

## **Generic competences - as seen by Tuning working groups**

### **Competence: (1) Capacity for analysis and synthesis**

#### ***Perception of the subject area working groups (SAGs)***

According to the Tuning methodology this not subject-related learning outcome belongs to the sub-group of systemic competences. There is no clear-cut definition of the capacity in the papers submitted but it becomes obvious that the SAGs define analysis and synthesis in a very wide sense, activity based. When describing level descriptors the Business Group lists among others the elements of identifying the right research question or problem, the ability to describe as well as to conclude and formulate recommendations as indicators. The other SAGs define an analysis in a way which seems to comprise all these indicators as activities, i.e. this generic competence enables the student to understand, evaluate und assess information which has to be collected, interpreted und the main issues identified. It challenges the students way of thinking logically, using the key assumptions of the respective subject area and even develop this area further by research. In this way the subject is the vehicle to help the student to achieve this competence.

In no SAG the acquisition of this skill is a separate object of a teaching and learning module, i.e. this generic competence is embedded in any subject, in any module of teaching and learning. Some SAGs see it as very subject specific but overall it may be concluded that the expectations towards this ability rise from one cycle to another but form as such an indispensable competence at any cycle and level.

#### ***Perception of the students***

This view is also backed by the perception of the students. They attach great importance to this competence as it puts them into the position to relate theory and practice, penetrate logically findings and use instruments to find out alternative ways such as scenario technique and is highly directed to their future professional career.

#### ***Terminology used to describe the competence***

to interpret, to find the main points, to understand, to evaluate, to deal with information, to critically evaluate, to marry theory and practice, to organise information, to understand, to place in context, to develop objectivity, to combine, to research, to formulate, not just reproduce, to apply, to describe, to conclude, to think, to compare, to select, to differentiate, to contrast, to break down, to summarise, to argue, to relate, to generalise, to think logically, to think rationally, to appreciate, to consider, to predict, to provide, to solve

#### ***Development of this competence (teaching and learning)***

This wide definition is essential as it relates directly to the methodology applied to put students into the position to achieve this competence. It is highlighted that the competence is directly related to the ability to solve problems, another generic competence ranked highly. It appears that the SAGs see the problem (or research question) as starting point to put the student into the position to reach a certain level as indicated by the Business Group. One is tempted to conclude that the problem is at the core and all the activities to follow are part of the analysis and synthesis. This would lead to a hierarchy of systemic competences which has not been identified in Tuning I.

The Mathematics group underlines this approach by highlighting that a student should use his analytical competences when confronted with a problem, and think whether they could relate this to one they have faced before. If this is the case they should find out whether the same hypotheses hold water so that previously achieved results can directly be applied. If not, students should find out what they could use taking from the past experience and start there to develop new approaches to solve the problem. In this context a student would enrich his synthesis competence by extracting the key points from their solution, so that they can be presented in a clear, concise and nevertheless complete form.

In this way the capacity for analysis and synthesis is developed through

- reading, researching and formulating ideas on a concept as a result of the reading, researching, discussing and brainstorming in highly specific, subject-focused work, both academically and professionally oriented
- making independent autonomous interpretations, evaluations, distinctions and differentiation and sharing insights from learning through debates, theses
- challenging taken-for-granted assumptions
- revealing links between contemporary concepts
- quantifying information
- applying relevant theory to source material
- incorporating new conclusions into existing knowledge
- placing specific events and/or problems into wider contexts
- giving proof and / or counterexamples

### **Example: Education**

1. *Students learn to analyse their own personality and their own options:*

- *What type of persons am I?*
- *What have been my weaknesses and strengths at school/university?*
- *What do I imagine my profile will be as a teacher?*

2. *Students learn to analyse and synthesise materials (textbooks, media, Internet) being available today for teaching and education in general.*

3. *Students have to realise that there are pupils with different abilities- not only mentally but also physically and applying also their knowledge to this learning group.*

Teaching aids are manifold: common learning material (set books), specialised monographies, articles but also problem oriented teaching as such through projects, case studies, excursions, investigations, tests and generally by laboratory work.

*Using the example of the Education Group further this can be exemplified in the following way:*

1. *Essay: What kind of student was I when I went to school / university?*
2. *Volunteer group discussions (fellow student) helping the student to see the difference between being a good learner and think about what this might mean in his future perspective when he will be working as a teacher at school.*
3. *Students are encouraged to remind themselves if they had disabled students in their class and how did other pupils and their teacher treat them. These experiences will be discussed.*
4. *Students are also helped to do analysis and synthesis of the material used at school: Usually by giving them homework to analyse and compare some texts*

*of school books (different publisher). Students write several analyses of different books, or certain topics (different for different pupils) during the year. Students can work in pairs or individually. These works will be discussed in group meetings.*

### **Assessment**

The assessment varies according to the way in which the competence has been developed. In some SAGs this will be done through group meetings and discussions sessions. The assessment will be based on how students analysed textbooks or information from the internet e.g. The Education SAG, following the example above, also takes into account the self-evaluation of a student. In this SAG a variety of modes of assessment were identified: discussion, questioning, observation, evidence of personal and professional engagement, supervision of reports, active participation in placement tutorials, essays, assignments, projects, examinations, thesis, etc. It appears that there is a link being sought between the way of teaching and learning and the mode of assessment. It is also pointed out that questions / problems being put in examinations are not routine copies of what is done in class but reflects the way of methodology to approach and solve problems.

Some SAGs take into consideration the attendance of lectures, type of asking questions to lecturers and tutors and the notes taken during class.

### **Evidence of achievement**

On the one hand students contribute to their assessment by submitting or presenting their "ongoing self-evaluation process" which they have to submit at the end of the semester. The feedback is organised through group discussions or individually. Practical work experience is normally assessed through reports in which not only the jobs the students did had to be outlined but also specific issues related to professional employment related to the field of studies.

SAGs also highlight that **students** identified a number of ways by which they would know if they had achieved this competence, such as

- feeling more competent and confident to put forward an opinion
- being able to relate research findings to theory and / or their own circumstances
- having no problems in writing essays and reports on findings from reading and research
- feeling free and able to criticise and / or critically evaluate presentations, reports etc. of others.

There appears to be an agreement that the assessment is not a "once-and-for-all" job but that it depends on many areas, even in a continuous mode and the results of which will be fed-back to the students immediately.

One SAG highlights the importance of resits. This is not mentioned in the other groups. Also that the results have to be discussed with the learner is mentioned only once. This may even include an ombudsman or counsellor. These issues are very much related to the respective laws and culture in the countries participating in this exercise.

## **Competence: (8) Elementary Computer skills**

### Background

As part of formal programmes of study in a variety of subject disciplines students are often required to acquire and demonstrate skills in the application of aspects of computing and information technology. Such programmes of study include courses that require specific prior learning, knowledge and skills as a condition of entry as well as those that assume no significant background in computing or information technology. Where a programme requires a specific foundation as a condition of entry, admission regulations and procedures should be sufficiently flexible so as to identify and permit entry to students who can demonstrate achievement through non-formal and informal learning equivalent to formal entry criteria.

Within programmes of study in different subject disciplines this competence may be seen as one or more of

- a competence designed to support current study of the discipline
- a competence to enhance future employability
- an element of the subject curriculum.

Under each of these three roles of computer skills the content, emphasis and weight within the curriculum will vary considerably with the subject discipline. At one extreme, it may be assumed that students have the necessary competence on entry to the programme or that they will informally acquire necessary competences as they progress through their studies. This is likely to be the case where computer skills are seen only as a relatively low level skill, both in terms of supporting study and enhancing future employability.

### **Perception of the subject area working groups (SAGs)**

This competence belongs to a subgroup of the generic competences. In the Tuning terminology this is an "instrumental competence" which is not the subject of study as such. The SAGs describe this competence as one of the most supportive skills highlighting that this is an obligatory course to be taken within any study-programme (Business Studies).

The SAGs emphasise that the objective is that the student feels confident to approach and use a computer for any type of activity, such as creating and storing information on any media, e-mailing, searching on the web, and specifically having experience in data logging of experimental apparatus to a computer and processing of the resulting data, using subject specific software (Chemistry). This also entails word processing or special software to present in words and as graphics (plotting) or calculate, evaluate and access information wherever it is available (Physics) and also to use facilitators such as "cut and paste".

Additionally students are more and more asked to become familiar with learning spaces to make use of new forms of e-learning via facilities such as chats, newsrooms, direct web-links etc (Education). The competence is also a requirement

for writing papers such as theses, dissertations in an adequate format, fulfilling all academic standards in terms as footnotes, literature review, for example (History).

### **Perception of the students**

There is no special attention drawn to the students' perspective let alone reference of students' opinions. However, it can be assumed that today this skill is not questioned by students at the level of higher education - whatever subject they study. At the latest when having to write or present papers for their subject area students become aware of the necessity of "how to acquire elementary computer skills" - and this normally in a very efficient and effective way.

### **Terminology used to describe the competence**

When describing this competence SAGs use the following verbs:

to feel confident in approaching, to create, to store, to make familiar with, to search, to draw, to use, to match, to enter, to produce, to save, to alter, to cut and paste, to format, to link, to conduct, to assist, to illustrate, to evaluate, to generate, to communicate, to browse, to interact, etc.

### **Development of the competence (teaching and learning)**

Students receive both, formal lectures and the opportunity to apply their knowledge in computer laboratories to develop their computer competences. Some SAGs also tend to provide the application first as free access sessions - in a way of "trial and error" - before some background is given in a more formal way. Formal lessons sometimes are scheduled much later in the programme (2nd or 3rd year), when specific software is being introduced. However, most of the time, basic courses are being provided at the beginning of study-programmes by the institutions as well, sometimes in the format of an intensive short programme.

Web evaluation is considered an important way of developing computing skills in a wider sense. Typically such teaching and learning sessions would start with a class-based task using an on-line site and generate student criteria for evaluation which are discussed and categorised. Some tutors then steer students towards finding other evaluation sites as part of web search skills, others give out tutor-selected criteria. These evaluation criteria will be tested by referring to identified web-sites.

As outlined above, some SAGs perform an audit of the students' skills at the commencement of the course and their subsequent ICT development will be self-selected with personal tutor help (Education).

### **Example: Education**

*On the web (<http://www.ltss.bris.ac.uk/anoraklvl.htm>) a staff audit questionnaire can be found - and similar ones are available for students, too, both in electronic and paper format.*

Forms of teaching and learning to develop the computer competences of students include:

- part of taught subject related competences

- self access programmes of self learning
- voluntarily attending taught elements linked to the various skills, graphics, web evaluation, etc. as outlined above
- modelling good practice, e.g. by giving URL references for students to follow up, by providing examples of good presentations etc.
- requiring the production of student work in various appropriate formats, often with links being established to courses available
- asking students to find literature in various libraries via computer
- communicating in an electronic format only
- applying quality criteria to web-sites.

### **Assessment**

The assessment is based on showing evidence of the competence by asking the students to write a presentation for interactive classes using various computer software applications e.g. (Business). In Education all activities for early development of ICT skills focus on skills development rather than knowledge or awareness, these include that students

- are given a task for which some missing information is available on a tutor-made database - or they have to develop an adequate database for some given information
- will see a presentation of the "skill" and then are set a task to apply it themselves
- have to use browsers or search engines to deliver required information
- have to present papers and are assessed on the computer based competences in the delivery.

It is obvious that the assessment is directly linked to the method of teaching and learning and so is the evidence which students have to deliver to demonstrate that they have acquired this competence. In terms of time the acquisition and the assessment may differ significantly. Students, who may have received a formal input at the beginning at their studies, will be assessed as regards the skill at the end of their programme, evidence based, e.g. by submitting their bachelor or master thesis for which one criterion of the assessment refers to computing skills (how the paper is presented, etc.). There is no information given how the respective workload is taken into account when allocating credits to a particular module.

### **Evidence of achievement**

Whereas the SAGs of Business, Chemistry and partly Physics rely on written examinations and the marking of papers submitted or activities performed by students, the Education SAG stresses that - according to their findings - all institutions claim to integrate the requirement for examples of the skill to be demonstrated in presented course work assignments. Mathematics, Geology and History see things differently by either not giving any information or stating clearly that this competence is not being assessed (the actual words are: "no examination on these competences"). In Physics there is also no evidence to be given in non-computer courses.

Students are informed about their achievements similarly to other competences acquired, that is by grades and oral feed-back. Reference is made to all tasks students had to perform, covering demonstrations in supervised computer laboratory

sessions, assigned computer based tasks, practical laboratory reports on experiments and even the final year project report (e.g. Bachelor thesis). In Education there is also the comparison made with the acquired competences at the end of a study-programme with the results of a self-evaluation audit in case the student had to do it at the start of his university programme. In a very weak format, the History SAG notes, that these skills - carrying no grades as mentioned above - appear to test whether a student has acquired these skills or not during individual discussions of an essay, for example.

## **Competence: (22) Appreciation of diversity and multiculturality**

### **Perception of the subject area working groups (SAGs)**

This competence belongs to the subgroup of systemic competences. There is also an element of interpersonal competence involved. The only SAG having delivered information as regards this competence is History. They stress that first of all a student has to realise himself the importance of this competence in terms of multiculturality, that is understanding past and present societies and cultures. Students then should make a choice which cultures they should study in more detail.

### **Perception of the students**

Students are encouraged to make their own choice to get interested in different societies and cultures.

### **Terminology used to describe the competence**

to confront, to teach, to raise awareness, to use original language, to interpret, to compare, to differentiate, to discuss, to evaluate

### **Development of the competence (teaching and learning)**

Lectures and pro-seminars in Anglo-American history are being taught in English to raise the linguistic awareness of the students. Original texts are shown to the students to confront them with ways of thinking etc. in the past. Also, the written assignments are in the English language. The literature which is used is more or less exclusively in the language of the culture being the object of the class. This is supplemented by today's material in any form, including all modern media, and the differences between past and present are thus highlighted. In this way it is possible to work out various and differing interpretations which will be discussed and evaluated by the students according to criteria worked out in class. In this way it is hoped that the student picks up a structure of understanding for himself even though this may be difficult for subjects outside of one's own cultural experience. Although the language of the examinations can be chosen by the student (mother tongue or not) many appear to opt for the language having been used in class.

### **Assessment**

Students have to attend the contact hours regularly. They will have to cover "manageable" portions of reading materials which they will finally be assessed on as regards their understanding and ability to structure and relate their findings, identify their interests which they can underline with issues they have picked up in classes and in their independent studies. They are also assessed orally, even as teams if they had worked in teams throughout the semester. In the final grade written and oral assessment is considered. The assessment is made known to the student publicly and he has the opportunity to comment, in particular whether he agrees or not, and whether he understands the teacher's evaluation.

### **Evidence of achievement**

This is mainly based on written and oral work. As the grade is being discussed it also becomes evident to which extent the student has penetrated the subject area and to which extent he has understood issues in different societies and cultures. This feedback is welcomed by students.

## **Competence: (29) Concern for quality**

Geology is the only SAG which has commented on this competence.

### **Perception of the subject area working groups (SAGs)**

Again, this competence belongs to the systemic ones, being an element of the generic competences of a student. The SAG believes that the concern for quality for first cycle students means to open opportunities in the way

- to participate and have a say on teaching development work
- to follow and evaluate the teaching practice at department level
- to have an influence on focusing the teaching resources at department level
- to develop the general understanding of the competence, i.e. in the sense of accurate observation and recording.

At the second cycle students appear to realise that the quality of their performance has an impact on future employability and scientific success. Additionally, a high-quality performance is asked for from an ethical viewpoint.

### **Perception of the students**

Students have not been interviewed. It is not guaranteed that the perception of the working group is identical with the one of students.

### **Terminology used to describe the competence**

to be(come) aware, to evaluate, to compare, to define compatibility, to influence to develop, to be accurate, to standardise, to make transparent, to inform, to set examples, to identify good practice, to improve continuously, to monitor permanently, to train, to generate, etc.

### **Development of the competence (teaching and learning)**

Partly universities seem to have set up teaching development groups at each department. The members are drawn from teachers of various types and students, obviously in the form of quality circles. The results of their work are delivered to the council of the department, the teaching development unit of the university. An evaluation report is delivered annually and a feed-back system has been introduced. The student member is assigned for a period of three years from the student association. The discussion in the groups themselves is seen as a part of a development of this competence. It is obviously not part of the official teaching and learning within study-programmes but this helps not only to be able to evaluate teaching and learning processes but also to improve existing teaching methods and curricula.

At the level of the second cycle students are given examples of good practice and are encouraged to try to improve the quality of their own work accordingly. As they are being constantly monitored corrective actions could immediately be taken if the need arises. Thus the Japanese philosophy of "do it right first time" is taken to help the student develop this competence.

### **Assessment**

There does not appear to be any formal assessment at the first cycle. In the second cycle, however, students have to do exercises in which they learn to work at a good

quality level. Some exercises allow to quantify the quality of results, e.g. by means of laboratory data.

### **Evidence of achievement**

No explicit statement has been made. However, it can be assumed that in the second cycle, the papers etc. which are assessed deliver evidence to which extent the competence has been acquired. There is no statement made as regards the attention students pay to marks and grades and to which extent transparency, e.g. by introducing ECTS as an accumulation system, helps as such to improve the awareness of quality and the motivation to become better. To this extent also the Diploma Supplement could have been used as a possible tool, making even personal developments much more known - even in a foreign language.