

MODULARIZATION AS A FACTOR IN INTERNATIONAL STUDENT MOBILITY

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Introduction. The Bologna Process for the creation of a barrier-free European Higher Education Area was initiated almost 18 years ago on 19 June 1999 in a joint declaration by Europe's education ministers. Originally, thirty countries affirmed their commitment to this goal and began the task of facilitating mutual access to science and education resources as well as improving the international dialogue and the mobility and exchange of students, teachers and researchers.

Problem statement. In the meantime, the group of countries participating in the Bologna Process has grown continuously. The 48th and latest country to be included in the European Higher Education Area and hence also in the Bologna Process was the Republic of Belarus. That was here in Yerevan two years ago at the Ministerial Conference. The meeting was dominated by the challenges of the economic and social crisis confronting numerous European countries at that time, the consequences of which we can still observe today in manifold ways. In the course of these developments, separatist voices have gained noticeably in influence for the first time. That is why it was all the more important that a positive example of Europe as a place for academic freedom was renewed and underlined in the Yerevan Communiqué:

Short analysis of current researches. "We will support higher education institutions in enhancing their efforts to promote intercultural understanding, critical thinking, political and religious tolerance, gender equality, and democratic and civil values, in order to strengthen European and global citizenship and lay the foundations for inclusive societies." [5]

The ideal of the Bologna Process is thus embedded in a concept of European and global citizenship that is based on the enlightened values of democracy and human rights. We are hence not talking here about the technicistic realization of harmonization measures in higher education, particularly in the administration and organization of degree programmes. The Bologna Process is closely linked to the development of inclusive societies, that is, "societies for all", where social, economic and political participation is not delimited by categories such as race, gender, class, generation or origin. The measures anchored in the Bologna Process are oriented towards this guiding principle of critical and independent thinking, of inclusion and equality at national as well as international level. This is the benchmark against which the Bologna reforms must be measured.

Research novelty. Criticism of the ways in which the Bologna reforms are implemented and standardized must therefore always also take into account this dimension of global politics alongside academic aspects and higher education policies. However, legitimate political claims must not be fulfilled to the detriment of scientific freedom. The danger is inherent in the very structure of the Bologna Process that scientific freedom in the different member countries will be levelled out in favour of the international harmonization wanted at political level. If it wants to avoid shipwreck, European higher education policy must navigate skilfully between these two poles, the seductive Scylla of scientific freedom and the shapeless Charybdis of levelled local and regional peculiarities. My hypothesis is that the harmonization process in the European Higher Education Area can even hinder student mobility if it is put into practice badly. I would like to illustrate this using data gathered in the framework of a research project at Heinrich Heine University Düsseldorf in which software for planning overlap-free degree programmes has been developed. My question is: How can international mobility be implemented in a targeted manner and put into practice at the level of programme planning and curriculum development?

Keywords. *Modularization, International Student Mobility, Bologna Process, ECTS scheme, Education Management.*

The Bologna Process comprises a number of structural specifications regarding the inner design of degree programmes, the aim of which is to achieve a common European Higher Education Area. These include, amongst others, grouping courses into modules, establishing the ECTS scheme, focusing teaching on learning outcomes and introducing a competence-oriented examination system. Above all with the modularization of degree programmes, an organizational level was introduced into the model of two-tiered degree programmes that involves tremendous administrative effort. It is not just a matter of coordinating the contents of the respective courses. Equally important is ensuring that students are able to complete all the courses required in a degree programme within the prescribed standard period of study [6]. In practice, making sure that curricula do not overlap is often accompanied by major organizational problems. This applies especially in cases where several institutes, departments or chairs are mutually independent, such as is found in combined degree programmes. Let me illustrate this on the basis of experience gathered in a research project at Heinrich Heine University Düsseldorf.

Heinrich Heine University Düsseldorf has five faculties and currently about 33,000 students. The Faculty of Arts and Humanities, about which I would like to speak in more detail here, has at present about 9,100 students who are enrolled in 29 subjects as Bachelor of Arts and Master of Arts students or doctoral researchers [3]. Most of the BA degree programmes are combined programmes with a major and a minor subject. Students can choose from 9 major subjects and 17 minor subjects that can be combined with each other. In addition, some modules are offered in several different programmes.

A total of 145 different subject combinations are possible. Each course must be checked for overlapping and studiability for at least 24 subject combinations, partly over several semesters and in different module contexts.

The planning of modularized degree programmes under consideration of studiability and mobility aspects is therefore by no means a trivial problem and in view of the large number of possible combinations unachievable without computer support. That is the reason why the deans of study of the Faculty of Arts and Humanities and the Faculty of Business Administration and Economics at HHU Düsseldorf, together with the Department of Computer Science, have developed software called “PLÜS” (*Planungswerkzeug für überschneidungsfreies Studieren*). PLÜS is a tool for planning overlap-free study programmes and can help in the widest variety of degree programme models in the framework of the Bologna requirements.¹ The software checks automatically the fundamental studiability of all programme combinations and is able – if there is a problem – to calculate course collisions and show how study quality can be improved with the help of planning alternatives.

In order to increase student mobility at the level of programme planning and curriculum development, one particular instrument in the Bologna Process should be especially highlighted, namely the introduction of mobility windows in the framework of the two-tiered BA and MA degree programmes. What is referred to as a mobility window is a time period in the course of a degree programme reserved for a stay abroad. The deciding factor in this context is that studying abroad should normally not result in the lengthening of the standard period of study. The mobility window should therefore facilitate student mobility without leading to negative consequences for study time.

“A mobility window is a period of time reserved for international student mobility that is embedded into the curriculum of a degree programme.”[2]

According to a report by the Academic Cooperation Association (ACA), the German Centre for Higher Education Research and Science Studies (DZHW - *Deutsches Zentrum für Hochschul- und Wissenschaftsforschung*) and the Centre for International Mobility (CIMO), mobility windows foreseen in the framework of the Bologna Process can be differentiated according to the two criteria of “Status” and “Standardization” [2, p. 13]. “Status” means the differentiation according to whether a mobility window is formally a compulsory or an optional study offer. At content level (this concerns standardization), the topics, learning outcomes and skills to be acquired within a mobility window can be more or less rigorously defined and pre-determined. Logically, the two criteria are

¹ For the development of the software model and the ProB calculation kernel please see: Dominik Hansen, David Schneider, Michael Leuschel: Using B and ProB for Data Validation Projects. In: Proceedings of the 5th International ABZ Conference ASM, Alloy, B, TLA, VDM, Z, LNCS, 9675, Springer-Verlag, 2016; David Schneider, Michael Leuschel, Tobias Witt: Model-Based Problem Solving for University Timetable Validation and Improvement. In: FM 2015: Formal Methods: 20th International Symposium, Lecture Notes in Computer Science (Book 9109), Springer, 487-495, 2015; David Schneider: Constraint Modelling and Data Validation Using Formal Specification Languages, Ph.D. Thesis, 2017 (forthcoming).

independent of each other and can be combined in all four variants. Mobility windows are found that are compulsory and where content is described in detail. This is, for example, frequently the case in existing binational degree programmes which clearly specify in which semester at which university which programme components must be completed. The other extreme case would be a purely optional mobility window of which the content is only vaguely outlined. This variant is often chosen for an Erasmus exchange if the courses abroad are less structured or attended by greatly varying numbers of students. It is precisely in the latter case that vagueness in content allows for greater scope in the recognition of learning outcomes attained abroad.

Which type of mobility window is included always depends on the framework parameters and objectives of the respective degree programme. There is therefore no uniform Pan-European silver bullet for implementing mobility windows, but instead local specifics must always also be taken into account in the deliberation. According to a report by the German Academic Exchange Service, the majority of students enrolled on the 6-semester BA degree programmes with 180 credit points now predominant in Germany use the fifth subject-related semester to study abroad, whilst internships and shorter stays abroad are undertaken in earlier semesters.

“The point in time of the period spent abroad is also dependent on the type of activity undertaken there. Students more often calculate time in the earlier semesters of their studies for internships than for studying abroad. Whilst only a fifth of all (first) study visits were undertaken up until the end of the fourth semester, almost twice as many internships were undertaken in the same period [...]. The concentration on the fifth semester is far higher for studies abroad than for internships abroad. It can therefore be assumed that shorter stays abroad of up to three months are achievable in many phases of a Bachelor degree programme from the third semester onwards. By contrast, there is only a relatively limited mobility window for studying abroad.”[4]

From the perspective of programme planning, there are various reasons for recommending that in the case of a 6-semester standard period of study the mobility window is positioned in the second half, i.e. in the fourth or fifth semester. In terms of content, students have already completed the fundamentals and there are no major consecutivity problems in subsequent semesters. In addition, students can complete the final phase of their studies (sixth subject-related semester) at their home university. Recognition of learning outcomes attained abroad is nevertheless problematic and the period spent abroad often leads to a lengthening of study time despite all attempts at harmonization.

In practice, one or two semesters are often designated as mobility windows in a programme curriculum, which are characterized by a favourable position in the degree programme’s modular architecture. The learning outcomes attained abroad must be recognized afterwards by the home university.

There are two basic ways how this can occur:

1. Recognition in the framework of the regular modules in a degree programme
2. Recognition in the framework of a special mobility module

The advantages and disadvantages of these two ways to operationalize mobility windows become clear when the structural specifications for programme modules are examined. According to the definition of the Donors' Association for the Promotion of Sciences and Humanities in Germany (*Stifterverband für die Deutsche Wissenschaft*), modules are:

1. “Self-contained, formally structured learning processes with
2. theme-based teaching and learning,
3. pre-defined and coherent learning results,
4. a fixed workload (expressed in credits),
5. clear assessment criteria.”

The narrower these features are defined in a module description and used in the home university's recognition of learning outcomes attained abroad, the more difficulties can occur in the recognition procedure. Problems are inevitable in cases where highly specialized modules are embedded in the mobility window in the regular programme curriculum, the content of which is not taught at all at the partner institution or only partly covered. Let me explain these issues using the example of the curriculum for the BA degree programme in “Information Science and Language Technology” at HHU Düsseldorf.

Overhead: Information Science and Language Technology Curriculum

In this case, the fourth semester is designated as the mobility semester, i.e. students who go abroad during this semester cannot complete four modules either partly or in full which are components of the regular curriculum in Düsseldorf. These are the:

- Advanced module in “Informetrics”
- Advanced module in “Theory of Computer Linguistics”
- “Interdisciplinary Compulsory Electives”
- “Work Experience Placement”

In the normal case, students must complete the two modules “Informetrics” and “Theory of Computer Linguistics”, courses chosen from amongst the compulsory electives and a work experience placement in the fourth subject-related semester. Courses in the two thematic modules are so specialized that it is unlikely that students can attend similar ones at any partner university. In addition, the advanced module in “Informetrics” runs over two semesters. If the courses in the fifth semester build consecutively on those in the fourth semester, the student cannot complete the courses in this module in the fifth semester without losing time because he or she must first of all catch up with the courses from the fourth semester.

The programme stipulates a work experience placement that is generally undertaken at a local company. Exchange students would have to seek a placement abroad.

The range of compulsory electives is very broad. Students have the opportunity here to earn credits in courses run by other departments, including ones attended abroad. This area thus supports mobility.

We have a situation here where some modules are conducive to mobility whilst others disadvantage student mobility. It becomes evident that the modularization of degree programmes must not automatically lead to improved student mobility. If it is not implemented properly, modularization can also have a negative effect on the possibilities which studying abroad offers. The manner in which the Bologna requirements are introduced and put into practice in the two-tiered degree programmes is a deciding factor in student mobility. What essentially count are clever programme planning and the efficient interaction of the four pillars of the Bologna system:

1. Modularization
2. ECTS points system
3. Learning outcomes
4. Competence-oriented examination system

Important rules to be considered when modularizing programmes with regard to the mobility window are as follows: It is advisable to create medium-sized modules ($M \geq 5$ und $M \leq 14$) that should not extend over more than one semester, especially in the later stages of a programme. The themes covered in modules in mobility semesters should not be too specialized because otherwise learning outcomes attained abroad frequently cannot be recognized. These recommendations apply for cases where the mobility window is not modularized in any special way but instead recognition of course and examination achievements takes place within the framework of existing modules.

In Germany, accreditation rules demand that there are mobility windows in all two-tiered degree programmes. However, the rules leave open whether the mobility window itself must be modularized. It is conceivable in theory that learning outcomes attained abroad could be recognized entirely within a programme's subject-specific modules. This is, however, conditional on all learning outcomes attained abroad being recognizable in those modules. Outside fixed international degree programmes or institutional partnerships, the modularization of degree programmes in practice often proves inflexible here and lengthens study time. In reality, it is often the case that only fractions of the learning outcomes attained abroad are recognized by the home university. There are often obstacles if a programme's modular architecture is structured in such a way that the modules are small and frequently comprise just two special courses. In STEM subjects, modules often consist of just one lecture with accompanying tutorials that becomes more and more specialized over the course of the programme. In these cases, it is often impossible for studies abroad to match accurately enough for learning outcomes to be recognized.

Outside the framework of specifically agreed exchange programmes, two different strategies can be proposed for designing mobility windows and facilitating the

recognition of learning outcomes attained abroad without lengthening study time. One practicable possibility is to integrate optional mobility modules into a degree programme, the specific purpose of which is to make learning outcomes recognizable too that are not subject-related. At the Faculty of Arts and Humanities of HHU Düsseldorf we have introduced interdisciplinary compulsory electives for this purpose that allow students to look beyond the horizons of their own subject, as is indispensable for humanities, cultural or social science studies. In this area, up to 18 credit points (10 % of the Bachelor programme) can be used for free-choice interdisciplinary courses in all subjects at the university, to acquire transferable skills, prepare for working life or undertake a work experience placement. The compulsory electives are outlined in the Examination Regulations as follows:

“The purpose of the compulsory electives is the attainment of transferable skills, familiarization with the principles of scientific working methods and the acquisition of competencies that go beyond the specialist expertise acquired in the chosen subjects. They give students the opportunity to shape their studies according to their personal interests and abilities and to distribute the workload flexibly over the semesters of study.” [1]

In the area of compulsory electives, many learning outcomes attained during studies abroad and that have contributed to the acquisition of intercultural or language skills are credited in a generous manner. This ensures that an optional module context of sufficient size exists that makes it possible to be generous when crediting learning outcomes attained abroad. Content-wise, this variant is very unspecific and can be transferred to very different subject cultures. In our case, the same recognition rules apply for all our faculty’s degree programmes and subject combinations – from English Studies to Social Sciences, from Japanese Studies to Ancient Culture. To be sure, the mobility module does not correspond exactly in terms of content to the requirements that the Bologna Process places on module design. Nevertheless, it allows room for independent, interest-driven studies abroad with a high degree of freedom. This is highly conducive in my view to the civic objective of the Bologna Process that I mentioned at the start of this paper.

The second variant involves the introduction of project modules that are open in terms of content but skills-oriented. Students can complete these modules during the designated stage of their programme both at their home university as well as whilst studying abroad. Broad support is meanwhile available for this variant in the shape of eLearning (e.g. virtual classroom concepts, chats, fora or video conferencing). What is innovative about this variant is that students do not totally lose contact with their home university during their studies abroad and continue to work in line with their home university’s standards thanks to online supervision. Recognition of such learning outcomes ought therefore to be unproblematic and thus foster student mobility in the long term. Despite all attempts to eliminate obstacles to student mobility by means of standardized structures, it should not be forgotten that students should ideally not learn

and experience the same things whilst they are abroad as they would at their home university. The heterogeneity of cultures, knowledge and lifestyles is a fundamental asset of the European Higher Education Area that should be encouraged and not suppressed by administrative structures.

Concluding hypotheses:

1. Apart from contributing to mobility, the Bologna Process has the global political objective of citizenship through education.
2. The heterogeneity of education landscapes and biographies must not be sacrificed for blind harmonization madness.
3. Wrongly conceived modularization of degree programmes does not improve student mobility but instead even debases it.
4. Modularization ought to open up generous opportunities for students to choose freely and shape their individual educational pathways.
5. The design of mobility windows depends on the concrete framework parameters and the objectives of the respective degree programme.
6. eLearning instruments offer novel ways to support students during the mobility phase.

References:

1. BA Examination Regulations of HHU Düsseldorf.
2. Mobility Windows: From Concept to Practice/Irina Ferencz, Kristina Hauschildt and Irma Garam (eds.) – Bonn: Lemmens Medien GmbH, 2013 (ACA Papers on International Cooperation in Education).
3. Student statistics, HHU, 2017 summer semester.
4. Ulrich Heublein/Julia Ebert/Christopher Hutzsch/Johanna Richter/Jochen Schreiber: Internationale Mobilität im Studium 2013. Ergebnisse der vierten Befragung deutscher Studierender zu studienbezogenen Auslandsaufenthalten. Online.
5. Yerevan Communiqué.
6. § 61 NRW Higher Education Act.

**МОДУЛЯРИЗАЦИЯ КАК ФАКТОР В МЕЖДУНАРОДНОЙ СТУДЕНЧЕСКОЙ
МОБИЛЬНОСТИ**

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Аннотация

Введение. Болонский процесс создания безбарьерного европейского пространства высшего образования был начат почти 18 лет назад 19 июня 1999 года в совместной декларации министров образования Европы. Первоначально тридцать стран подтвердили свою приверженность этой цели и приступили к задаче облегчения взаимного доступа к научным и образовательным ресурсам, а также улучшения международного диалога и мобильности и обмена студентами, преподавателями и исследователями.

Постановка задачи. Между тем, группа стран, участвующих в Болонском процессе, постоянно росла. 48-й и последней страной, включенной в Европейское пространство высшего образования и, следовательно, также в Болонский процесс, стала Республика Беларусь. Это было здесь, в Ереване, два года назад на министерской конференции. На встрече доминировали проблемы экономического и социального кризиса, с которым столкнулись многие европейские страны в то время, последствия которого мы можем наблюдать сегодня по-разному. В ходе этих событий впервые заметно влияние сепаратистских голосов. Вот почему тем более важно, чтобы в Ереванском коммюнике был обновлен и подчеркнут положительный пример Европы как места академической свободы.

Краткий анализ текущих исследований. «Мы будем поддерживать высшие учебные заведения в наращивании их усилий по содействию межкультурному взаимопониманию, критическому мышлению, политической и религиозной терпимости, гендерному равенству, демократическим и гражданским ценностям, с тем чтобы укрепить европейское и глобальное гражданство и заложить основы для инклюзивных обществ».

Таким образом, идеал Болонского процесса заложен в концепции европейского и глобального гражданства, основанной на просвещенных ценностях демократии и прав человека. Следовательно, мы не говорим здесь о технической реализации мер по гармонизации в высшем образовании, особенно в области администрирования и организации программ на получение степени. Болонский процесс тесно связан с развитием инклюзивных обществ, то есть «обществ для всех», где социальное, экономическое и политическое участие не ограничивается такими категориями, как раса, пол, класс, поколение или происхождение. Меры, закрепленные в Болонском процессе, ориентированы на этот руководящий принцип критического и независимого мышления, интеграции и равенства на национальном и международном уровнях. Это точка отсчета, с которой должны быть измерены Болонские реформы.

Новизна. Поэтому критика способов реализации и стандартизации Болонских реформ всегда должна учитывать это измерение глобальной политики наряду с академическими аспектами и политикой высшего образования. Однако законные политические требования не должны выполняться в ущерб научной свободе. Опасность присуща самой структуре Болонского процесса, что научная свобода в разных странах-членах будет выровнена в пользу международной гармонизации, требуемой на политическом уровне. Если она хочет избежать кораблекрушения, европейская политика в области высшего образования должна умело перемещаться между этими двумя полюсами - соблазнительной Сциллой научной свободы и бесформенным Харибдой с нивелированными местными и региональными особенностями. Моя гипотеза состоит в том, что процесс гармонизации в Европейском пространстве высшего образования может даже препятствовать мобильности студентов, если он будет плохо применяться на практике. Я хотел бы проиллюстрировать это, используя данные, собранные в рамках исследовательского проекта в Университете Генриха Гейне в Дюссельдорфе, в котором было разработано программное обеспечение для планирования программ степени без наложения. У меня вопрос: как целенаправленная реализация международной мобильности и ее реализация на уровне планирования программ и учебных программ?

Ключевые слова: Модуляризация, Международная студенческая мобильность, Болонский процесс, схема ECTS, Управление образованием.

Список использованной литературы

1. Положение об экзамене. ВА ННУ, Дюссельдорф.
2. Окна мобильности: от концепции к практике / Ирина Ференц, Кристина Хаушильдт и Ирма Гарам (ред.) - Бонн: Lemmens Medien GmbH, 2013 (документы АСА по международному сотрудничеству в образовании).
3. Студенческая статистика, ХХУ, 2017 летний семестр.
4. Ульрих Хойблейн / Джулия Эберт / Кристофер Хуш / Йоханна Рихтер / Йохен Шрайбер: Internationale Mobilität im Studium 2013. Ergebnisse der vierten Befragung deutscher Studenten. Студенческая деятельность в студенческой среде: Auslandsaufenthalten. В сети.
5. Ереванское коммюнике.
6. Статья 61, Закона о высшем образовании.

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