

D3.1 Report of partners' needs in pedagogical methods

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Preliminary remarks

We take into account that each educational system has its specifics and rules and that every partner organization has access to different adult learners and adult education institutions.

We also take into account that partner organizations have different experiences with e-learning and use different e-learning platforms such as moodle or others. We acknowledge that there are a number of definitions and terms for e-learning. We have decided – based on the application – to use the terms “e-learning” and “distance learning”. This internal work plan does not have the aim to define “e-learning” or summarize and assess different definitions.

This report summarizes the results for D3.1 which in the CRITON proposal to the European Commission was described with:

“D 3.1 Report of partners’ needs in pedagogical methods: The partners with pedagogical role will carry out needs analysis for their distance learning and e-learning environments. This report will include all the necessary information that partners need for the pedagogical practice such as the effectiveness factors of teaching, findings of tutors’ best practices in heterogeneous groups centre on attitudes, etc.”

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1. The overall work plan for WP 3

The planned data collection, empirical study and desk research in WP 3 aimed at supporting the development and establishment of the CRITON platform, used by teachers, tutors and learners involved in e-learning and distance learning across Europe.

WP 3 involved three main tasks:

TASK 1: Empirical study: Analysis of assessment practices of teachers/tutors in e-learning

TASK 2: Desk research about prediction indicators and good practice examples in e-learning

TASK 3: Data collection of learner's real data

This report summarizes TASK 1.

The study is not representative and serves only for achieving the goals of the CRITON project, as well as for the basis for next steps in the implementation of the platform.

The research questions / main questions of WP 3 were:

- How do tutors or teachers assess students' progress in e-learning and distant learning classes or courses? (e.g. uploading material on time, participating in forums, points in quizzes etc.) TASK 1
- How can functions relevant to assessment of e-learning platforms like moodle be described? Which functions are relevant to assessment practices? (e.g. forums, tests etc.) TASK 2
- How can prediction of e-learning outcomes be most effective and reliable and what are good practice examples for prediction systems? TASK 2
- Which indicators are needed in order to have a reliable prediction system? TASK 2
- Which data has to be collected from learners of educational levels in tertiary education, adult education, and VET in order to be able to program a reliable prediction system? TASK 3

Having in mind that each national education system has its own specifics, rules and access limitations, the current deliverable summarizes the work plan, methods and results of the pedagogic survey carried out by the partner organizations in CRITON from January to June 2013.

2. Preparation of Task 3.1: Pedagogic survey with teachers on e-assessment practices

2.1 Purpose

Assessment is not an easy task for teachers in e-learning. Assessment can have several forms and modes. Assessment practices are closely linked to prediction of drop-out rates, since learners fail a class or course if they do not pass the relevant assessments.

In order to be able to analyze the assessment methods teachers use in e-learning and distance learning in the partner countries (Austria, Finland, Germany, Greece, Lithuania and Sweden), an empirical research took place with teachers and tutors.

The pedagogic survey had one main target group:

- Tutors and teachers using e-learning and distance learning. In particular, their characteristics are:
 - Tutors and teachers in primary and secondary education
 - Tutors and teachers in adult education in secondary and university level
 - Tutors and teachers in adult education in local VET institutions
 - Trainers in adult educational associations or lifelong learning networks

The main question that was answered was: How do teachers and tutors assess students in e-learning and distant learning (i.e. uploading of documents on time, number of postings in forums, points or percentages reached for certain tasks etc.)?

The pedagogic survey used one main method, namely:

Empirical Study: Questionnaires consisted of a question battery for teachers and tutors asking about the assessment methods used in e-learning and distance learning and how they assess success and the risk of failing a class/course (pedagogical assessment approaches). The questionnaires gave the possibility for a detailed collection of information among the target groups and their participation in the CRITON project from the beginning.

2.2 Preparation phase

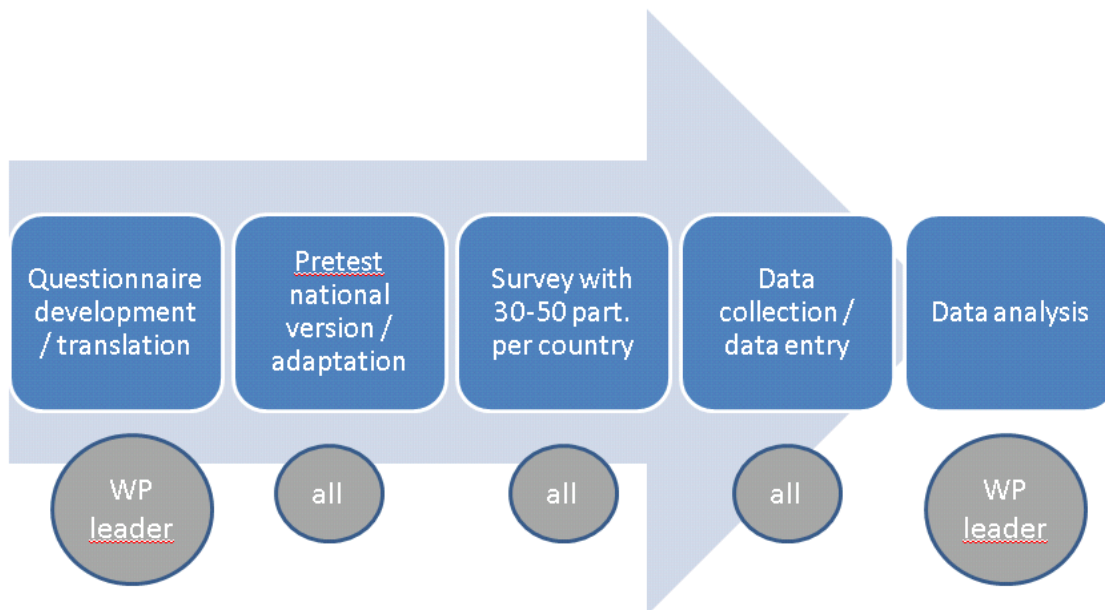
First partner organizations in Austria, Finland, Germany, Greece, Lithuania and Sweden had to identify relevant regional and local educational institutions (their own or others) which use e-learning (moodle) in order to get access to teachers and tutors in their regions.

The WP leader developed one questionnaire in English for tutors and teachers. Then all partner organizations translated the questionnaires to German, Finish, Greek, Lithuanian and Swedish until April 2013. [See ANNEX 1]

After translation each partner organization undertook a pretest with some tutors or teachers with the method of “thinking aloud” or direct online surveying and discussed the results with participants. Participants were asked to fill out the questionnaire in front of a project partner and think aloud about the answers. This helped to see redundancies in answers, unclear answer categories, unclear terms and words, the effect of the order of questions and the length of filling out the questionnaire. After that wordings and questions were changed according to the national context.

The logic of the pedagogic study is summarized in the chart below.

Table 1: Process of data collection in Task 3.1



2.3 Empirical study

Each partner organization in Austria, Finland, Germany, Greece, Lithuania and Sweden motivated n= 30-50 participants in their country to take part in the study throughout all educational levels and handed out the questionnaires to n=30-50 tutors or teachers or sent the link to the online survey to them. A number of 180-300 questionnaires for the whole consortium was planned.

The logo of the local partner organization had to be added to the translated questionnaire. Local contact details had to be put in place at the end of the questionnaire. The WP leader programmed the survey in all partner languages. Then the links were distributed.

Links to pedagogic survey:

For Austria and Germany

<http://www.surveygizmo.com/s3/1212334/CRITON-Umfrage-f-r-Lehrende-Wie-k-nnen-Leistungen-im-E-Learning-bewertet-werden>

For Greece

<http://www.surveygizmo.com/s3/1251545/ac84288e61b5>

For Finland

<http://www.surveygizmo.com/s3/1272097/CRITON-Kyselylomake-verkko-opetusta-k-ytt-ville-ohjaajille-ja-opettajille>

For Lithuania

<http://www.surveygizmo.com/s3/1251999/CRITON-Klausimynas-mokytojams-ir-mentoriams-taikantiems-e-mokym-si>

For Sweden

<http://www.surveygizmo.com/s3/1238483/CRITON-Fr-geformul-r-f-r-handledare-och-l-rare-som-anv-nder-e-learning>

2.4 Analyses of the data

The surveys in Gizmo online survey system were open from March to June 2013. Then the data was analyzed by the WP leader in a country-specific analysis and an across-country analysis.

The particular analysis of the data was the responsibility of the work package leader. The analyses involved descriptive statistics, especially showing differences and similarities between the countries, educational levels and teacher groups, as well as gender, age, ethical background and type of education.

3. Results of Task 3.1: Pedagogic survey with teachers on e-assessment practices

In total 180-300 questionnaires from teachers and tutors were planned to be returned. By June 2013 in total **297 questionnaires** were completely or partially entered into the online system.

Table 2: Survey population

Country	Completed	Partially completed	Total number of questionnaires
Germany	14	15	29
Austria	11	18	29
Sweden	0	5	5
Greece	79	25	104
Lithuania	95	26	120
Finland	3	6	9
TOTAL SUM	202	95	297

After data clearance **252 questionnaires** remained to be analyzed. Data clearance procedures meant eliminating data sets which were not completed; questionnaires which were stopped after a few questions. Questionnaires from Finland and Sweden were excluded from analysis since there were so few answers (5 and 9 answers). No conclusions can be drawn from such a small number.

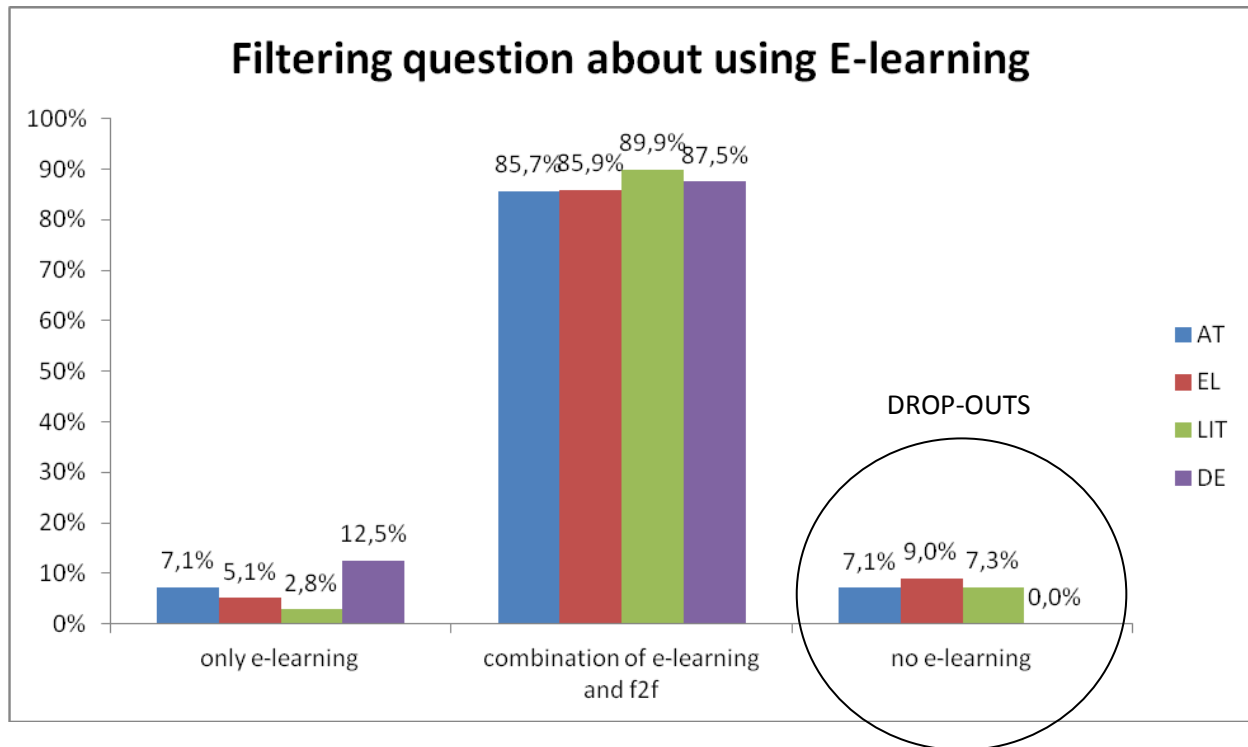
These 252 questionnaires were from Austria, Germany, Greece and Lithuania.

3.1 Characteristics of teachers/survey population

The survey started with a filtering question about **usage of e-learning**. Most teachers and tutors (between 85% and 90%) answered to use a combination of e-learning and face-to-face learning. Only a few teachers – 2.8% in Lithuanian, 7.1% in Austria, 12.5% in Germany and 5.1% in Greece – teach e-learning classes only.

Those teachers and tutors who answered not using e-learning at all dropped out of the survey at this point.

Table 3: Use of e-learning



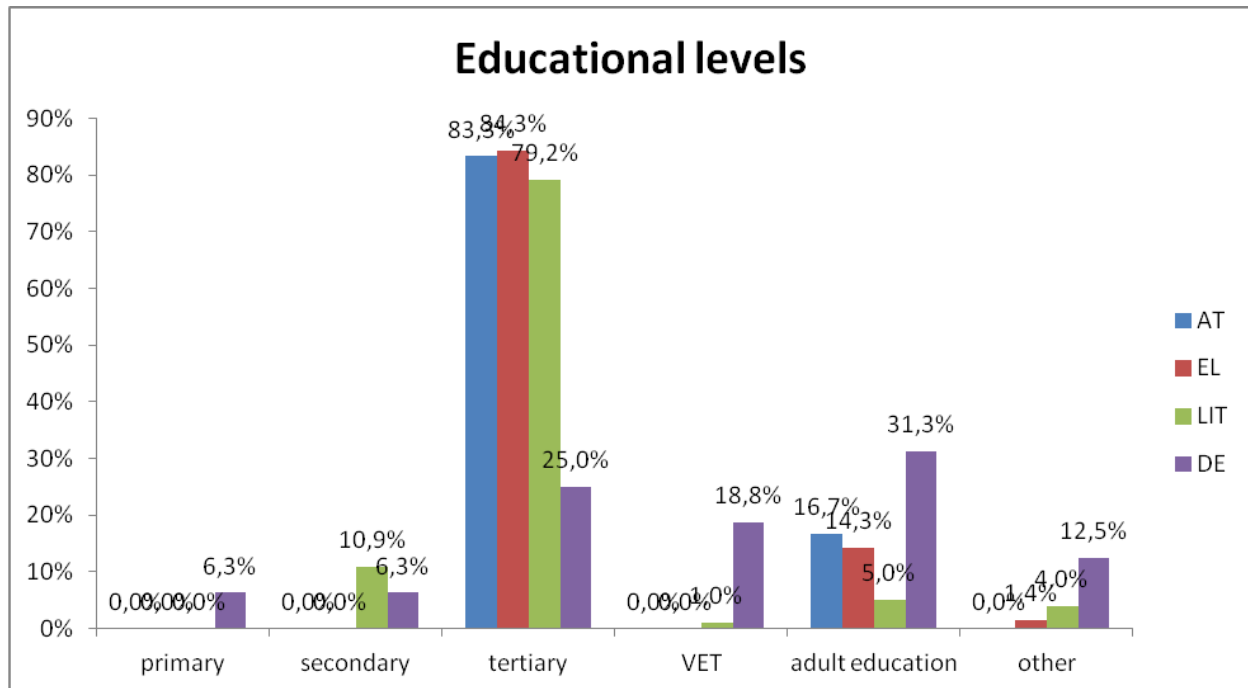
Concerning the **educational levels** in which the surveyed teachers and tutors work mostly, there are big differences between countries.

The most common level is tertiary education (university level), covered with 83.3% in Austria, 25% in Germany, 84.3% in Greece, and 79.2% in Lithuania. Germany has a greater share of teachers from adult education in the survey population: 31.3% compared to only 14.3% in Greece and 5 % in Lithuania. VET is covered by Germany with about 18.8% and to a small extent with 1% in Lithuania.

Secondary education in schools was covered with 10.9% by teachers in Lithuania and 6.3% in Germany. Otherwise teachers and tutors from primary and secondary educational levels did not take part in the survey.

Here the relevance of CRITON has to be questioned as e-learning in primary and secondary school might not be common in all countries yet. In Austria a personalized prediction system already exists by law for primary school ("Schulunterrichtsgesetz §19, Abs. 3a, 4) which means that the CRITON system does not apply to primary and secondary school in this country. Most partners in CRITON belong to the tertiary sector and adult education, which explains the somewhat biased access to teachers and tutors in this survey. Primary and secondary educational institutions and VET institutions were not partners in this EU-project and are therefore underrepresented in this survey.

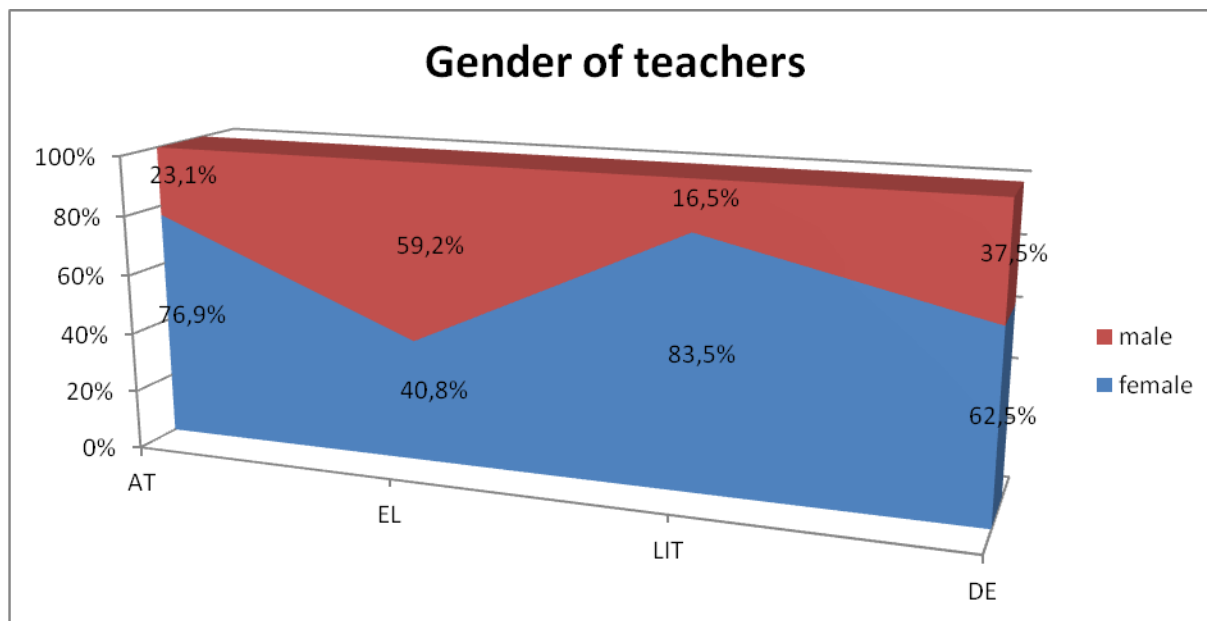
Table 4: Educational levels of the survey population



Considering an equal participation of women and men in the pedagogic survey (gender aspect), this aim was achieved. In Greece the share was 40:60, in Austria 23:77, Germany 63:37 and in Lithuania 84:16.

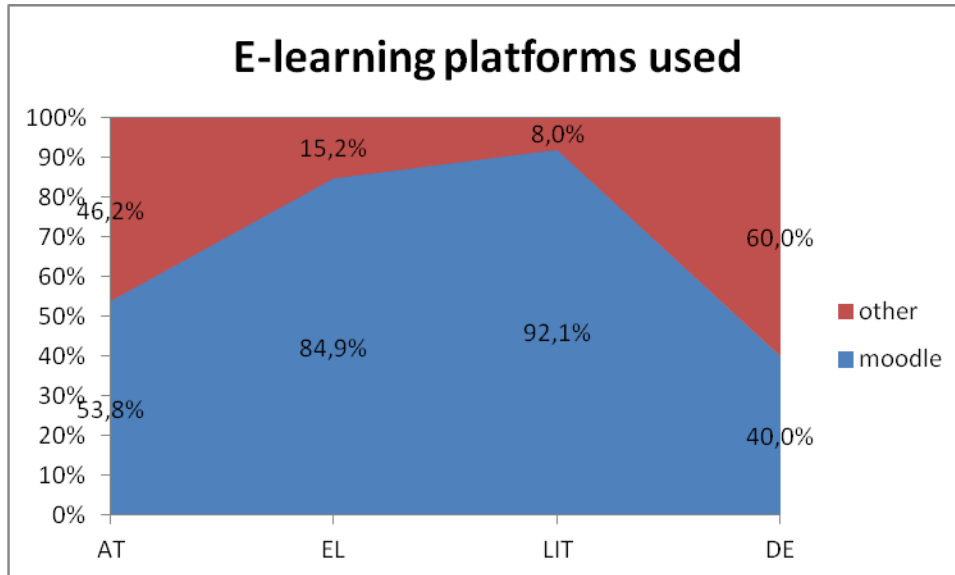
So in total more teachers in the survey are female. In Greece more men than women answered the questionnaire and in Germany, Austria and Lithuania more women answered the questionnaire.

Table 5: Gender of teachers



When asking teachers about the E-learning platform or LMS they use, the overall results show great differences between teachers. German speaking countries tend to use more other platforms (than moodle). Only 53.8% of Austrian teachers in this survey used moodle and 40% of German teachers. In Lithuania and Greece moodle is the most common LMS among the study population.

Table 6: Typical LMS



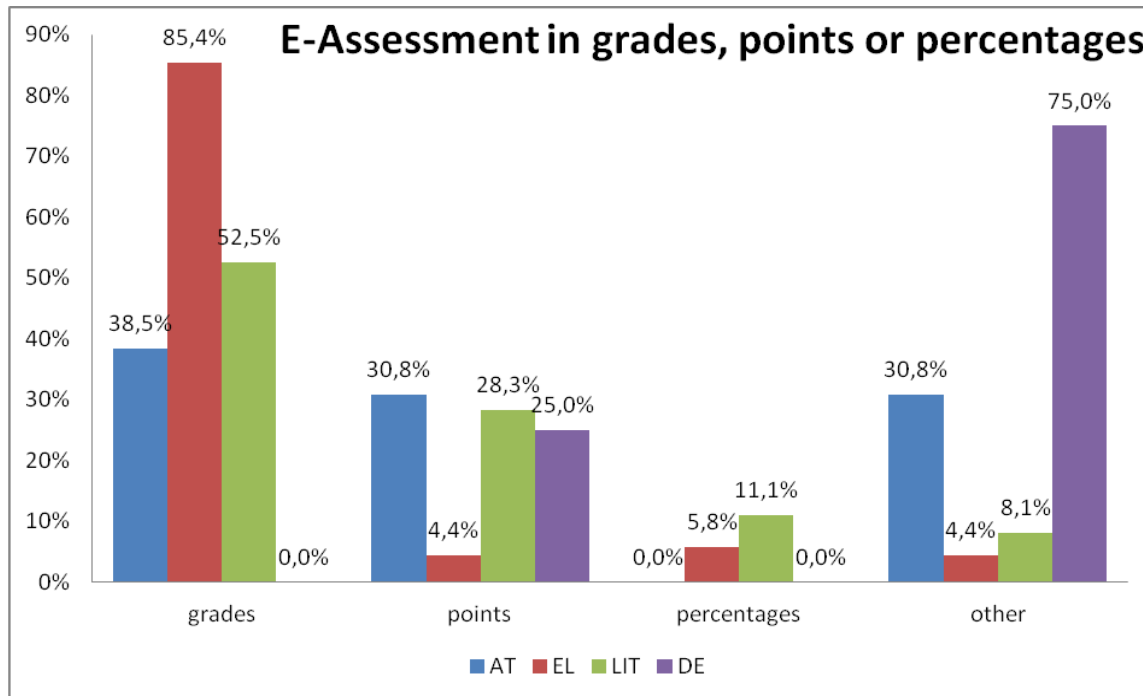
All teachers who stated using other LMS or e-learning platforms – between 8% and 33,3% - named other platforms in use: ILIAS, coursesites, facebook groups, First class, Open eClass, Twin Space, and own company platforms.

3.2 Assessment practices of teachers and tutors

Also **assessment practices** in e-learning were surveyed.

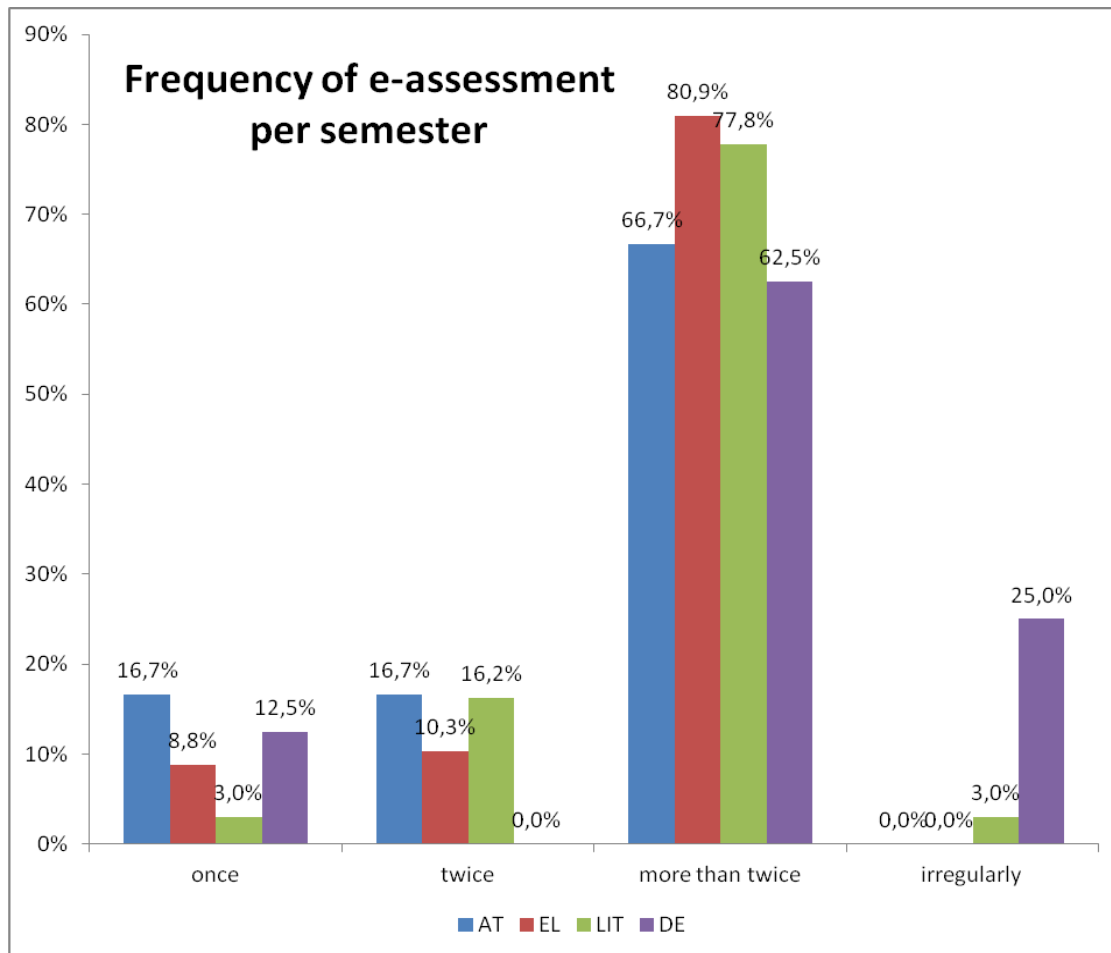
In Greece teachers use grades most often (85%); in Lithuania only half of all teachers use grades (52%); in Austria and Germany points, grades and other assessment forms dominate. Points are used by 30.8% of teachers in Austria and by 25% in Germany, by only 4.4% in Greece and 28.3% in Lithuania. Percentages are not common in e-assessment; only between 5.8% and 11.1% of teachers use them.

Table 7: Assessment grading systems



Concerning the **frequency of assessment** only a few country differences were found. Most teachers – between 62.5% and 81% across countries – assess e-learning more than twice per semester. Between 10.3% and 16.7% of teachers do e-assessments exactly twice per semester. 16.7% of Austrian and 12.5% of German teachers however only do e-assessments once a semester. Compared to Lithuania and Greece this number is quite high. Irregular e-assessment is not common across countries. The exception is Germany, where one forth of teachers also apply irregular assessment methods.

Table 8: Frequency of assessment per semester



In the pedagogic survey teachers were asked what exactly they assess in learners: formal requirements, knowledge of the particular subject and/or the level of active participation as well as other issues. Formal requirements included uploading documents on time, handing in papers on time, etc. The level of knowledge in the subject included the level of knowledge in a certain field, professionalism and a certain level of expertise of questions or texts learners write. The level of participation meant posting in forums, active participation i.e. asking questions, participation in polls etc.

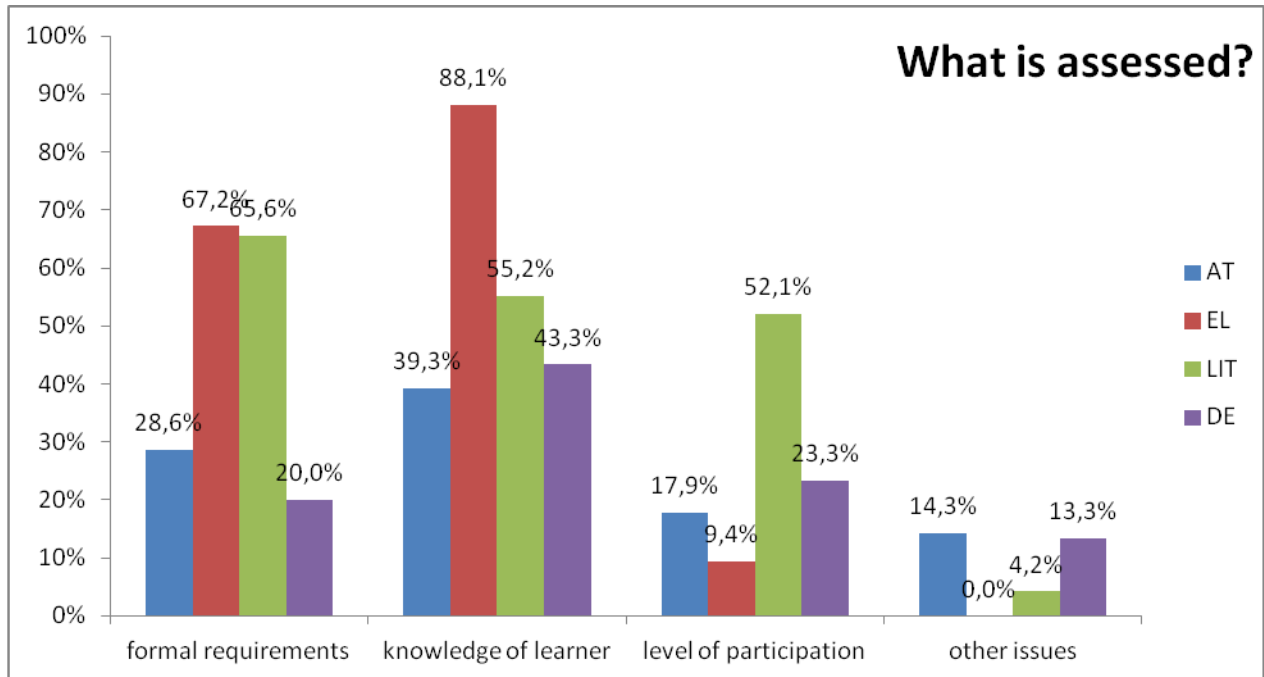
The results vary across countries.

The results show that the knowledge level of learners seems to be one of the most important aspects in e-assessment. Between 39.3% and 88.1% of teachers answered that this point is assessed by them; the highest share being in Greece. So, in Greece knowledge-based assessment is common (over 85%), while in Lithuania, Austria and Germany it is only assessed by half of teachers or less.

Between 1/5 and 2/3 of teachers in all countries also assess formal requirements. In Germany and Austria formal requirements are not as important, while they are in Greece and Lithuania.

In Austria and Germany between 13% and 14% of respondents said they assessed other criteria. These were: learning progress of learners, their e-portfolio, their usage of social media, their ability to reflect own learning progress, and the language they use in tasks.

Table 9: Contents of assessment



3.3 Assessment of learners likely to fail

Teachers were asked about their **main problems with e-assessment** in an open question format. In Austria and Germany teachers have most problems with controlling who fulfilled which tasks in e-learning group work and whether every participant really contributed to group work or not, and also avoiding free-riders who do not do any work themselves. They also state technical problems for learners although there were many introductions to e-learning, learners are still not able to use platforms in the right way. Also accessing the internet cannot be seen as a matter of course – some learners do not have internet access at home. Also assessing the reasons why a learner did not get an answer right is hard for teachers in e-learning.

Teachers from Greece agreed that it was hard to get hold of the level of participation of e-learners since they cannot control if students participate actively in the implementation of tasks or if some of them just copy tasks or answers. One teacher mentions the impersonality of e-learning as a problem. Another teacher does not face any problems. One teacher from Greece knows that handling a child or more than one child during e-learning can be disturbing and have a negative impact on concentration.

Teachers from all countries were asked about their estimation about which learners are most likely to fail a class. Answer categories were:

- Those who are unexperienced with e-learning.
- Those who do not fulfill formal requirements.
- Those who work and study in parallel.
- Those who have children and child care responsibilities.
- Those who are lazy.
- Those who are disadvantaged due to their prior education.
- Those whose native language is different from the teaching language.

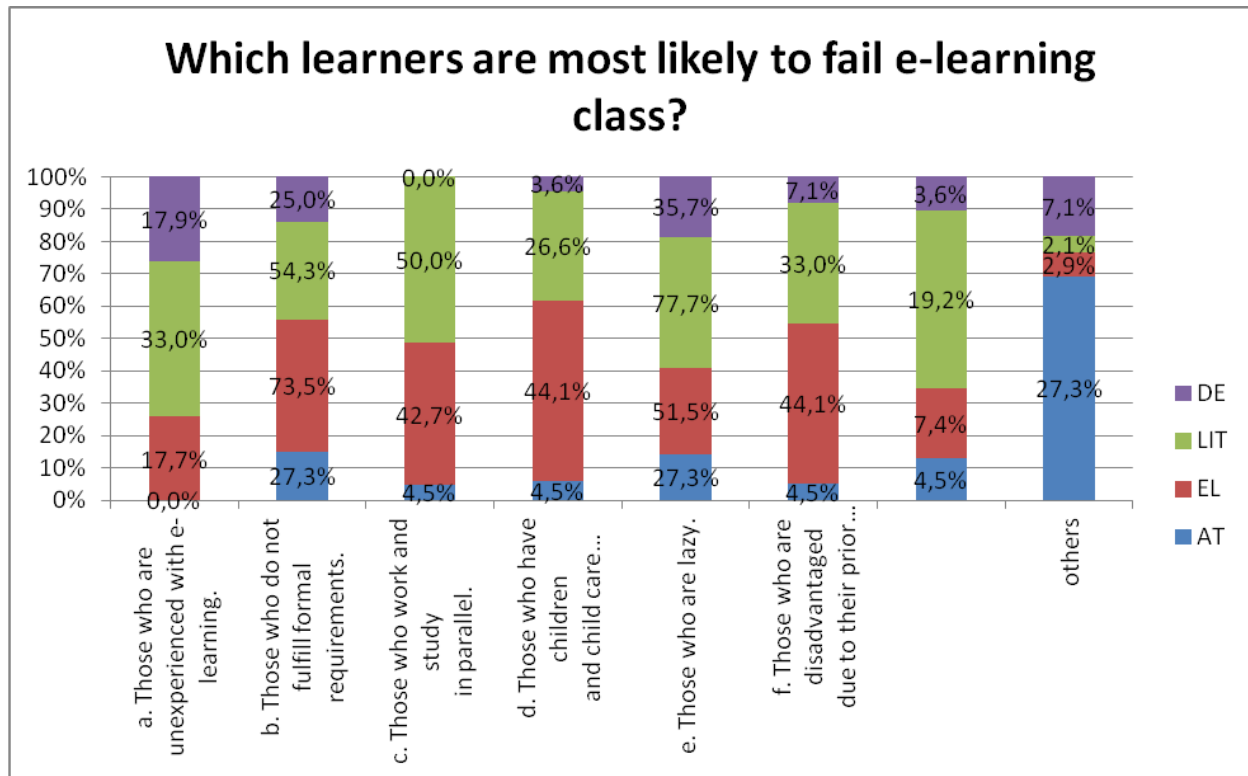
Interestingly the results do not vary across countries. Two main groups were identified by teachers as **“high-risk” groups of failing e-learning** across countries.

- Those who do not fulfil formal requirements. (73.5% Greece, 54.3% Lithuania, 27.3% in Austria, and 25% in Germany)
- Those who are lazy. (51.5% Greece, 27.3% Austria, 35.7% in Germany, and 77.7% Lithuania)

Additionally two target groups are at risk of failing classes in some countries.

- Those who work and study in parallel. (50% Lithuania)
- Those who have child care responsibilities. (Greece 44.1%).

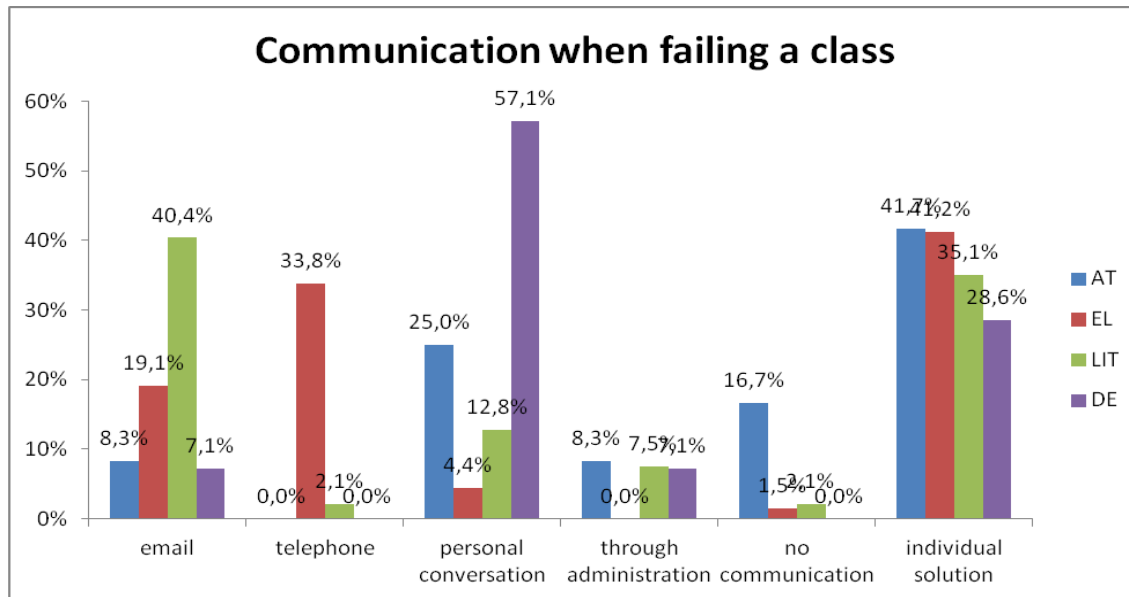
Table 10: High-risk groups for drop out



The question is also how failing or the risk of **failing is communicated** to learners. Obviously there are country specific traditions of communicating failing. The predominant communication style in Lithuania is email (40.4%) and individual solutions (35.1%) while in Austria and Germany it is personal conversation (25% in Austria and 57.1% in Germany) and individual solutions (41.2% in Austria and 28.6% in Germany), and in Greece it is telephone (33.8%) and individual solutions depending on the learner (41.2%).

Teachers across countries seem to agree that individual solutions depending on the learner are the best way to communicate a risk of failing (between 28.6% and 41.2%).

Table 11: Communicating failure



Teachers were asked in open answer questions how they would notice a learner at risk of failing a class or course.

In Germany and Austria they said they would notice when learners do not participate in group sessions and when they do not attend face-to-face classes or courses, especially when they have excuses for not coming or do not explain their absence at all. Also teachers state that if learner's performance is lower than 50% from the beginning of the class, then the likelihood to fail the class is high. When learners do not ask own questions it is also a hint for the teacher that the learner does not have own thoughts and is not steadily progressing in the learning process, which might cause him or her to drop out.

Most teachers from Greece who answered the open questions agree that the level of participation is the most important factor for drop-out. More specifically: no participation in the content of the curriculum, no delivery of homework tasks, mediocre grades in midterm tests, no questions in forums, no posts, no participation in group work, no upload of homework into the LMS. Another teacher mentions that a lack of interest, indifference, and inactivity in the course can be factors for drop-out too.

Teachers were also asked how **failing a class or course can be prevented**. Active participation, asking questions, reading instructions in detail, communicating with the teacher, the courage to ask questions, personal conversation and taking one's time for the class were mentioned in Germany and Austria. Teachers mentioned that autonomous studying is crucial in e-learning and that taking feedback seriously can help to prevent dropping out of an e-learning class. Also working continuously on tasks has a preventive aspect.

In Greece teachers have incentives and rewards for students who are likely to fail. They try to motivate them or have personal contact with them in order to find out about his/her weaknesses and support him/her to overcome them. One teacher from Greece says that focusing their attention to the

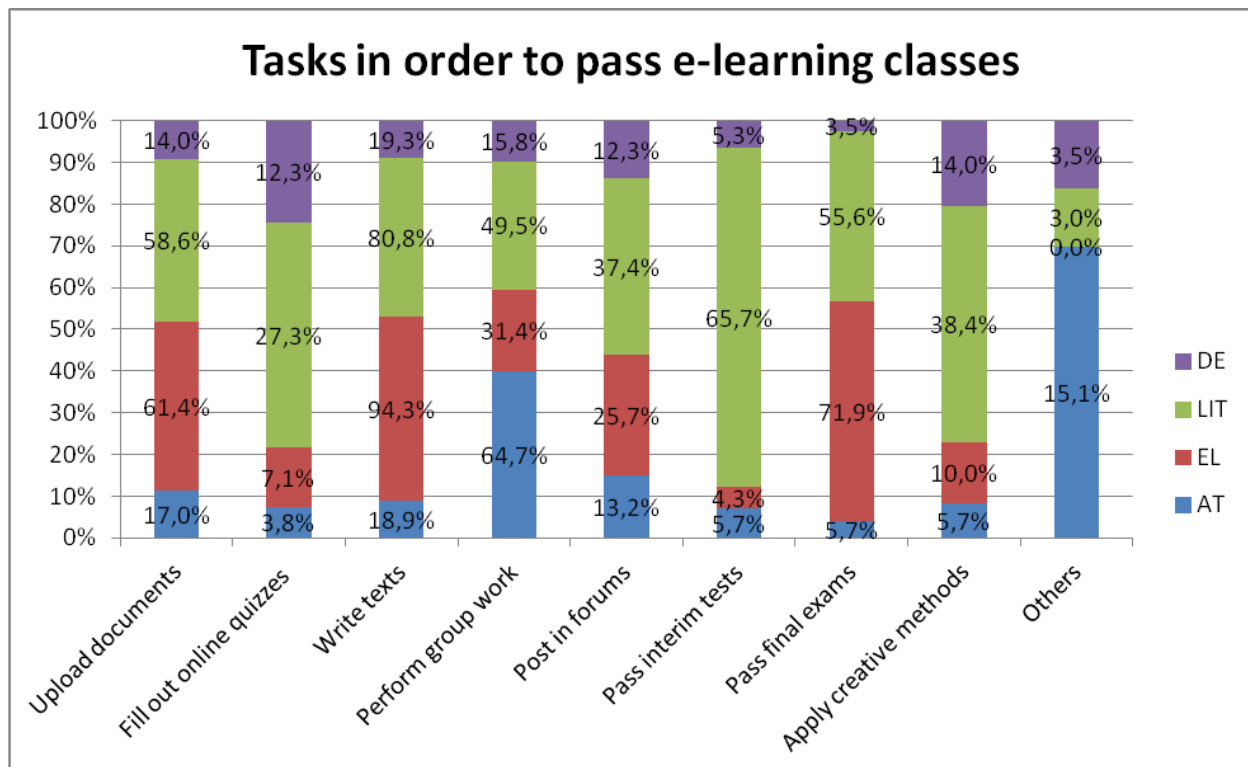
discussions in the LMS forum is the key, where there are given answers to their questions or solutions to tasks.

The teachers in the survey were asked which tasks learners have to fulfill in order to **pass an e-learning course or class**.

The top answer was “writing texts” which scored 94.3% in Greece, 80.8% in Lithuania, while this item did not score high in Austria (18.9%) and Germany (19.3%). Uploading documents was also considered important with scores between 58% and 61% of respondents in Greece and Lithuania. All other answers are country specific: In Austria group work in e-learning sessions (64.7%) and uploading documents (17%) are considered as relevant to pass a course/class, while in Greece passing the final exam is considered important (72.9%), and in Lithuania passing interim tests (65.7%).

Applying creative methods, filling out online quizzes, and passing interim tests are not considered as relevant in Greece than in the other countries (with scores under 10%). In the German speaking countries passing interim or final exams are not as relevant (3.5%-5.7%), here the process of producing texts or performing group work in e-learning is valued more than assessment.

Table 12: Main tasks for success



4. Summary and discussion points

After conclusion of the pedagogic survey several points can be summarized: Teachers apply a variety of assessment practices across countries and educational levels. Primary and secondary educational levels as well as VET are hardly covered by the survey. Teachers could not be found to take part in the survey since e-learning is either not relevant for these educational levels or for teachers who received the invitation to respond to the survey. The question remains open if e-learning and e-assessment are really relevant for these educational sectors or not. However, prediction of learning outcomes is a new topic for teachers.

We succeeded in setting a gender balance in the survey. Female and male teachers have equally taken part. The results show that there are country specific traditions of communicating failing a class, varying from personal communication to telephone and email as well as individual solutions for learners. There is no common communication style across countries.

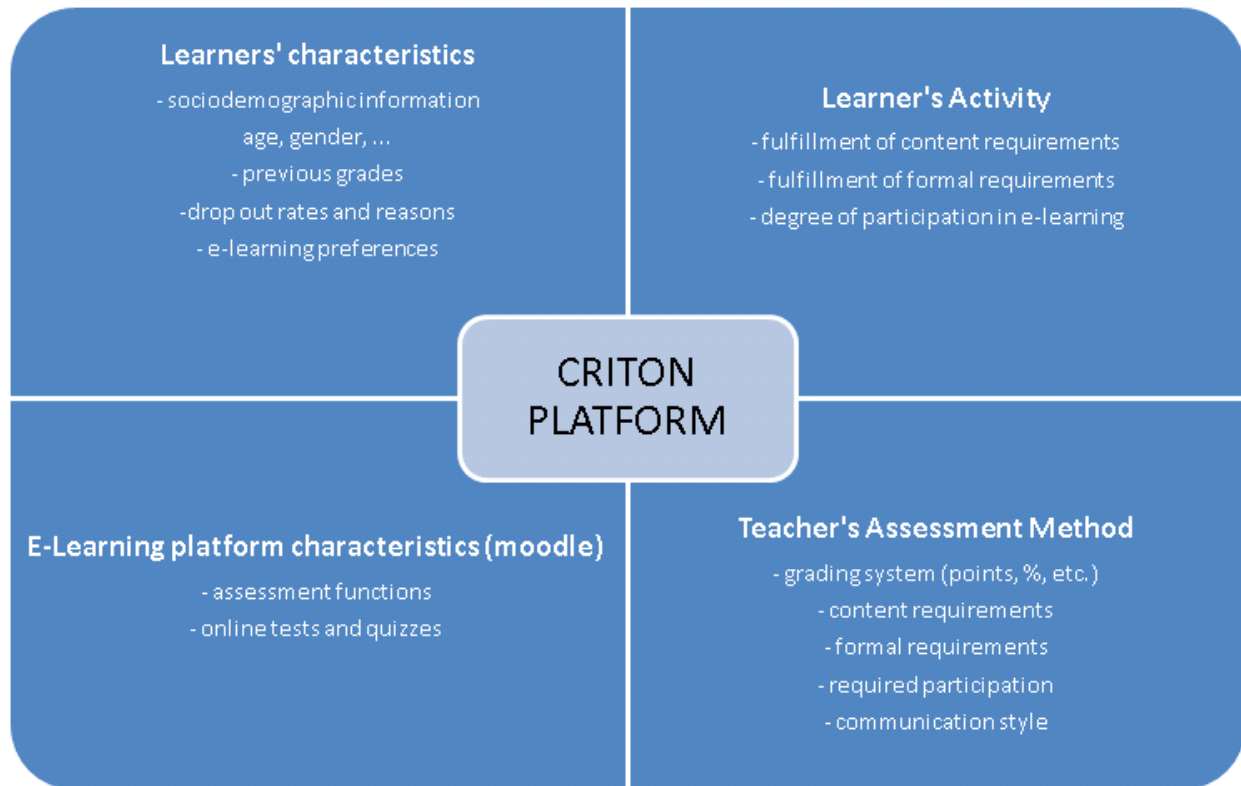
There are two main groups at risk of failing across countries: those who are lazy and those who do not fulfill formal requirements of e-learning classes.

As the main aim of WP 3 in CRITON is developing a common framework for the CRITON prediction platform there are several recommendations that can be drawn from the pedagogic survey.

The CRITON common framework will base on results of WP 2 and 3, especially tasks 1 and 2, and could contain these four indicator groups:

- PART 1: Learner's characteristics and socio demographics
- PART 2: Learner's activity in e-learning in the three aspects of content, formal requirements and level of participation
- PART 3: Teacher's assessment practices in e-learning
- PART 4: Technical characteristics of the used platform in e-learning (moodle)

Table 13: Possible platform characteristics



For the development of the platform the following points are recommended:

- The CRITON prediction system needs to take into account the differences in grading (points, percentages, grades) by country.
- The CRITON prediction system needs to be fed with assessment data from learners from previous data which was assessed mostly more than twice per semester.
- The CRITON prediction system needs to measure content, formal requirements, and level of participation of learners (a combination of behavioral indicators and course requirements).
- The CRITON prediction system needs to assist those learners who are lazy, who do not fulfill formal requirements and who study and work in parallel or have child care responsibilities. These are from the perspective of teachers the most important beneficiary groups for a prediction system.

Annex 1

TASK 3.1 Questionnaire for tutors and teachers using e-learning

Introduction

Dear teacher or tutor,

For a current project about e-learning we are trying to find out, how you assess your student's progress in e-learning classes or courses.

It would be helpful to us, if you could answer some questions about your assessment style and we could learn from your experience.

To fill in the questionnaire will take you 10 minutes. Please return the questionnaire to: NN (contact person in the country) by XX.XX.2013 (date).

All data will be handled anonymously. Your personal data is not handed on to third parties.

Thank you in advance,

The CRITON project team

Questions

- Do you use e-learning and distant learning in your teaching?
 - Yes I use e-learning methods only.
 - Yes I use e-learning methods additional to face-to-face learning.
 - No I do not use e-learning (→ then questionnaire ends here).
- The type of school or level you teach mostly:
 - a. Primary school
 - b. Secondary school
 - c. Tertiary education
 - d. Vocational training
 - e. Adult education
 - f. Other: _____

- What is the age group of the students you teach predominantly? (multiple answers possible)
 - a. 7-12
 - b. 13-18
 - c. 19-25
 - d. 26-35
 - e. 36-45
 - f. 46-55
 - g. 56-65
 - h. 66 or older
- Which tasks do your students usually have to perform in order to pass your class?
 - Upload documents
 - Fill out online quizzes
 - Write texts
 - Perform group work
 - Post in forums
 - Pass interim tests, if yes how many (1, 2, 3, 4, or more)
 - Pass final exams
 - Other: _____
- How do you assess your students' learning paths?
 - Grades (depends on the national system), 1 – 5 for example
 - Points
 - Percentages
 - Others: _____
- How do you assess your student's progress? (more than one answer possible)
 - I assess formal requirements (uploading documents on time, handing in papers on time, etc.).
 - I assess my students according to the content of the class/course.
 - I assess my student's participation (posting in forums, active participation i.e. asking questions, participation in polls etc.)
- What would you say, which students are most likely to fail your class? (more than one answer possible)
 - a. Those who are unexperienced with e-learning.
 - b. Those who do not fulfill formal requirements (e.g. upload on time).
 - c. Those who work and study in parallel.
 - d. Those who have children and child care responsibilities.
 - e. Those who are lazy.
 - f. Those who are disadvantaged due to their prior education.
 - g. Those whose native language is different from the teaching language.
 - h. Others: _____

- How do you communicate that a student is about to fail a class?
 - a. I would communicate it via email.
 - b. I would communicate it via telephone.
 - c. I would communicate it in a personal meeting.
 - d. I would ask someone else (an administrator, a tutor, etc.) to communicate it.
 - e. I would not communicate it. Students are self-responsible for reaching their learning outcomes.
 - f. It depends on the student. I choose individual solutions because each student is different.
- How would you notice a student failing a class?
 - Free text: _____
- What could prevent a student from failing your class?
 - Free text: _____
- What are the main problems you discover with using e-learning in general when it comes to assessment?
 - Free text: _____
- Which e-learning platform do you usually use?
 - Moodle
 - Other: _____
- Which features of moodle do you usually use?
 - Polls
 - Upload and download of material
 - Forums
 - Assessment
 - Glossary
 - Wikis
 - Tests
 - Others: _____
- Which 3 features of moodle are the most important to you? (3 answers possible)
 - Polls
 - Upload and download of material
 - Forums
 - Assessment
 - Glossary
 - Wikis
 - Tests
 - Others: _____

Before closing we would like to ask you for some information about yourself

Your age: ____ years

Your teaching experience in years: _____ years

The type of school or level you teach mostly:

- a. Primary school
- b. Secondary school
- c. Vocational training
- d. Adult education
- e. Other

Your gender

- a. Female
- b. Male

Country where you live

- a. Austria
- b. Finland
- c. Germany
- d. Greece
- e. Lithuania
- f. Sweden
- g. Other

Would you like to hear about the results or get to know us?

Then leave your email address before you leave: _____

Thank you!