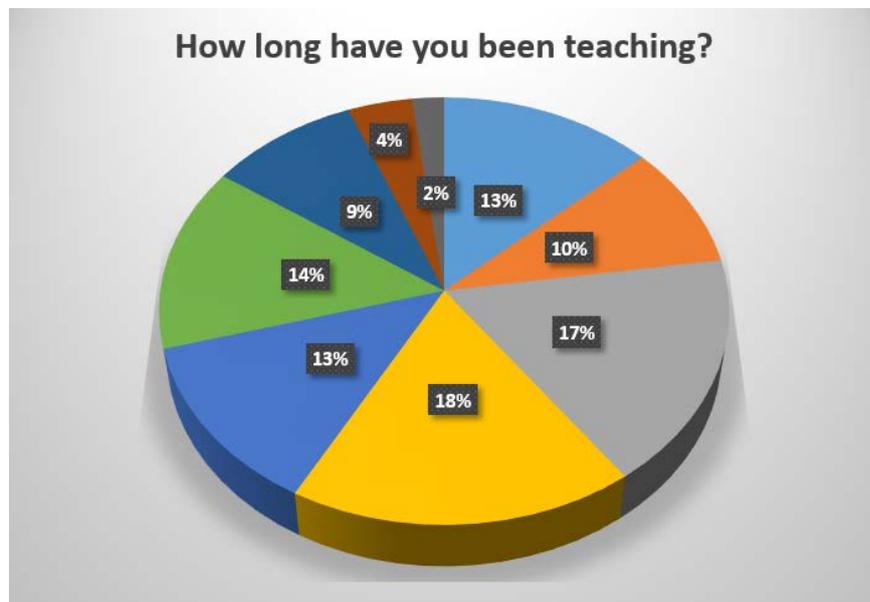
1-5	20	13,3%
6-10	14	9,3%
11-15	26	17,3%
16-20	27	18,0%
21-25	19	12,7%
26-30	21	14,0%
31-35	14	9,3%
36, or more	6	4,0%
No answer	3	2,0%
Total	150	

EVALUATION

Most of the teachers had sufficient experience to be able to adequately evaluate the state of the art in education. 77% of the respondents had spent more than 10 years in education.

2.3 'WHAT TYPE OF SCHOOL ARE YOU CURRENTLY TEACHING IN?
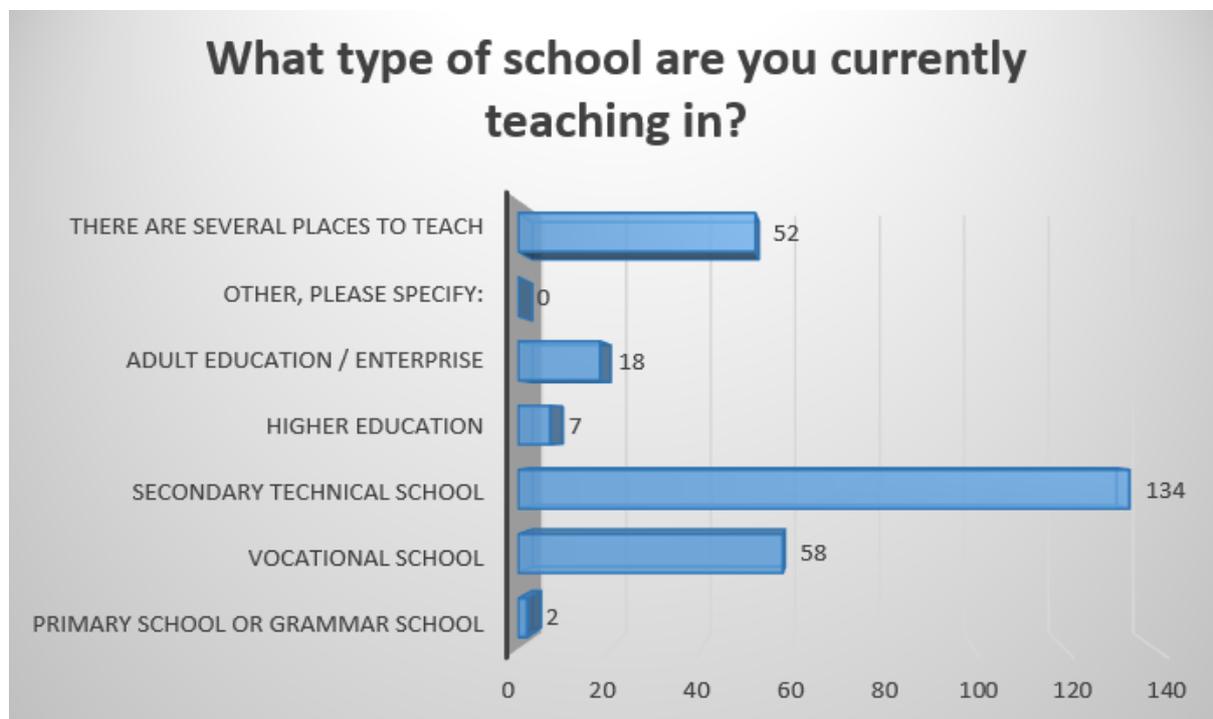
Primary school or grammar school	2	1,3%
Vocational school	58	38,7%
Secondary technical school	134	89,3%

Higher education	7	4,7%
Adult education / enterprise	18	12,0%
Other, please specify:	0	0,0%
There are several places to teach	52	34,7%
Total	271	

EVALUATION

The majority of respondents were teacher in more types of school at the same time, including vocational education.

2.4 DID YOU WORK FOR COMPANIES?
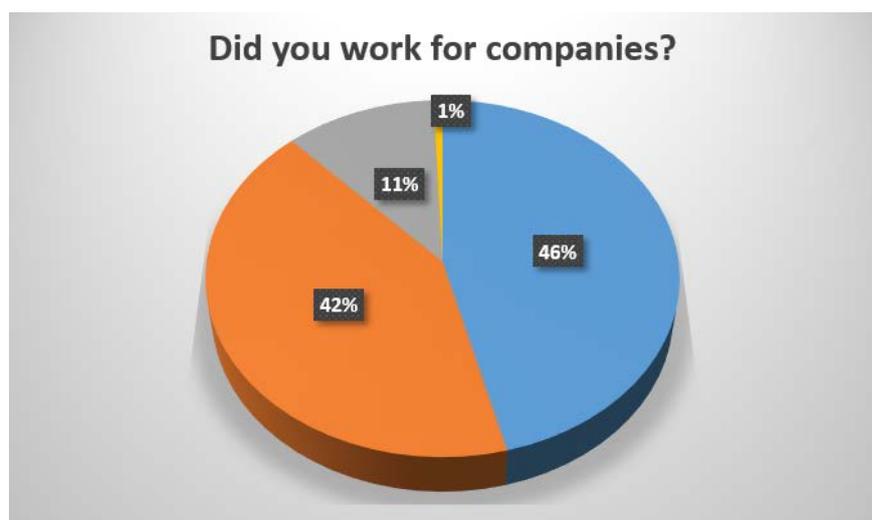
| No, I've always been a teacher.	69	46,0%
Yes, I worked before starting to teach.	63	42,0%
Yes, even now I have a job in a company besides being a teacher.	17	11,3%
No answer	1	0,7%
Total	150	

1-10	37	46,3%
11-20	15	18,8%
21-30	9	11,3%
31, or more	11	13,8%
Yes, but no years	8	10,0%
Total	80	

EVALUATION

A bit more than half of the teachers (53%) had experience in other fields as well. 25% of those with other experience worked more than 20 years in industry.

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

Which sector(s) do the subjects you teach belong to?
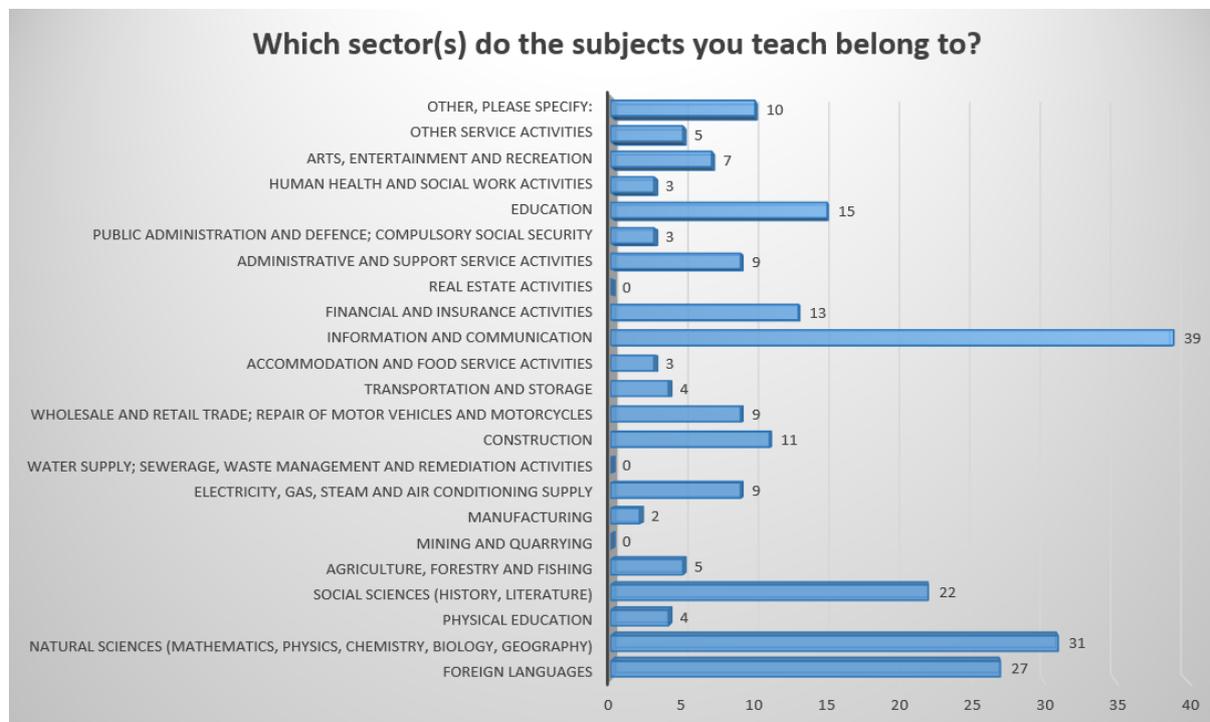
Foreign Languages	27	18,0%
Natural Sciences (Mathematics, Physics, Chemistry, Biology, Geography)	31	20,7%
Physical Education	4	2,7%
Social Sciences (History, Literature)	22	14,7%
Agriculture, Forestry and Fishing	5	3,3%
Mining and Quarrying	0	0,0%
Manufacturing	2	1,3%
Electricity, Gas, Steam and Air Conditioning Supply	9	5,3%
Water Supply; Sewerage, Waste Management and Remediation Activities	0	0,0%
Construction	11	7,3%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	9	6,0%
Transportation and Storage	4	2,7%
Accommodation and Food Service Activities	3	1,3%
Information and Communication	39	20,0%
Financial and Insurance Activities	13	6,0%
Real Estate Activities	0	0,0%
Administrative and Support Service Activities	9	6,0%
Public Administration and Defence; Compulsory Social Security	3	2,0%
Education	15	9,3%
Human Health and Social Work Activities	3	2,0%
Arts, Entertainment and Recreation	7	4,7%

Other Service Activities	5	3,3%
Other, please specify:	10	17,3%
Total	231	

EVALUATION

Within the field of teaching IT has a leading role with 39 persons. The number of general subject teachers (modern languages, sciences, humanities). The amount of deviation is small among vocational branches, mechanical engineering with 7 persons should be noted among other fields.

2.6 YOUR TEACHING ROLE IS
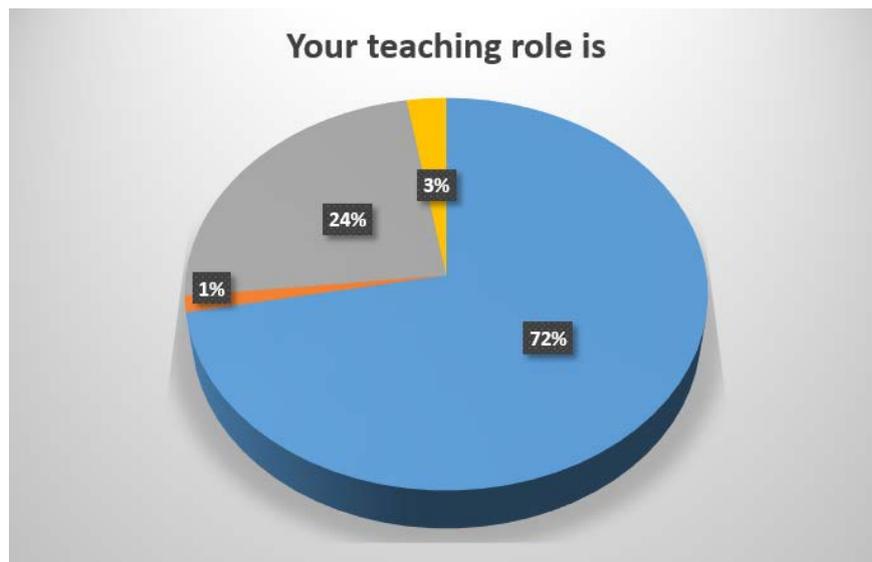
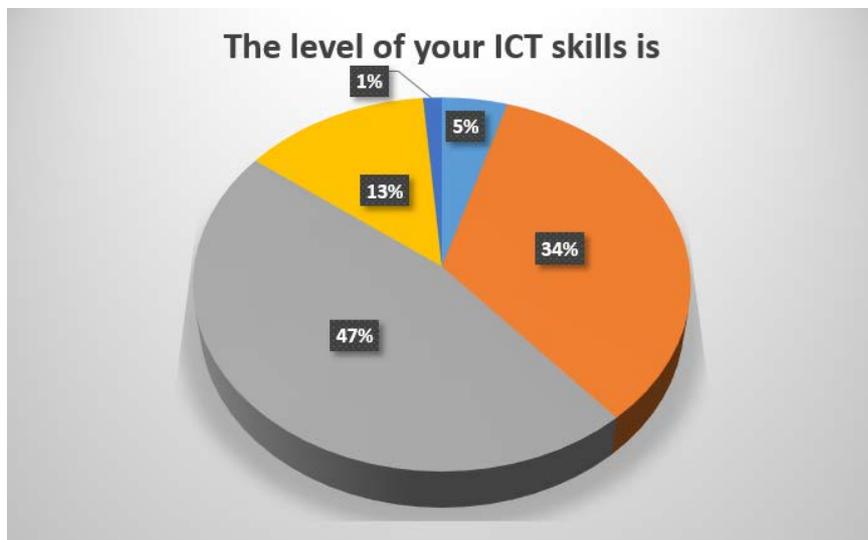| Classroom teacher	108	72,0%
On-the-job tutor (or equivalent role)	2	1,3%
Both roles	36	24,0%
No answer	4	2,7%
Total	150	

EVALUATION

According to the answers, 72% are classroom teachers, which is a high rate.

ICT SKILLS AND ICT-BASED METHODS IN TEACHING

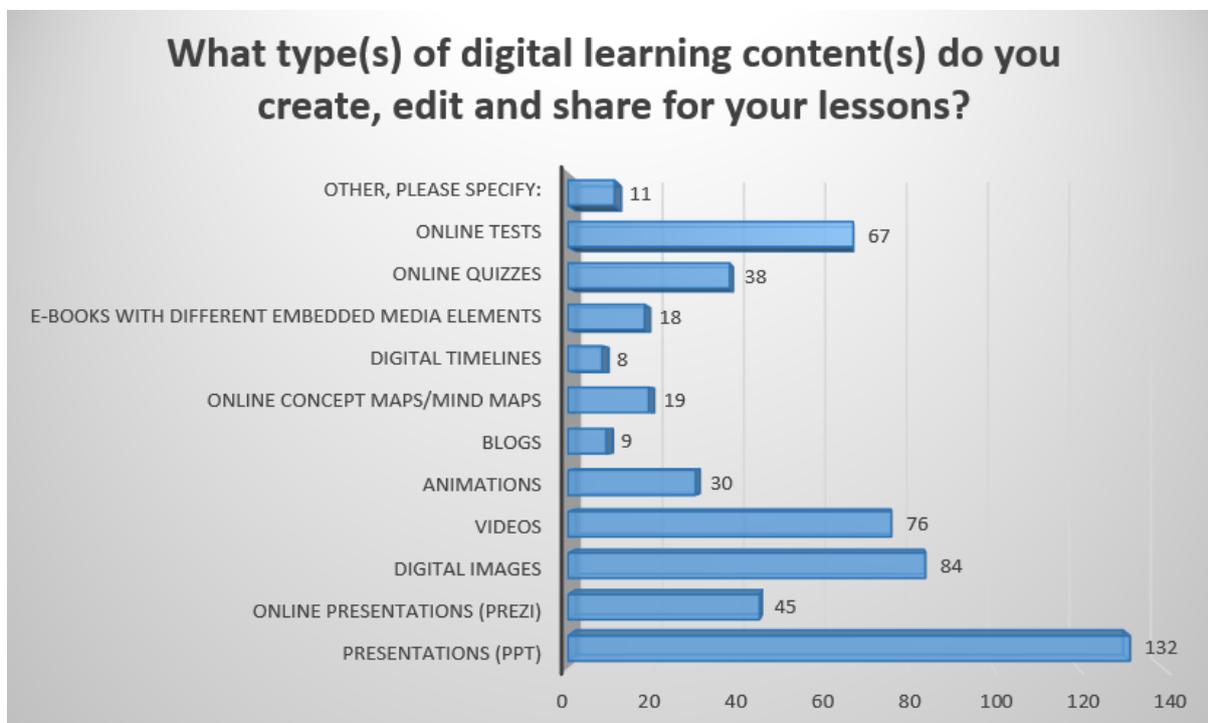3.1 THE LEVEL OF YOUR ICT SKILLS IS

beginner	7	4,7%
basic	51	34,0%
advanced	70	46,7%
professional	20	13,3%
No answer	2	1,3%
Total	150	

EVALUATION

80% of the teachers have considerable knowledge of ICT, the amount of beginner knowledge is insignificant. It seems beneficial to the project.

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

Presentations (ppt)	132	88,0%
Online presentations (Prezi)	45	30,0%

Digital images	84	56,0%
Videos	76	50,7%
Animations	30	20,0%
Blogs	9	6,0%
Online concept maps/mind maps	19	12,7%
Digital timelines	8	5,3%
E-books with different embedded media elements	18	12,0%
Online quizzes	38	25,3%
Online tests	67	44,7%
Other, please specify:	11	7,3%
Total	537	

EVALUATION

Of the digital tools, almost everybody uses presentations, and many opt for static and dynamic images, clips. The number of online test users should also be noted.

3.3 MARK THE ICT TOOLS YOU USE IN YOUR TEACHING
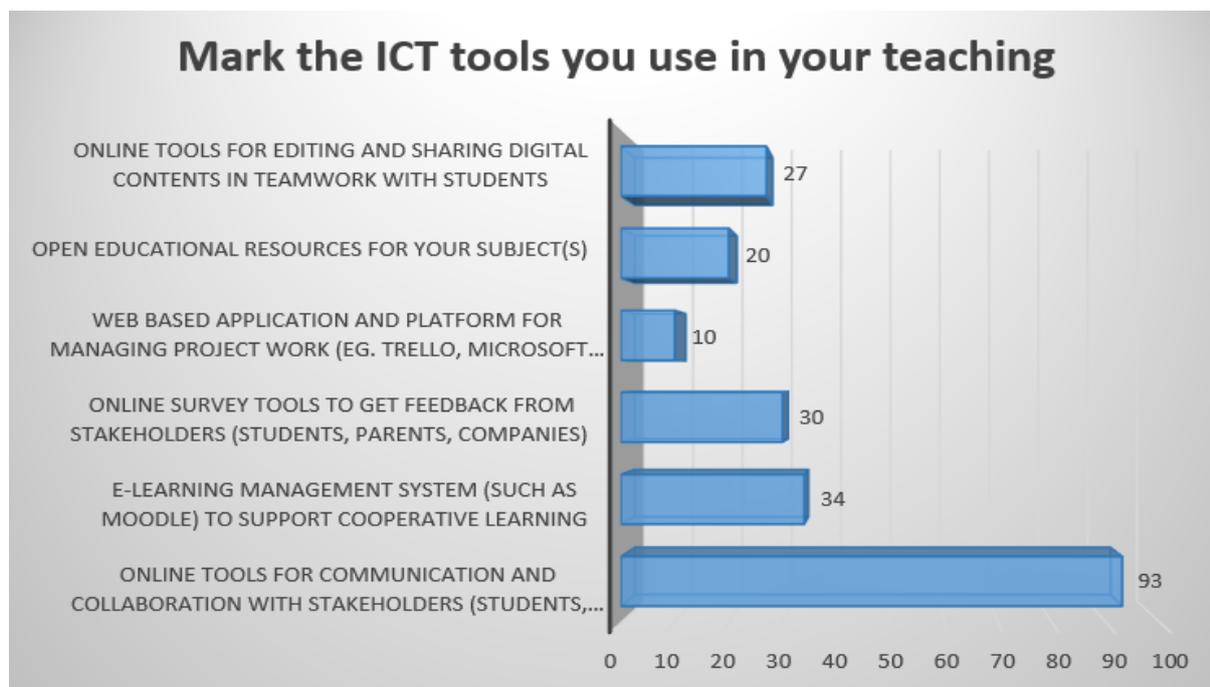
|		
Online tools for communication and collaboration with stakeholders (students, parents, companies)	93	62,0%
E-learning management system (such as Moodle) to support cooperative learning	34	22,7%
Online survey tools to get feedback from stakeholders (students, parents, companies)	30	20,0%
Open educational resources for your subject(s)	20	13,3%
Online tools for editing and sharing digital contents in teamwork with students	27	18,0%
Total	214	

EVALUATION

The use of online tools in communication is very high. The other choices are moderately exploited. This must be kept in mind during curriculum development.

3.4 WHICH PEDAGOGICAL METHOD(S) DO YOU FREQUENTLY USE IN YOUR CLASSROOM?
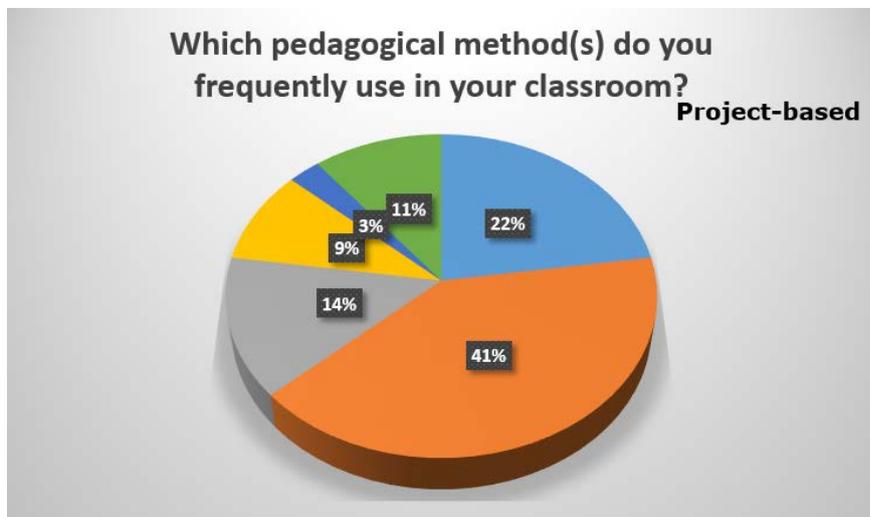
Often	34	22,7%
Sometimes	61	40,7%
Rarely	21	14,0%
Never	14	9,3%
I don't know this method	4	2,7%
No answer	16	10,7%
Total	150	
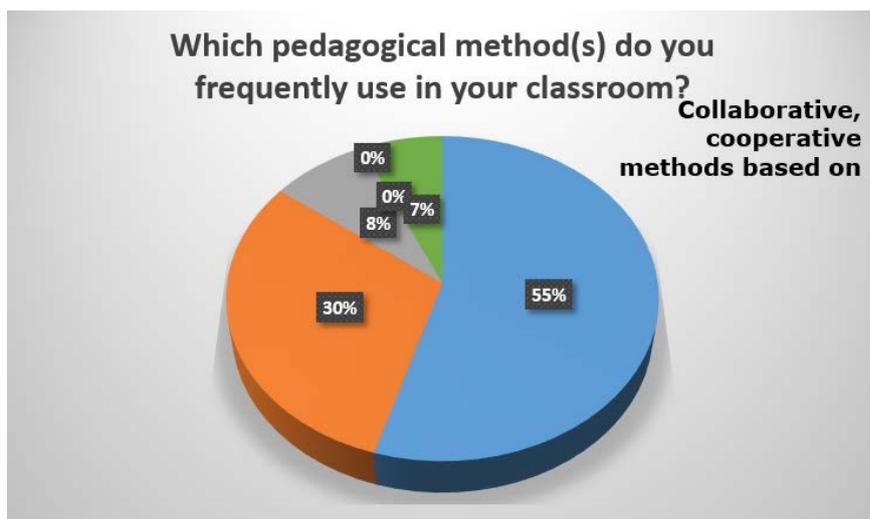
Often	82	54,7%
Sometimes	46	30,7%
Rarely	12	8,0%
Never	0	0,0%
I don't know this method	0	0,0%
No answer	10	6,7%
Total	150	

Which pedagogical method(s) do you frequently use in your classroom?
Problem-based learning
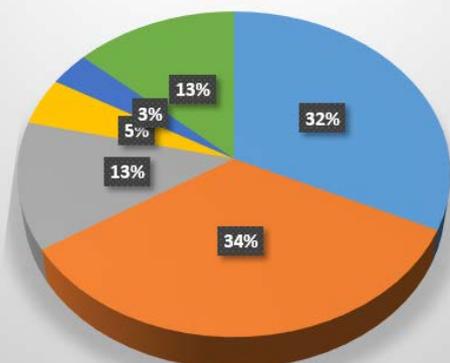
Often	48	32,0%
Sometimes	51	34,0%
Rarely	19	12,7%
Never	7	4,7%
I don't know this method	5	3,3%
No answer	20	13,3%
Total	150	

Which pedagogical method(s) do you frequently use in your classroom?
Inquiry-based learning
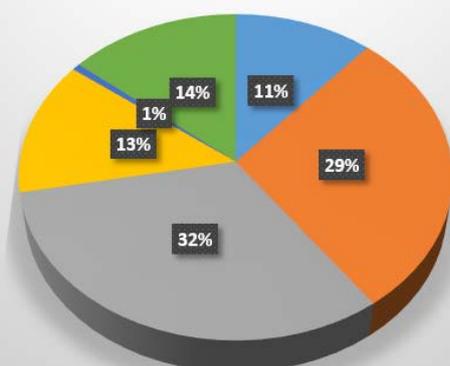
Often	17	11,3%
Sometimes	43	28,7%
Rarely	48	32,0%
Never	20	13,3%
I don't know this method	1	0,7%
No answer	21	14,0%
Total	150	

Which pedagogical method(s) do you frequently use in your classroom?
Frontal instruction
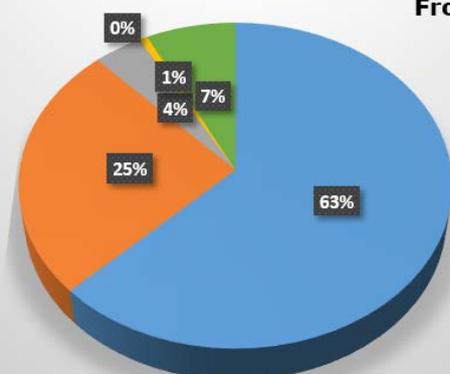
Often	94	62,7%
Sometimes	38	25,3%
Rarely	6	4,0%
Never	1	0,7%
I don't know this method	0	0,0%
No answer	11	7,3%
Total	150	

Which pedagogical method(s) do you frequently use in your classroom? **Game-based learning**
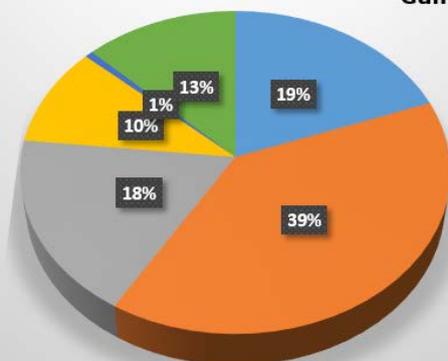
Often	29	19,3%
Sometimes	59	39,3%
Rarely	27	18,0%
Never	15	10,0%
I don't know this method	1	0,7%
No answer	19	12,7%
Total	150	

Which pedagogical method(s) do you frequently use in your classroom? **Flipping the classroom**
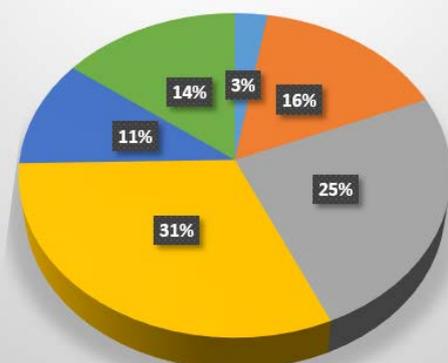
Often	4	2,7%
Sometimes	24	16,0%
Rarely	37	24,7%
Never	47	31,3%
I don't know this method	16	10,7%
No answer	22	14,7%
Total	150	

Frequently use in your classroom - comparison
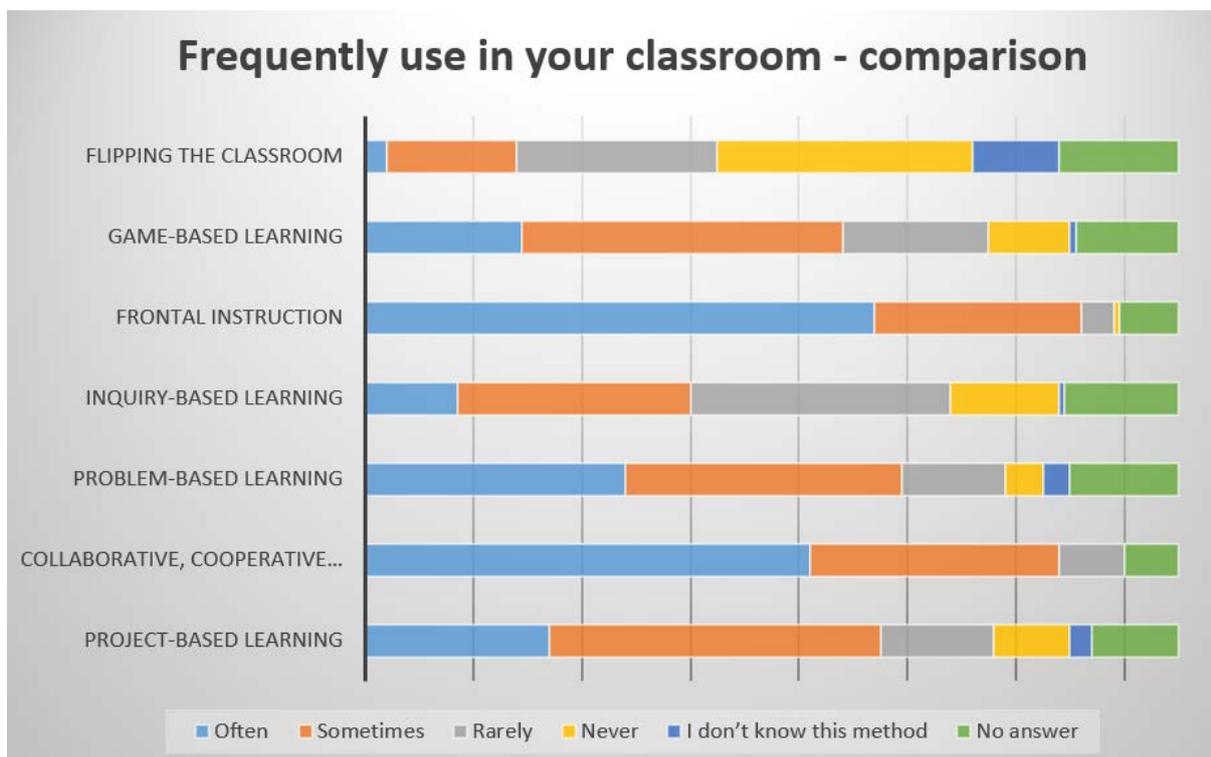
	Project-based learning	Collaborative, coop-erative methods based on group work	Problem-based learning	Inquiry-based learning	Frontal in-struction	Game-based learning	Flipping the class-room
Often	34	82	48	17	94	29	4
Sometimes	61	46	51	43	38	59	24
Rarely	21	12	19	48	6	27	37
Never	14	0	7	20	1	15	47
I don't know this method	4	0	5	1	0	1	16
No answer	16	10	20	21	11	19	22
Total	150	150	150	150	150	150	150

Frequently use in your classroom - max
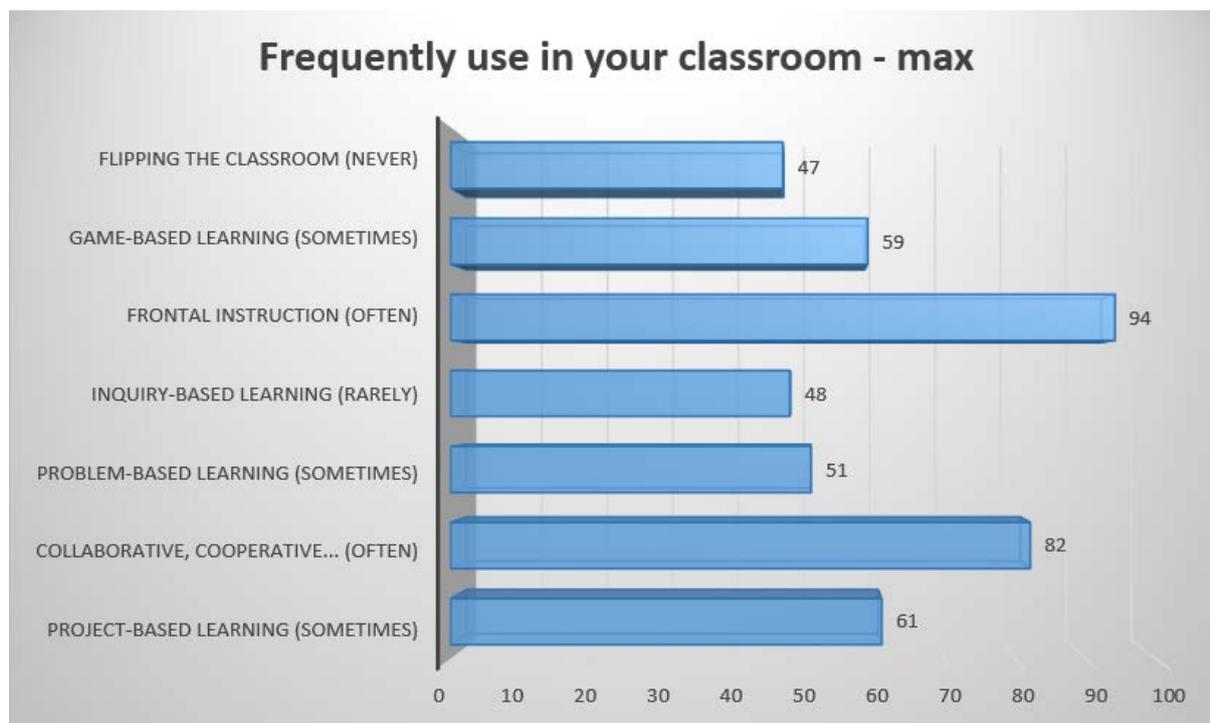
Project-based learning (sometimes)	61	13,8%
Collaborative, cooperative... (often)	82	18,6%
Problem-based learning (sometimes)	51	11,5%
Inquiry-based learning (rarely)	48	10,9%
Frontal instruction (often)	94	21,3%
Game-based learning (sometimes)	59	13,3%
Flipping the classroom (never)	47	10,6%
Total	442	

EVALUATION

The range of methodological opportunities used by the teachers shaped up nice. Frontal instruction is still the leader, but collaborative and cooperative methods are also frequently applied. Some modern methods remain unknown or are rarely involved in classroom teaching.

3.5 MARK THE ONLINE TOOLS YOU HAVE ALREADY USED
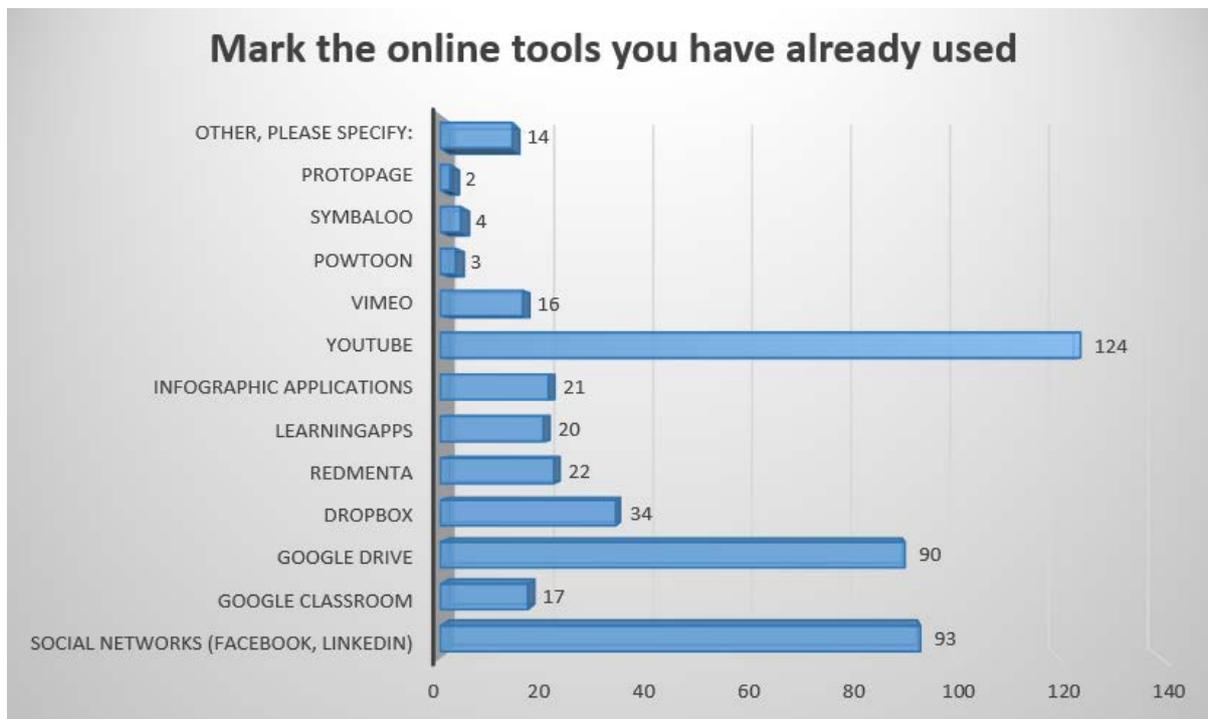
Social networks (Facebook, LinkedIn)	93	62,0%
Google Classroom	17	11,3%
Google Drive	90	60,0%
Dropbox	34	22,7%
Redmenta	22	14,7%
LearningApps	20	13,3%
Infographic applications	21	14,0%
Youtube	124	82,7%
Vimeo	16	10,7%
Powtoon	3	2,0%
Symbaloo	4	2,7%
Protopage	2	1,3%
Other, please specify:	14	9,3%
Total	460	

EVALUATION

Based on the previous answers, it is not surprising that the use of video sharing sites is frequent. It is followed by the use of social networks and Google Drive. The other options are rarely used.

3.6 ARE YOU OPEN TO IMPROVING YOUR ICT SKILLS?

Are you open to improving your ICT skills?
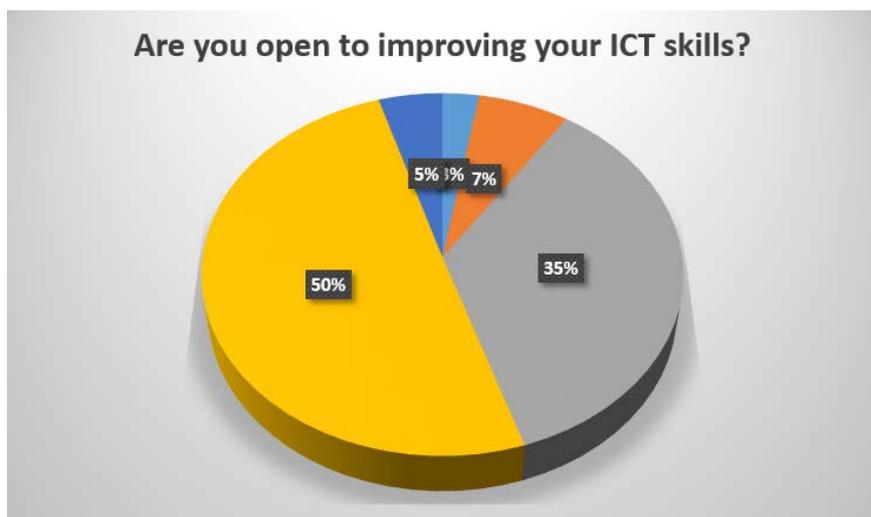
| No, because I'm a pro at ICT.	4	2,7%
No, because I don't need it for my teaching.	10	6,7%
Yes, because I am not skilled enough to match the needs of the new generation of students.	53	35,3%
Yes, I always like to know the latest trends and improve myself accordingly.	75	50,0%
No answer	8	4,7%
Total	150	

EVALUATION

85% of the respondents (128 persons) are aware of that they need to improve their ICT knowledge. It is encouraging.

3.7 WOULD YOU LIKE TO TAKE A FREE COURSE?
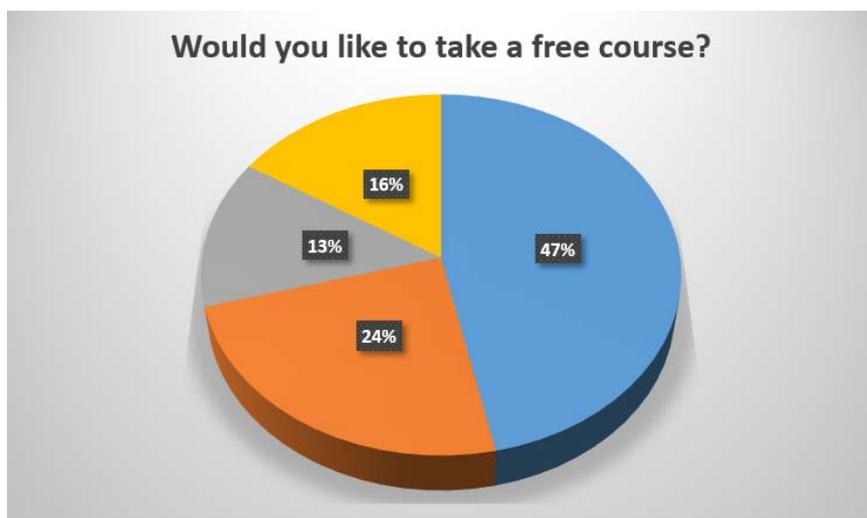
Yes	70	46,7%
Perhaps	36	24,0%
No, thanks	20	13,3%
No answer	24	16,0%
Total	150	
No unique email	19	17,9%

EVALUATION

106 of the 128 persons would like to take IT trainings. It is more than 70%. At the same time, only 52% gave their contact details.

SKILL GAPS AND EFFORTS TO REDUCE THEM

4.1 DOES THE STANDARD CURRICULA FOLLOW THE TECHNOLOGICAL CHANGES IN PROFESSIONS?
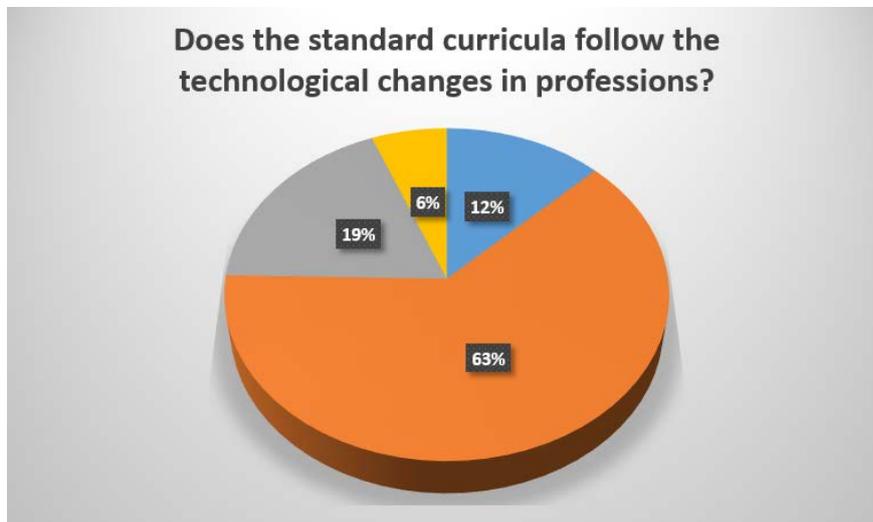
Not at all	19	12,7%
More or less	94	62,7%
The changes are too rapid to be followed by the standard curric-ula	28	18,7%
No answer	9	6,0%
Total	150	

EVALUATION

Everyone can see that vocational curricula cannot follow the changes and needs.

4.2 WHAT ACTIVITIES ARE NEEDED TO REDUCE THE SKILL GAPS?
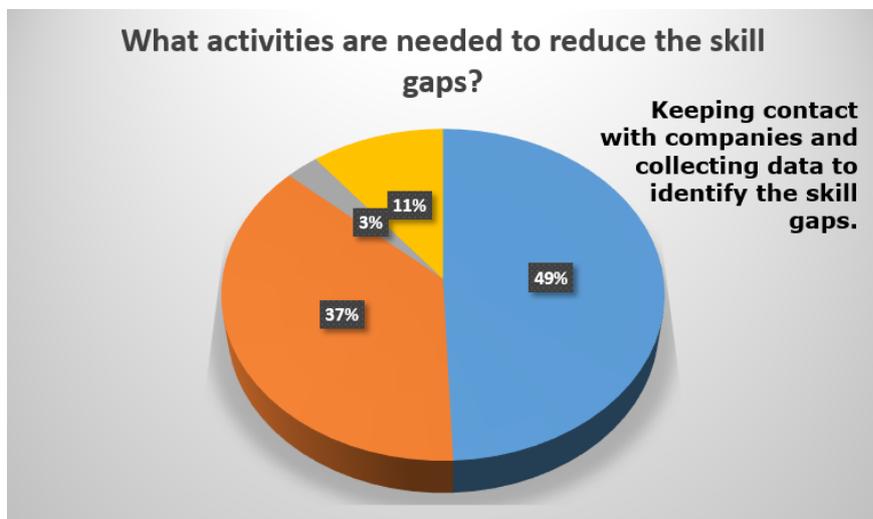
highly im-portant, we have to do it	74	49,3%
important but difficult to es-tablish	56	37,3%
important but there's no way of establishing it	4	2,7%
No answer	16	10,7%
Total	150	

What activities are needed to reduce the skill gaps?

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

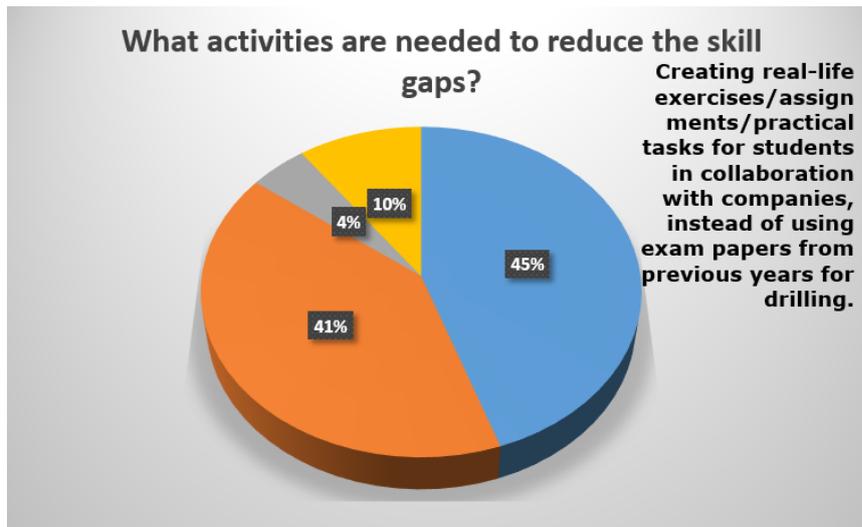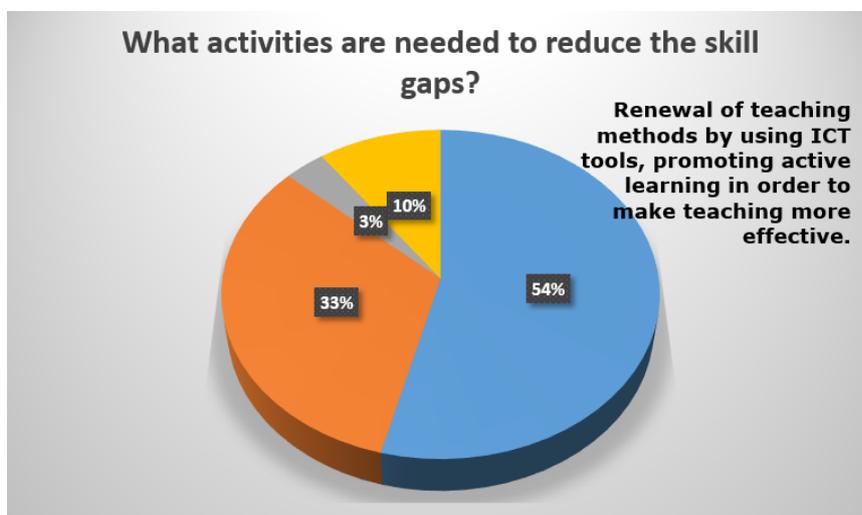|		
highly important, we have to do it	67	44,7%
important but difficult to establish	61	40,7%
important but there's no way of establishing it	7	4,7%
No answer	15	10,0%
Total	150	

What activities are needed to reduce the skill gaps?

Continuous renewal of the learning content in an intensive collaboration of the teaching staff.
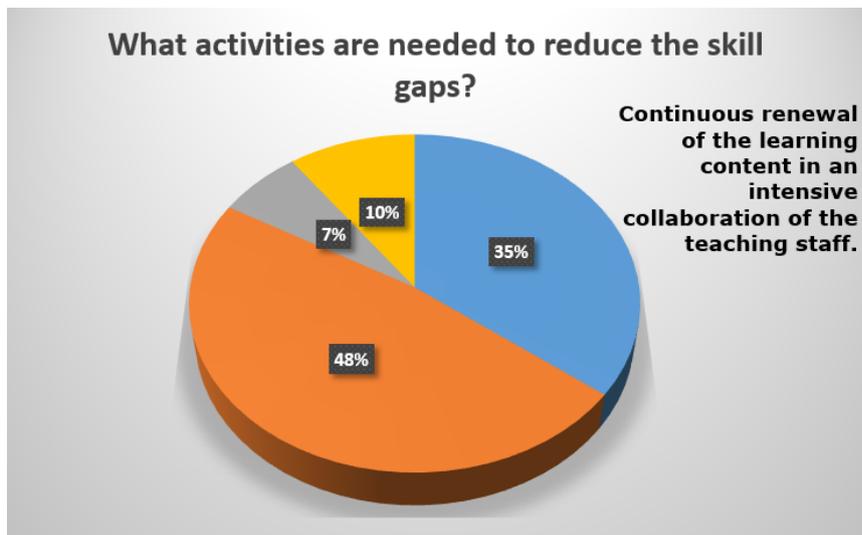
highly important, we have to do it	53	35,3%
important but difficult to establish	72	48,0%
important but there's no way of establishing it	10	6,7%
No answer	15	10,0%
Total	150	

What activities are needed to reduce the skill gaps?

Renewal of teaching methods by using ICT tools, promoting active learning in order to make teaching more effective.

highly important, we have to do it	81	54,0%
important but difficult to establish	49	32,7%
important but there's no way of establishing it	5	3,3%
No answer	15	10,0%
Total	150	

What activities are needed to reduce the skill gaps?

Developing learning content in collaboration with students.
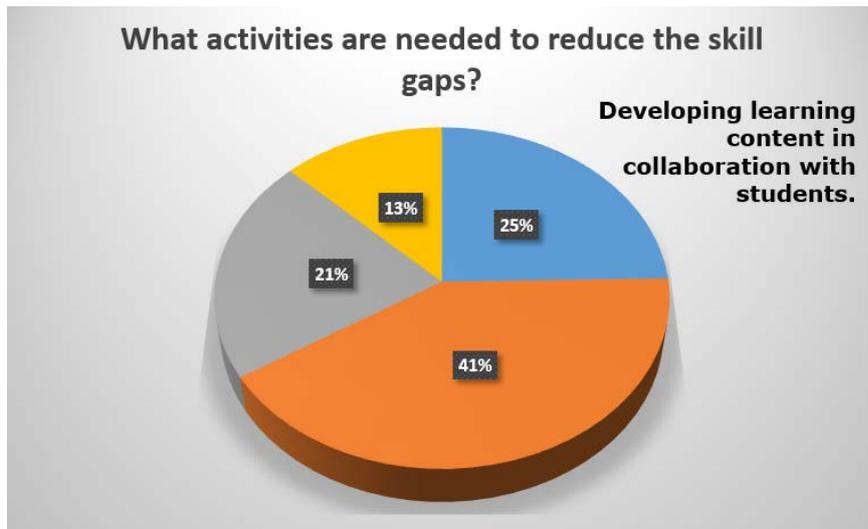
highly important, we have to do it	37	24,7%
important but difficult to establish	62	41,3%
important but there's no way of establishing it	32	21,3%
No answer	19	12,7%
Total	150	

What activities are needed to reduce the skill gaps?

Developing learning content in collaboration with companies or even parents.
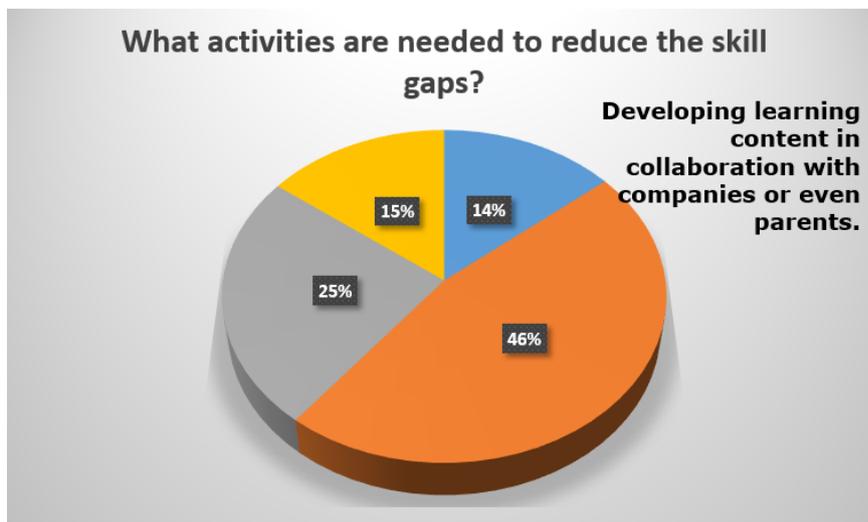
highly important, we have to do it	21	14,0%
important but difficult to establish	70	46,7%
important but there's no way of establishing it	37	24,7%
No answer	22	14,7%
Total	150	

What activities are needed to reduce the skill gaps?

Asking feedback from formerly graduated students.

highly important, we have to do it	71	47,3%
important but difficult to establish	53	35,3%
important but there's no way of establishing it	7	4,7%
No answer	19	12,7%
Total	150	

What activities are needed to reduce the skill gaps?

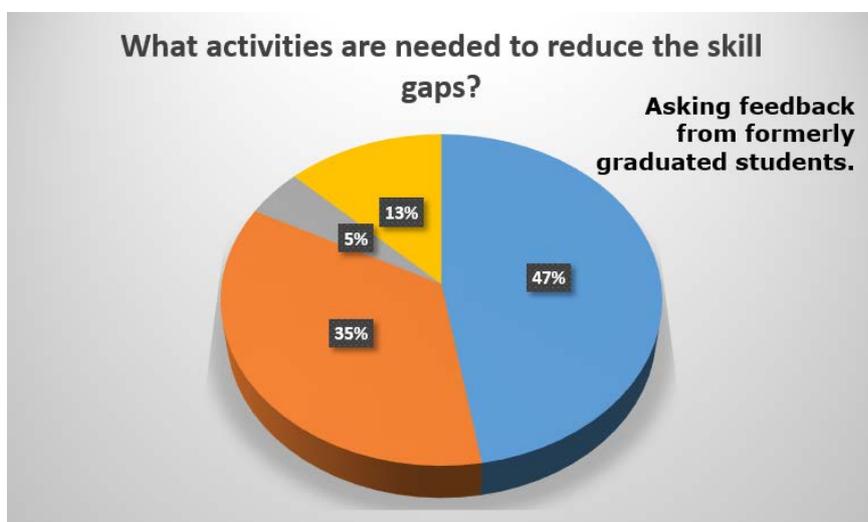**Integrating upskilling lessons into the standard curricula.**
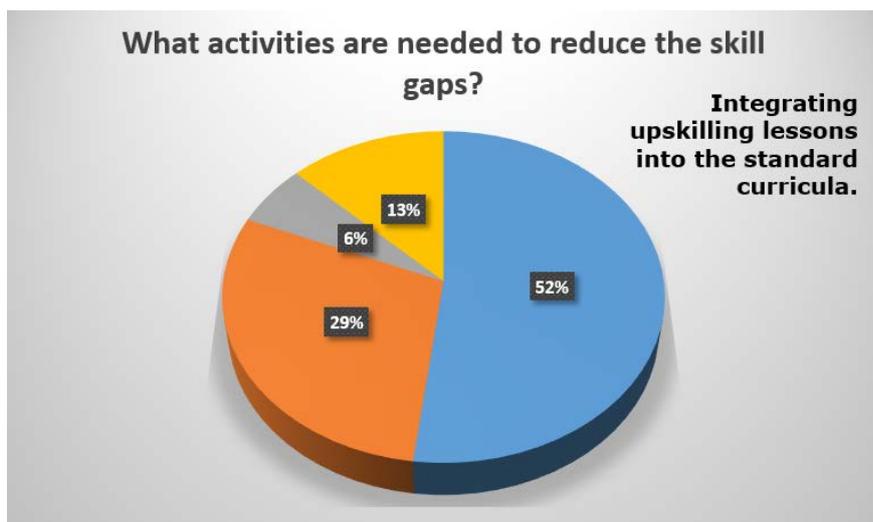
highly important, we have to do it	78	52,0%
important but difficult to establish	44	29,3%
important but there's no way of establishing it	9	6,0%
No answer	19	12,7%
Total	150	

What activities are needed to reduce the skill gaps?

Intensive collaboration among the teachers of theoretical and practical subjects.
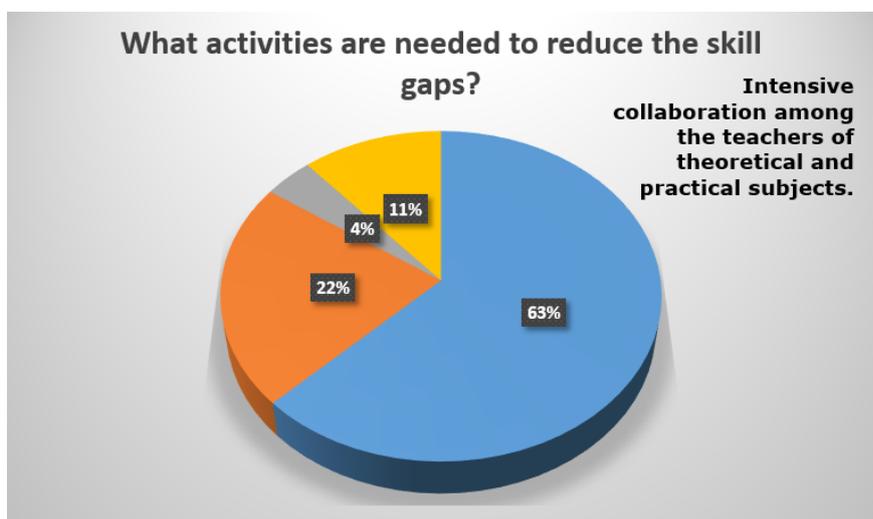
highly important, we have to do it	94	62,7%
important but difficult to establish	33	22,0%
important but there's no way of establishing it	6	4,0%
No answer	17	11,3%
Total	150	

What activities are needed to reduce the skill gaps?

Application of a cross-curricular approach in teaching.
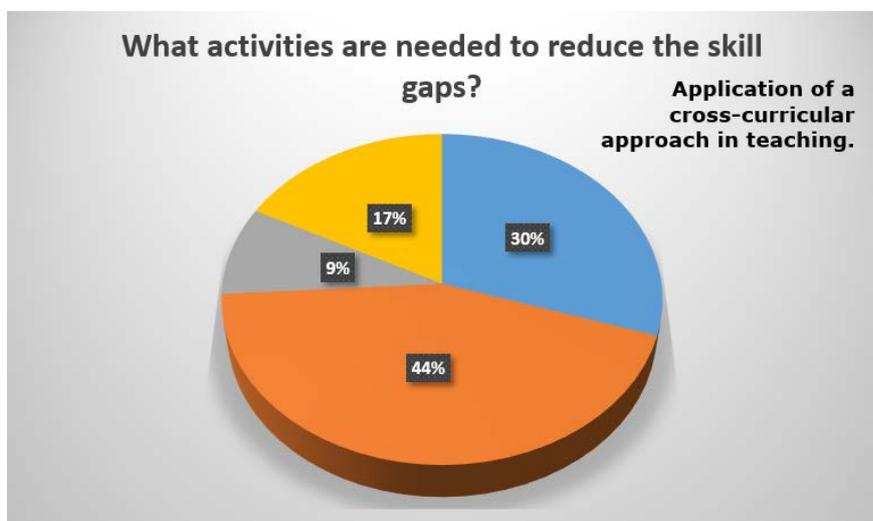
|		
highly important, we have to do it	45	30,0%
important but difficult to establish	66	44,0%
important but there's no way of establishing it	13	8,7%
No answer	26	17,3%
Total	150	

Summary of skills gaps
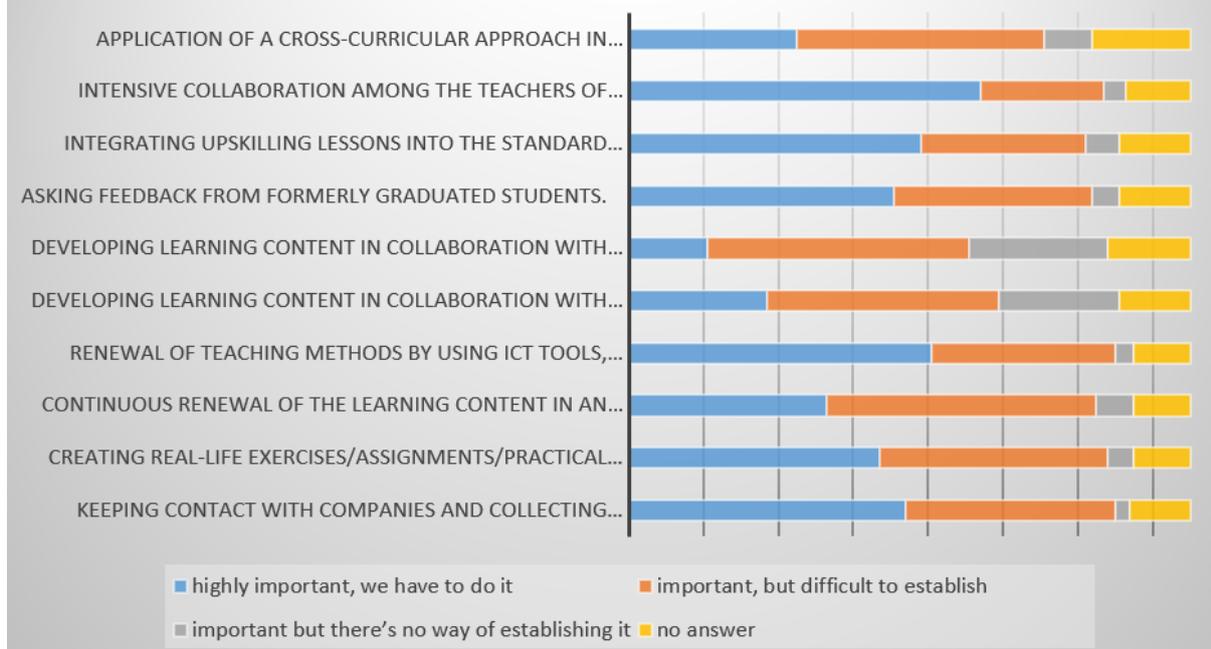
	Keeping contact with companies and collecting data to identify the skill gaps.	Creating real-life exercises/assignments/practical tasks for students in collaboration with companies, instead of using exam papers from previous years for drilling.	Continuous renewal of the learning content in an intensive collaboration of the teaching staff.	Renewal of teaching methods by using ICT tools, promoting active learning in order to make teaching more effective.	Developing learning content in collaboration with students.	Developing learning content in collaboration with companies or even parents.	Asking feedback from formerly graduated students.	Integrating upskilling lessons into the standard curricula.	Intensive collaboration among the teachers of theoretical and practical subjects.	Application of a cross-curricular approach in teaching.
highly important, we have to do it	74	67	53	81	37	21	71	78	94	45
important but difficult to establish	56	61	72	49	62	70	53	44	33	66
important but there's no way of establishing it	4	7	10	5	32	37	7	9	6	13

| No answer | 16 | 15 | 15 | 15 | 19 | 22 | 19 | 19 | 17 | 26 |
| Total | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |

EVALUATION

According to the teachers, cooperation is important for overcoming skills gaps. It is true to all fields. The most difficult thing is to involve companies and parents into course material development.

4.3 DO YOU HAVE EXPERIENCE IN CURRICULUM AND LEARNING CONTENT DEVELOPMENT?
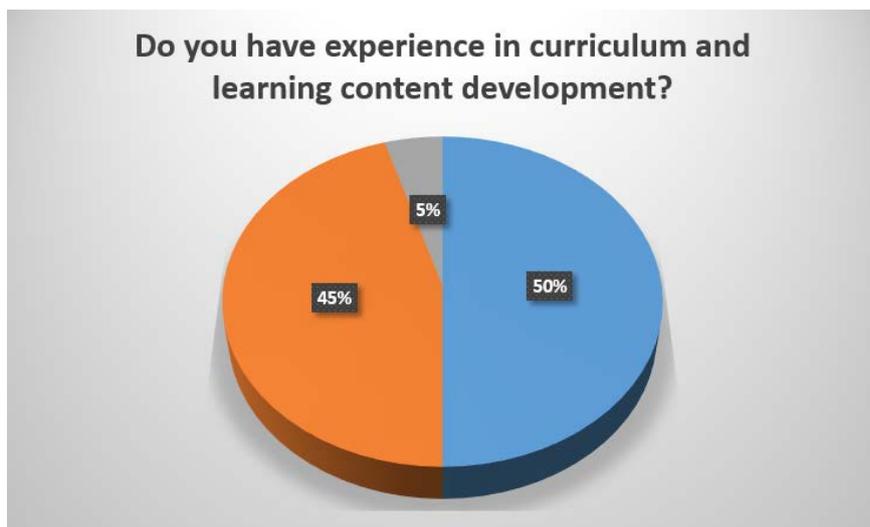
Yes, I have.	75	50,0%
No, I haven't.	68	45,3%
No answer	7	4,7%
Total	150	

EVALUATION

Half of the respondents had already taken part in course material development.

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

I don't have contacts like this.	72	48,0%
I have 1-2 contacts like this.	44	29,3%
I co-operate with 3-5 experts.	19	12,7%
I regularly co-operate with 6 or more experts.	9	6,0%
No answer	6	4,0%
Total	150	

EVALUATION

Near half of those teaching in vocational schools have no contact with companies, and have no up-to-date knowledge.

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


Several times a year	35	23,3%
At least once a year	27	18,0%
It happens very rarely	29	19,3%
Never	26	17,3%
Not relevant for me as I teach general subject	28	18,7%
No answer	5	3,3%
Total	150	

EVALUATION

37% of the teachers have no appreciable contact with companies, but 41% gets to a company once a year.

4.6 YOUR ADDITIONAL SUGGESTIONS ABOUT CLOSING THE GAP BETWEEN WHAT IS CURRENTLY OF-FERED BY THE EDUCATION SYSTEM AND WHAT IS NEEDED IN THE JOB MARKET
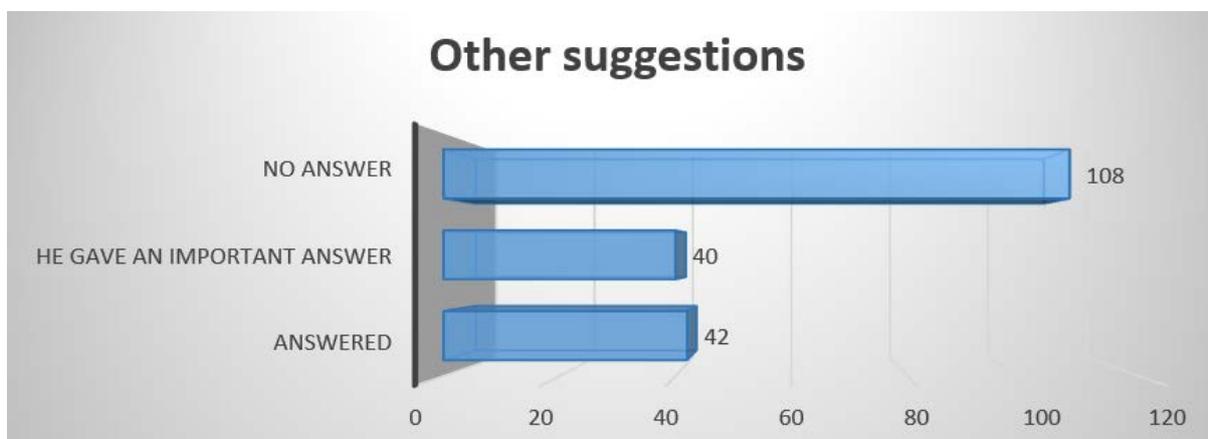
Answered	42	28,0%
He gave an important answer	40	26,7%
No answer	108	72,0%
Total	190	

EVALUATION

In the case of free suggestions, 42 persons answered, and 40 of the answers were substantive. The answers grouped:

Talks between companies and schools on more forums	12
Increasing the amount of practice by involving companies	8
Modern tools (ICT tools) into education	8
Guest teachers from companies to schools	6
ICT and methodological trainings for teachers	6
Involvement of companies into further teacher training	5
Reduction of load on teachers, increasing of teacher appreciation	5
Real language knowledge (jargon)	3
Involvement of teachers and students in company work	2
Self-knowledge of students	2
Change of attitude, 'trendy' curriculum	2
Interdisciplinarity	2
Training enhancement (class 9, 10, 0)	2
Real exam tasks	2
Firm knowledge foundations	1
Involvement of students in course material development	1
Digital course materials	1
State subsidies for companies	1
Cooperative task solving	1
Teacher presentations at professional conferences	1
Gymnasium to every school	1
Quickly changeable course material modules	1
Lifelong guidance with companies	1

CONCLUSIONS

In Hungary, 150 teachers completed the questionnaire. The selection of respondents was not made through representative sampling, but the number and professional field of respondents cover a wide range of teachers so the answers appropriately represent Hungarians' opinions. Furthermore, the distribution according to age-group corresponds with the national distribution of teachers in Hungary. The teaching profession is slightly ageing. So it is not surprising that most of the respondents have significant professional experience. Teaching fields cover a wide range of professions as well. Teachers' qualifications conform to the existing laws. In the project, it is lucky that more than 50% have industrial experience as well, yet today, many (72%) are currently classroom teachers.

The majority of teachers have IT knowledge, 60% advanced or professional, and beginner knowledge is at low level, which is beneficial to the project. For teaching, almost everybody uses presentation, and many opt for

static and dynamic images, clips. The number of online test users should also be noted. The use of online tools in communication is very high. The other choices are moderately exploited. This must be kept in mind during curriculum development. Frontal instruction is still the leader, followed by collaborative and cooperative methods, but lots of innovative methods are rarely involved in classroom teaching. 85% of the respondents (128 persons) are aware of that they need to improve their ICT knowledge. It is encouraging, but only 52% gave their contact details.

Everyone can see that vocational curricula cannot follow the changes and needs. Cooperation with companies involved would be important, but it is difficult to realise. Getting parents and companies involved in course material development seems really challenging. However, half of the teachers have already taken part in such course material development procedures.

Near half of vocational school teachers have no contact with companies, but 41% gets to a company once a year.