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Study Programme Development

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From Pan African Policy to Practice

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Preliminaries

This is an introductory text to the following screencasts in the cinema of the topic *Study Programme Development*:

- The shift from teaching to learning
- Constructive alignment
- Bloom‘s taxonomy
- Study programme development overview
- Study programme development at Université de Tlemcen, Algérie
- Study programme development at Botswana International University of Science and Technology
- Study Programme Development: Accreditation criteria and process of external accreditation of external agency. Commission for University Education, Kenya

The text is not a complete summary of the information given in the screencasts. It can introduce you to the respective topic and help you to remember the key facts later. You can make use of the full potential of the learning material and have the most fruitful learning experience, if you watch the respective screencasts in the cinema and work on the reflective questions, which you find at the end of this document.

Further reading to deepen your knowledge can be found in the bookshelf of the topic on *Study Programme Development*. Material for the transfer from theory into practice, like worksheets, templates etc. can be found in the toolbox of the topic *Study Programme Development*.

All material is part of a compendium that was developed for the HAQAA2 Training Course IQA-4-Africa – From Pan African Policy to Practice.

Keywords

Shift from teaching to learning, study programme development, intended learning outcomes, Benjamin Bloom, constructive alignment

Expected Learning Outcomes:

On successful completion of the material *Study Programme Development*, you should be able to:

- explain the shift from teaching to learning and the impact of this concept on the design of educational processes,
- consider appropriate concepts and tools like constructive alignment, backward design and Bloom’s Taxonomy etc. when supporting a study programme development process,
- create ideas on how to support the development of new study programmes at your higher education institution with regard to the respective national qualifications framework and the ASG-QA, existing tools and processes at your institution and your own position and role.

1. The shift from teaching to learning

Constructivism, student-centeredness and the paradigm shift

The so called *shift from teaching to learning* is discussed in the field of education since the 1990s. The concept refers to shifting our understanding of educational processes away from a focus on teaching and the teacher's activities to an understanding, which is focussed on the students and their learning processes. This paradigm shift is part of the discussion about student-centered learning and ultimately based on the constructivist theory of education, that was mainly promoted by the Swiss biologist Jean Piaget from the 1930s onwards. The constructivist approach claims that knowledge cannot be transferred to learners (instruction), but that they have to construct knowledge actively on the basis of experiences and interaction with the environment (construction).

In 1995, the American scholars Robert Barr and John Tagg published an article with the title: "From teaching to learning – a new paradigm for undergraduate education". Amongst other scholars at that time, Barr and Tagg wanted to promote a constructivist approach to learning. They claimed that the traditional self-perception of American colleges was to provide instruction, but that a paradigm shift had started, which included to now see colleges as institutions that produce learning. Barr's and Tagg's article can be seen as one primary source for the discussion about shifting the notion of educational processes from teaching to learning. Although published more than 20 years ago, the underlying principle is still relevant. It forms the background for how we design study programmes and teaching methods today.

Globalisation, knowledge-based societies and massification

Most societies around the world are moving towards knowledge-based societies: well-educated societies, which rely on the knowledge of their citizens as main capital to drive the innovation and growth of this society's economy. This has led to increasing enrolment of an ever more diverse student population in higher education. While this is a global phenomenon, the so called "massification" of student enrolment seems to be particularly massive in African countries (cf. Havergal 2015)

Globalisation, the evolution of knowledge-based societies and massification are main promotors for the shift from teaching to learning. We observe a constant growth of information in our modern world. New knowledge is produced and available to a larger number of people faster than ever before. The rapid production of new insights goes along with the fact that new knowledge becomes outdated faster: ground-breaking research of today is common knowledge tomorrow. At the same time, we observe changes in working life. The world is moving from highly specialised and structured working environments of the agricultural and industrial areas to more diverse and dynamic ones in our knowledge based and digitalised societies. We see that these diversified and changing tasks require ever more detailed specialist skills. In former times, an engineer was an engineer. Today, our societies need chemical engineers, technical engineers and mechanical engineers, in order to cope with the diversified portfolio of engineering tasks. The labour markets in our knowledge-based societies need graduates, who can use metacognitive strategies and procedural knowledge that enable them to identify, select and evaluate relevant information in order to accomplish a task or to solve a problem. It is not enough to provide them with expert knowledge.

These developments call for a different understanding of education and a stronger focus on the outcome of learning processes as well as new forms of learning. In a nutshell, this means:

- to design educational processes that are in line with thoroughly defined learning outcomes (i.e. the graduates' attributes or competencies) that are demanded by the labour market and our societies,
- to supplement the canonical knowledge by metacognitive strategies and procedural knowledge,
- to incorporate lifelong learning as a strategy into study programmes,
- to give access to more and more diversified students into Higher Education and to facilitate learning processes of different learner-types.

The sage on the stage and the guide on the side

We have seen that we can look at educational processes from at least two different perspectives. This has an influence on how we plan and implement educational processes. Approaching education from a teacher's perspective while planning a study programme or lecture would mean to answer the question: *How can the teacher transfer her or his knowledge to the students?* If we approached teaching and learning from a student-centred perspective, we would ask: *What do we want our students to be able to do after completion of the course and how can we help them to develop these skills?* Thus, the shift from teaching to learning affects the roles of teachers and learners to a great extent.
While under the teacher-centered paradigm the teacher is seen as an instructor, who delivers expert knowledge and facts to the students, he or she is perceived as a mentor under the student-centered paradigm. Here, teachers are regarded as being designers of learning environments, who develop and apply the best methods to evoke active knowledge-construction by their students. Teachers of course still remain an essential element in educational processes. However, they are deprived of the privilege to be the only one knowledgeable in class. They are no longer seen as the "sage on the stage" (King, 1993), but thought to serve as the "guide on the side" (ibid.) or a facilitator of learning. On the one hand, this relieves teachers from the sole responsibility for student success and students are trusted as being capable of achieving ambitious goals by themselves. On the other hand, re-defining roles might be a challenge for both teachers, who might sense a loss of their higher-ranking position, and students, who might not be used to thinking critically and being active in class.

Learning outcomes and the famous Mr. Bloom

Along with the aforementioned paradigm shift also comes a focus on the intended learning outcomes of an educational process. The question: *What should the student be able to do after an educational process?* can be answered by the formulation of intended learning outcomes (ILOs).

According to Adam (2006) „Learning Outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning." Thus, the concept of learning outcomes goes beyond expert knowledge. It is not by chance that we ask ourselves: *What should the student be able to **do** after an educational process?* and not: *What should the student **know** after an educational process?* Thus, according to the current definition, intended learning goals also include so-called soft skills such as the ability to learn, organisational skills, the ability to work in a team etc. These are often referred to as "competencies".

In order to formulate the learning outcomes that we expect our students to have achieved after they have graduated from our study programme, attended our class or watched our screencasts, we can make use of Bloom's taxonomy and verb lists, which you will get to know in the respective screencast and later in this text.

2. Constructive Alignment

Constructive alignment and thinking backwards in three steps

The Australian Scholar John Biggs coined the didactical concept of constructive alignment in the mid 1990s. His belief was that if intended learning outcomes, forms of assessment, teaching and learning are intentionally aligned with each other, the outcomes of students' learning process are improved substantially. For aligning these three elements, we usually "think backwards", that is, we start by defining the intended learning outcomes first and then go on designing our assessment and teaching methods. This process of "thinking backwards" is referred to as *Backward Design* (McTighe & Wiggins, 2005) and it is applicable to sessions, courses and study programmes. While Constructive Alignment is the underlying didactic concept, Backward Design is the practical method to be applied.

While designing backwards, we have to take three steps:

1. Defining the intended learning outcomes: We answer the questions: Which outcomes is the educational process aiming at? What should the students be able to do after they have successfully finished?

2. Defining assessment methods: We ask ourselves: What would be an evidence for the successful achievement of the learning outcomes? Which method of assessment would be appropriate in order to asses, if the intended learning outcomes have been achieved.

3. Defining teaching methods: We design the structure and plan our teaching methods, that is: We answer the questions: Which learning environment, which teaching methods would support the students to pass the assessment and thus to reach the expected learning outcomes?

3. Blooms Taxonomy

Mr. Bloom and cognitive levels

In 1956 the US-American professor of psychology, Benjamin Bloom, together with his research group developed taxonomies of skills in three domains: the cognitive domain, the affective domain and the psychomotor domain. The taxonomy for the cognitive domain became most famous and is used for curriculum design up to today. The basic assumption is that learning takes place from simple to complex.

When we speak of "Bloom's Taxonomy" today, we usually refer to a revised version. In 2001 Lorin Anderson & David Krathwohl revised Bloom's original creation. It comprises the following six levels

- remembering – students can recognise and recall relevant knowledge, word by word
- understanding – students can construct meaning from what they have heard or read and explain the content in their own words
- applying – students can use information in a new way; they can apply their knowledge to another element or situation
- analyzing – the student must be able to distinguish between parts of a whole and to understand how they relate to each other and the overall structure and purpose of the whole
- evaluating – the students can make judgements and justify their decisions about a given element
- creating – students can put elements together and form a functioning whole, develop a new product or point of view

Bloom's Taxonomy supports the concept of the shift from teaching to learning, because it does put a focus on the cognitive activities of the student. The taxonomy can be seen as a toolbox that can help educators to plan their teaching activities in order to support learning processes. Since the taxonomy assumes that learning takes place from simple cognitive skills to more complex cognitive skills, it can provide a framework to structure study programmes, but also modules and courses. And it may be helpful to define assessment tasks according to the concept of constructive alignment introduced before. This can be done by following the steps of the taxonomy. The taxonomy can be seen as a pathway for guiding the teaching and learning process. Concretely, it can help us to structure this pathway by defining learning outcomes on different levels.

Learning outcomes are usually formulated by using verbs, which reflect the respective level of Bloom's Taxonomy. A typical example for a learning outcome would be:

"After successful completion of the training material, students are able to (introductory phrase) explain (verb) the concept of constructive alignment (content.)" → see verb list in toolbox curriculum design.

In this example, an adequate task for an assessment could be to invite the students to explain the concept of constructive alignment. If we want them to apply the concept for example to a specific topic of their study programme, we would have to adjust our learning outcome and chose a verb that corresponds to a higher level of the taxonomy.

Besides Benjamin Bloom, other educational scientists and psychologists have also worked on the development of learning taxonomies. For example, the Taxonomy of Significant Learning (2003) of the American psychologist and director of the instructional development programme at the University of Oklahoma, Dee Fink, is currently becoming better known (see link in the references). However, Bloom's taxonomy remains the best known to date and continues to be valid, so we will deal with Bloom's taxonomy in this learning material.

4. Study Programme Development Overview

Content, methods and organisation

A curriculum is the planned order of topics and activities within a study programme. A study programme is more than its curriculum. To a study programme belong also the infrastructure that is available to carry out the programme and support processes (cf. also the different dimensions of quality and the CORE model in module 2). This means, if we would like to measure the quality of a study programme, we would not only have to look at the curriculum, but also at other dimensions.

When developing a study programme, content-related aspects, methodological aspects and organisation-related aspects have to be taken into account. Usually, aspects from these three areas are also assessed in external accreditation processes.

In order to decide, which content a prospective study programme should have, amongst others, the following questions have to be answered:

- What are the demands of the labour market? Is there a need for the study programme?
- What are strategic objectives of the department and of the top management?
- Which competence level (according to national qualification frameworks) and profile should the prospective graduates have? (You may remember the first question mentioned in the context of constructive alignment: What should the students be able to do (graduate attributes) when entering the labour market?)

- What would be the entrance qualifications for the programme?

For planning the methodology, amongst others the following questions have to be answered:

- What are appropriate teaching and learning methods to engage learners and support students to achieve the intended learning outcomes?
- What are proper methods to assess, whether expected learning outcomes have been achieved?
- Which modules should be obligatory, which ones should be electives?
- In which order should the content be provided?
- If there is a credit point system in place: How many credits will be assigned to which element of the study programme?

A study programme is not only the delivery of content and the design of the learning process of the students, but its development involves many organisational questions as well. Amongst others, the following ones:

- What teaching capacity is available to deliver the programme? Which arrangements are in place to ensure adequate staffing?
- Do faculty need pedagogical support to employ teaching practices that will lead to engaged learning to enable learning outcomes to be met?
- Is the necessary infrastructure available (lecture halls, laboratories, library resources etc.)? If not, how can the availability be ensured?
- How should admission, assessments be organised?
- How can internships and studies abroad be organised?
- How can records/credentials, which students have achieved elsewhere, be recognised?

Idea, process and an expert group

For the set-up of a new study programme, first of all, an idea and a concept is needed. In most countries this idea can be created by anybody in a Higher Education Institution. Sometimes, also ministries or industry can approach higher education institutions and ask them to develop a study programme to train professionals for a particular economic sector. In any case, it is important to think twice, whether there would be a demand for graduates of the planned study programme by the labour market. This can be done by a market analysis.

A study programme cannot be developed alone. Usually, a group of experts representing different areas will be sitting together: professors of the department and faculty, representatives of the labour market, alumni of comparable programmes, students of comparable programmes, QA officers, didactic trainers. In case of interdisciplinary or joint programmes, also representatives of the respective cooperation partner would be invited to the study programme development group.

For the development of the curriculum, i.e. the content and order of the modules that should be taught in the programme, we apply the method of backward design (see above). We first develop a competence profile of the graduates our study programme should qualify. What kind of career with what kind of competencies should the graduate pursue? Starting from this competence profile we can then go ahead and define concrete fields of activity our graduates would perform in their later professional position. Then we define, which modules our study programme must contain, in order to qualify our students to be competent in these fields of activity and put them in a sensible order taking into consideration a taxonomy of learning (e.g. Bloom's Taxonomy that was introduced above). In doing this, we also have to remember to include opportunities, where our graduates can acquire generic competences, the so called soft skills (e.g.critical thinking, problem solving, communication, leadership, lifelong learning).

After the creation of the initial idea for the programme and during the planning process, a number of approvals, for example by the faculty board, by a curriculum committee, by the

senate, by the top management in the university, by an external accreditation agency and/ or by the ministry have to be followed, before the programme can be implemented.
The internal and also external processes for the development and legal approval of study programmes vary significantly across nations. You will find case studies of different regions in among the screencasts in the cinema of the module *Study Programme Development*.

5. Reflective Questions

What do you think?

- Does the shift from teaching to learning imply the abolition of lectures, hierarchies in class and individual work of students? Why? Or why not?
- What is a good study programme in your opinion?
- What is the difference between a study programme and a qualification?
- How can quality assurance officers support the development of good quality study programmes?
- The concept of Constructive Alignment looks very simple at first glance… Do you see any challenges with the actual implementation? Which ones or why not?
- What needs to be in place to move from a content heavy teacher directed programme to a outcomes/competency based programme?

6. References

And recommendations for further reading

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