

INTRODUCTION OF INDIVIDUAL EDUCATION PLANS

Geir Vangen

University Center for Information Technology, University of Oslo, P.O.Box 1086 Blindern, 0317 Oslo,
geir.vangen@usit.uio.no.

Keywords

education plan, study plan, Bologna, FS.

1. EXECUTIVE SUMMARY

1.1. Background

In Norway in 2003, a reform of the quality of higher education was introduced where the principles of the Bologna-process were incorporated. This reform included a new common degree structure, a common grading scale which conforms to the European Credit Transfer System (ECTS) rating scale, improved quality by implementing systems to document the quality work, and increase the priority to participation in international programmes and exchange agreements. In addition, the reform included a new financing model of universities and colleges, where emphasis was put on a performance oriented component of research and teaching. The reform further demanded the implementation of an individual contract between the student and the higher educational institution.

1.2. Individual education plans

In 2002, the universities and colleges agreed upon a common specification for these contracts, called individual study plan. The main purpose of the study plan is a detailed plan over all the course modules the student must complete to achieve the qualification

Technically the system consists of:

- rule sets for implementing a study plan
- a web application where the student can put together a study plan within the rule set
- a client for administrator to make rule sets, and administrate the study plans

The first version of the system was delivered in 2003, and all the universities and colleges started using it. During the following years, a learning process, as to how study plans should work, how rule sets should be, how the plan should work together with admission to studies, how to register for classes and exams, student exchange programmes and diplomas, has been central. There have been some modifications during this time, included a controlled user testing of the web application. In 2007 the system was remodelled and redeveloped based on the knowledge gained during the last years.

1.3. Conclusions

The process of introducing individual education plans has been long and at times arduous. However, the use of these plans has grown over the years, and we now gain benefits by having a common means of administering students across professional environments and levels. Improving the technical solution might help somewhat in extending the use of education plans, but really achieving a better solution presupposes an active role from the academic staff.

2. Background

In 2003, a quality reform within higher education was introduced to the sector. Part of this reform was the Bologna process. Included in the reform, was the creation of a common structure of grades, degrees (Bachelor, Master and PhD), a common character structure, and a common weighting of education - study points, based on ECTS credits. The reform promoted the exchange of students, and demands on the quality control systems at the institutions were stated. Those were some of the main elements in the reform presented in a white paper no 27 submitted to the Norwegian Parliament in June 2001.

In addition, a new financial model was put into place, where the successful production of study points became one element in the model. How the State helps students financially was also restructured such that as students accrue student points, a portion of their loan is transferred into a scholarship. The aim with this re-organization is to increase student throughput. To facilitate this process, demands were made for a system of individual contracts between the institution and the student for all programmes with at least 60 study points (normally 1 year).

Introducing contracts is seen by many as a means of increasing the students' potential for success. Experience suggests that the relationship between the institution and the student needed to be enhanced in order to allow closer follow-up throughout the duration of one's study period. As a result, an institution must now establish a personal contract with each student, wherein the duties and rights of both parties towards each other are clearly stated.

3. Design of education plans

The task of designing guidelines for contracts was given to the sector and in 2002, the advisory board for universities and colleges of higher learning (UHR), established a working group who should produce a proposal for the implementation of contracts between students and institutions. *Individual education plans* was the name given to these contracts.

It was determined early on that *individual education plans* should consist of 2 parts: one common to all students within a given programme of study and one that is individual. In order to make the individual part easy to use and maintain by the students themselves, it was decided that this component should be an internet-based application. The hope is that the educational plan will serve as a flexible and useful tool for both student and institutions alike.

The contents of the general part:

- Personal information
- Admission information
- Description of the programme of study (this includes legal considerations, rights and duties connected to the programme, a plan for how to carry out the programme, possibilities of changes, time limits for practice, time spent in other countries etc)
- The definition of an education plan
- Referral to laws and rules in place for students and institutions
- Procedures for changing the programme of study
- Information regarding disabled services.

The individual part presented a greater challenge. A number of questions were posed, such as: How to choose subjects from the programmes of study or from all available subjects? For how long into the future could one demand the student to plan their study? How to approve an education plan that

only contains parts of the study? How should subjects with limited capacity be treated? And lastly, which rules apply for changing programmes?

Finally, the following content was decided upon for the individual part:

- Part-time and full-time study status.
- Contact persons
- Confirmation of the plan within a time limit each semester
- Plans for how the programme shall be realized, what the progression shall be, and how status control is carried out.
- Studies in other countries
- Leave of absence

4. Felles studentsystem - FS

is a system for the administration of studies and students, used in higher education in Norway. FS administers roughly 90% of upper secondary studies annually. The system has been developed by a section of the University centre for information technology at the University of Oslo, called SUAF (section for development of common administrative systems). This section also develops systems for admission and documentation of research for higher education in Norway. Using FS, one can administer students, applicants and studies at all levels of higher education. FS contains 14 modules, among which are admission, teaching and evaluations. For more information, see <http://fs.usit.uio.no>

5. Implementing education plans

The process of implementing education plans within FS started in the Spring of 2002, with a target of full production in the Fall of 2003. Studentweb, a self-service application (in production from 1999), was changed accordingly.

Even with guidelines given by UHR, descriptions of many elements were missing, and many decisions had to be made concerning the design of the first version.

The system for education plans contained the following parts:

- Informational elements that are general, as well as programme-specific information
- Rules for establishing individual education plans
- Alternative recommendations for establishing education plans
- Procedures and user interface for initial preparation of education plans
- Self-service application for students

Options for registering subjects taken at one's home institution and subjects taken at other institutions were implemented in FS, in addition to plan elements (all elements not being subjects, e.g. leave of absence or time spent abroad etc). Functionality was also implemented enabling students to choose their specialization, which in turn might put in place further demands to the composition of subjects contained in the plan.

6. A toolbox for modelling rules of combination for education plans

Every institution is responsible for establishing rules regarding study plans and for the level of choice open to students. For this reason, producing a toolbox enabling the local registration of rules was needed. The informational model we produced is simple, but highly flexible. As a consequence, establishing a logical structure is quite a simple task when the structure of the programme of study

is simple, but more of a challenge when it is not and there exists multiple ways of composition. However, it is important to notice that individual education plans do not add any extra constraints to the structure of the programme.

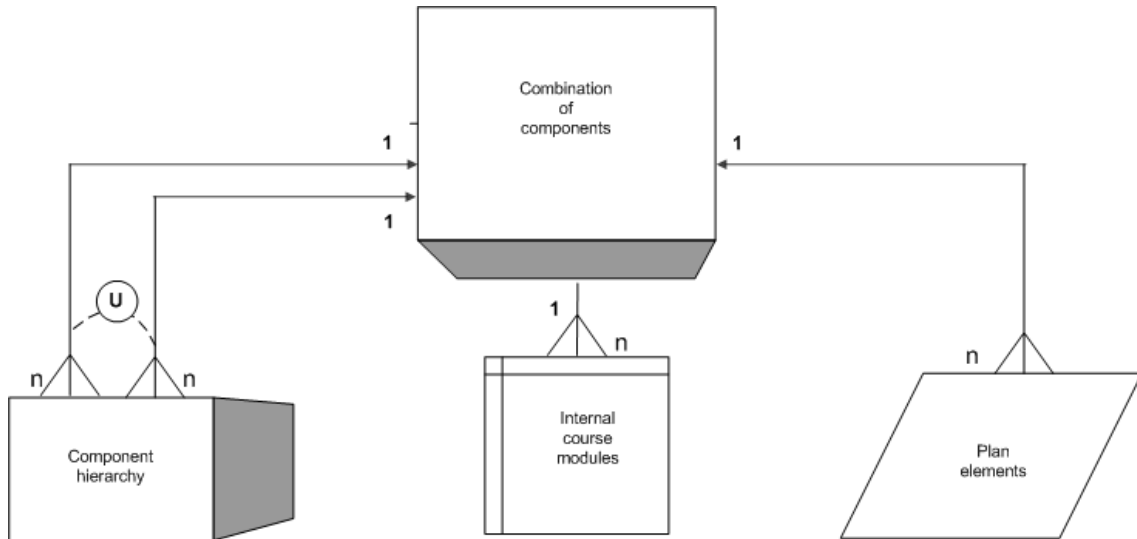


FIGURE 1: COMBINATION OF COMPONENTS - STRUCTURE

It is this connection between the combination of subjects and the combination of other subjects, together with the re-use of rules across programmes of study and/or classes that results in the greatest allowable flexibility. It is also possible to state which subjects students can choose freely, for instance all subjects in a department at a certain level of study. There is no limit in how deep these structures can be.

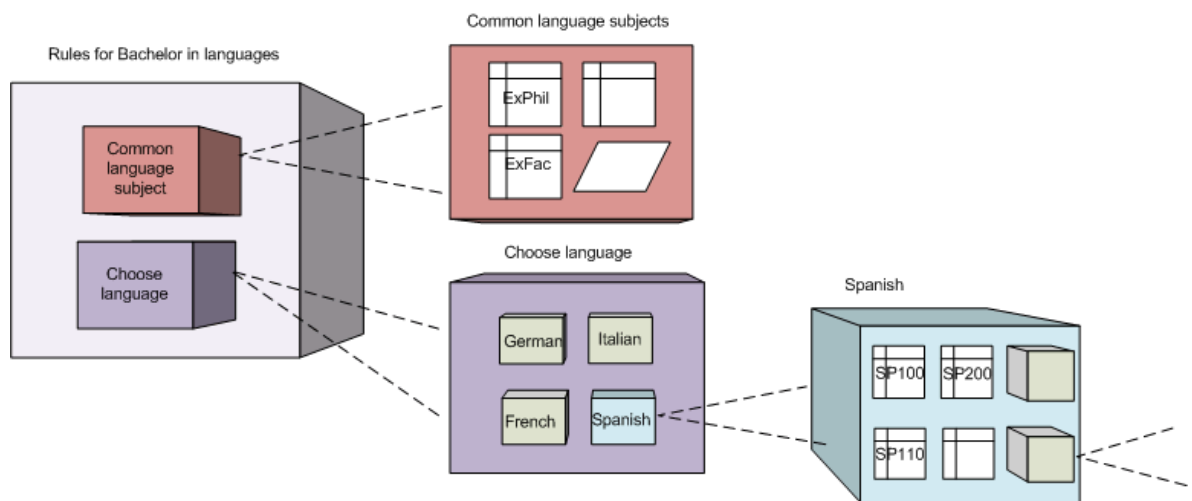


FIGURE 2: COMBINATION OF COMPONENTS - EXAMPLE

Figure 2 indicates how a programme can be structured within combination of components. In this example, the students admitted to the programme *Bachelor in languages* in their plan must include some common language subjects, and choose a specific language as their specialization. After choosing one specific language (as Fig. 2 illustrates Spanish), extra choices appear.

A so called 'control engine' was developed, which checks the individual education plan of a student against a given set of rules. This engine is used both in the web-application and by executive officers checking plans.

When tasks in this type of system turn from registration of student information, to registration of rules that enables students to self-register, the need for educating executive officers arises. Education and development of common practices is given higher priority for this reason.

7. Organizing and administrating plans

All compulsory parts of a student's education plan are filled in when a student gains admission to a programme, thus enabling the student proceed further. In cases where students transfer credits from other institutions, individually adapting of the plan might be needed. Institution specific subjects can be substituted with external subjects in the plan by executive officers. It is also possible in FS to run procedures that automatically place already achieved subjects into students' plans.

8. The self-service solution

It was a clear target that student, to the highest degree possible, have the possibility to maintain their own plans. At the start of each semester or before the start, it is compulsory for students to go through a registration process within the application 'student web'. This process comprises of:

- Education plan - General information part
- Education plan - Individual plan
- Signing up for education and evaluation
- Update of address information
- Update of questionnaires
- Update of place to vote
- Information about payment

PhD candidates use this solution as well, with some extra contractual information and questionnaires.

After the registration process is complete, students can still maintain their education plans within certain time limits.

Part 1 of the education plan shows information relevant to the programme of study the student is admitted to. This information is versioned, thus students get information relevant to the class they are admitted to.

address >> **individual education plan 1** >>> individual education plan 2 >> aksept_001 >> aksept_002 >> language >> special arrangements >> where to vote (2 of 8)

Individual education plan - part 1 - General part

The individual education plan has two parts:
 Part 1 - General part - valid for all students in a programme.
 Part 2 - Individual part - where you plan the course of your individual studies.

This is the general part of the individual education plan.

Study programme: Asian and African Studies

Below you will find information about rights and obligations with which you, as a student at the UiO, must make yourself familiar. If you are unable to familiarize yourself with all of the information at this particular point in time, you may return to it at a later date. However, in order to continue to the individual part of the Study Plan, you must confirm that you are aware of the contents of this page.

Clicking on the hyperlinks below will open a new window which must be closed in order to return to this page.

The programme's home page
 >>> read more

Service statement (not available in English)
 >>> read more

Regulation concerning the use of the University of Oslo's IT-services.
 >>> read more

Regulations governing studies and examinations at the University of Oslo
 >>> read more

UiO uses the students' e-mail addresses at UiO to send important information.

I am aware that I am expected to read e-mails sent to my e-mail address at UiO.
 Read about forwarding e-mails from your UiO e-mail address to your private e-mail address (not available in English). Read about using e-mail (not available in English).

OK

I acknowledge that the general part of my Individual Education Plan contains vital information that I am obliged to be aware of.

OK

FIGURE 3: INDIVIDUAL EDUCATION PLAN GENERAL PART

In addition to the ability to compose one's education plan, full integration with education and evaluation is in place. If education consists of groups that are open to choice, e.g. different laboratory classes, the students themselves can make these choices within the education plan. With regard to evaluation, students can choose between different ways of evaluating, and the point of time for an evaluation.





address >> individual education plan 1 >> **individual education plan 2** >> aksept_001 >> aksept_002 >> language >> special arrangements >> where to vote (3 of 8)


Individual education plan - part 2

This is where you construct an individual education plan which will show when you intend to take different courses.

- Full time studies are 30 credits per semester. Compulsory courses are automatically selected.
- You yourself must enter the optional courses, if any, by clicking "Add course".
- When the plan is completed you have to:
- Within certain time limits, register for teaching/examinations by clicking the pencil symbol. Finally you save the plan by clicking Save plan

Study programme	Asian and African Studies	120.0 credits
Field of study	East Asian Studies (discipline)	

Semester	Course combination	Course	Credits in the plan	Result	
Autumn 2007	East Asian Studies: Compulsory courses 1st and 2nd sem.	EAST4503 - The Making of East Asian Modernities	10.0	Res. Autumn 2007: C	
	East Asian Studies: Compulsory courses 1st and 2nd sem.	EAST4505 - Security and International Relations	10.0	Res. Autumn 2007: D	
	East Asian Studies: Compulsory courses 1st and 2nd sem.	KOS4001 - Fundamental Problems in Asian and African Studies	10.0	Res. Autumn 2007: Pass	
Semester total =			30.0		
Spring 2008	Discipline East Asian Studies: Optional courses	EAST4504 - East Asia - Great Traditions	10.0	Res. Spring 2008: B	
	East Asian Studies: Compulsory courses 1st and 2nd sem.	EAST4507 - East Asia - Capital and Labour	10.0	Res. Spring 2008: C	
	East Asian Studies: Compulsory courses 1st and 2nd sem.	KOS4000 - Project Description for Asian and African Studies	10.0	Res. Spring 2008: Pass	
Semester total =			30.0		
Spring 2009	East Asian Studies: Master's Degree thesis	AAS4900 - International Project Semester, Asian and African Studies	30.0	Res. Autumn 2008: D	
	East Asian Studies: Master's Degree thesis	EAST4592 - Master Degree Thesis: East Asian studies	30.0		
Semester total =			60.0		

 Add course

Saving implies confirmation.

If you abort the sequence, your individual education plan will not be confirmed.

FIGURE 4: INDIVIDUAL EDUCATION PLAN

When the first version was introduced in 2003, the uncertainty concerning many parts of the functionality was high, because we had had little experience with this level of complexity for a self-service solution. This solution required much effort after the introduction. For instance, in this early version, choices made for entering new subjects into the plan, required new dialogs to pop up. This made it difficult for students to keep track of the process.

It soon became apparent that a stronger connection between education plans and signing up for education and exams was needed. A large usability test was done after the introduction, and the report from this, together with other experiences made, constituted a good platform from which to build a new version. The new version was planned in 2005 and went into production in 2007.

9. Other benefits of education plans

The introduction of individual education plans was primarily done as a measure to improve the follow-up of students. Several side effects were noted:

- Within a programme of study, we now have a common means of administrating students. This streamlines the process of describing procedures across subject branches and institutions. For students and employees, to move between subject branches and institutions, has also become easier.
- An integral part of the solution is the calculation of achieved qualifications. If a plan is approved (by the control engine) and all parts in the plan have been realized, a registration of qualification achievement will be made. Since plans of study are constructed gradually over time, the process of computing achieved qualifications, generating diplomas/certificates, Diploma Supplement and character print-outs, are to a large extent automatic. The time from when the final evaluation of examination results are entered into FS to the time when diplomas etc are produced, is significantly shorter than before.
- Certain recommended ways of arranging subjects in time for a plan, can be entered into FS and used in connection with scheduling of subjects. They are exported from FS into scheduling systems, together with other information about education.

10. Experiences made from individual education plans

The process of introducing individual education plans has been long and at times arduous. So far, no full-scale national evaluation of individual education plans has taken place. A small-scale evaluation of the introduction of the quality reform took place in 2007, without special focus on education plans.

Experiences gained so far indicate that individual education plans work better with structured programmes of study than with so called 'free' studies at the universities. The quality reform clearly suggested that all studies should become more structured, but this has happened only to a certain degree in university studies. The roles that education plans are to play in university studies is always up for discussion. In contrast, education plans are more and more actively used in structured studies.

The positive results from using education plans are:

- Within a programme of study, we now have a common means of administering students across professional environments and levels.
- In the student web 'everything' happens inside the education plan.
- The process registering achieved qualifications is simplified, and time taken from the last exam to the printing of diplomas can be expedited.
- More focus on rules for composing a programme of study.
- The education plan is a good basis for follow-up conversations with students to adjust their course of study.
- Control of progress is better, for instance for studies where a year of study must be completed before the student can start the next year.

Some negative results from using education plans:

- Changing education plans and taking subjects out of active duty are more difficult to do. Consideration must be taken to the possibility of students having already chosen subjects for their plans.
- It is an extensive and work intensive task to update rules for each programme and likewise to follow up individual plans.
- Few commitments exist for students versus their plans.
- Hard to make them work well with 'free' studies.

- It is problematic to set up a plan for more than one year at a time, because of continuing changes being made to the studies offered.

11. Further work

One of the great challenges facing us is the continually increasing mobility of the student body. As a part of the Bologna process indicates, institutions shall organize for exchanges within programmes. This has become a fixed part of many programmes. A substantial amount of administrative resources are used to handle exchange students, both in connection with the maintenance of agreements between institutions and through managing each student. For every student wanting to spend time as an exchange student, the process of nomination and admission must be executed. Updates to the learning agreement must be carried out, and when the student returns, results from the exchange institution must be received and registered. This is also the case for free-moving students outside exchange programmes who apply for transfer credits from other institutions. Our wish is to streamline this process for easier flow of information concerning each student, and that the individual education plans, in the easiest way possible, get updated both before and after the exchange is realized.

To make easier flow of information happen, establishing standards of exchange information is necessary. Within CEN the work of developing a common European standard for student mobility has started. As of 2009, this work has not yet progressed beyond the start phase, which offers information about results achieved by students as a given institution. Thus, priority has been given to the task of achieving the ability within FS to exchange information across institutions, including institutions with other study administrative systems.

12. Summary

The introduction of individual education plans has been a task demanding considerable resources from the institutions involved. For programmes with a clear and relatively simple structure, the maintenance, upgrades and follow-ups of education plans is relatively easy. The same can be said about programmes where the academic staff has been familiar with stronger structure and control. However, in programs of study where the structure is not entirely clear due to the complex structures of rules, and where the staff doesn't relate to education plans, greater challenges exist.

We now have a tool to administrate students in a more uniform manner. Administrating programmes of study, registration of classes and exams are all made easier from both a student and institution perspective. This makes it easier for both students and employees to move between programmes and institutions. Further, the use of education plans allows easier follow-up of each student.

At several institutions, education plans have been used to follow up students, although not to the extent originally intended. Improving the technical solution might help somewhat in increasing the use of education plans, but really achieving a better solution presupposes an active role from the academic staff.