



## CONSTRUCTIVE ALIGNMENT BETWEEN OBJECTIVES, TEACHING AND LEARNING ACTIVITIES, STUDENT COMPETENCIES AND ASSESSMENT METHODS IN HIGHER EDUCATION

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### Abstract

A high-quality learning process in higher education properly and constructively aligns essential elements: study programs and course objectives, learning outcomes, content, student workload, teaching and learning activities, assessment methods, and acquisition of student competencies, which is known in the literature as constructive alignment (CA). In essence, CA is bringing into alignment the predetermined competencies, the learning and teaching activities, and the assessment types. Furthermore, CA is an outcomes-based approach to teaching in which the learning outcomes that students are intended to achieve are defined before teaching takes place.

Learning success at all levels of study primarily depends on constructive alignment as one of the most significant and influential principles in higher education. Detailed knowledge of this principle and consistent application is the basic obligation of teaching staff in higher education. To develop a “constructively aligned” course unit, a teacher should start from the intended course-specific competencies, after which they should choose the most appropriate learning, instructive, and teaching activities, and assessment methods for these specific competencies.

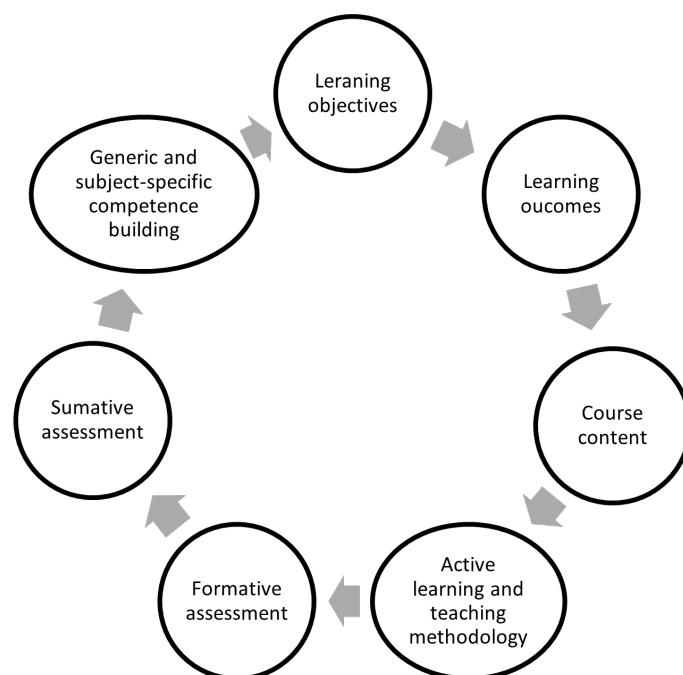
The paper explains in more detail the essence of CA between student workload expressed through ECTS, study programs, course and unit objectives, learning outcomes, theoretical and practical contents, teaching and learning methodology, formative and summative assessment methods, and effective acquisition of student generic and course-specific competencies.

**Keywords:** *constructive alignment, student workload, objectives, learning outcomes, learning and teaching activities, assessment, competencies*

### INTRODUCTION

The roots of the most important elements of constructive alignment (CA) in education were laid by Ralph Tyler (1949) in his best-selling publication *Basic Principles of Curriculum and Instruction*. In the series of publications by Biggs from 1993 to 2013, cognitive systems approach (Biggs, 1993), enhancing teaching through constructive alignment (Biggs, 1996), teaching for quality learning at higher education institutions (Biggs, 1999, 2001), assuring and enhancing the quality of teaching and learning (Biggs, 2001) and many other aspects of changing higher education institutions (Biggs, 2013) were considered.

In addition, Biggs & Tang (2007; 2011; 2011a; 2011b) considered teaching for quality learning at Higher Education Institutions (HEIs) and CA to represent an outcomes-based approach to teaching in which the learning outcomes (LOs) that students are intended to achieve are defined before teaching takes place. The design of curriculum, assessment, and evaluation in Higher Education (HE) with CA were discussed in the papers by Ali (2018), Fotoh & Lorentzon (2021), and Maffei et al. (2022). Display of the sequence of constructive alignments that connects the explanations in the text of the paper is given in Figure 1.



**Figure 1.** Display of the sequence of constructive alignments.

For monitoring and management of the quality of study programs at all levels of study in the HEIs, CA of student workload expressed through European Credit Transfer and Accumulation System (ECTS), study programs (SPs), course and unit objectives, LOs, theoretical and practical contents, teaching and learning methodology, diagnostic, formative and summative assessment methods and effective acquisition of student generic and course-specific (professional) competencies are of crucial importance (Cullen et al., 2003; Vlăsceanu et al., 2004; Cincović et al., 2020). The currently valid standards and guidelines for quality assurance in the European Higher Education Area (ESG) were defined in a publication by the European Association for Quality Assurance in Higher Education (ENQA, 2015). The National Council of Higher Education of Serbia (NCHE) of the Republic of Serbia defined the Rulebook on Standards and Procedures for External Quality Control of Higher Education Institutions (2019). The National Entity for Accreditation and Quality Assurance in Higher Education (NEAQA) uses this rulebook, harmonized with the ESG, to access study programs and HEIs in the Republic of Serbia. In essence, the quality of study programs should be ensured through monitoring and checking the goals, structure, and workload of students, as well as through updating the content and constant collection

of information about the quality of the program from appropriate social institutions (Vlăsceanu et al., 2004, Vukasović, 2006, Loughlin et al., 2021, Divjak et al., 2023).

Although the importance of CA has been clear for a long period, the work of Hamdoun (2023) emphasizes that the constructivist approach to learning and teaching is still missing in the educational practices of a reasonable number of HEIs. The paper by Silander & Stigmar (2023) examines the question of what university teachers need to know about subject content in higher education pedagogic courses. Special attention in the paper is focused on researching the relationship between theory and practice, disciplinary contents, and forms of pedagogical knowledge. The results showed that university teachers seek more practical, hands-on knowledge, while the government focuses on the theoretical content of pedagogical courses. It is also emphasized that all stakeholders included in this very important issue were unclear in their views on the content of pedagogical courses, which indicates that professional development cannot be seen as a strategic issue. Certainly, the participation of students as partners in assessment in higher education must be taken into account, as indicated by Chan & Chen (2023).

Bearing in mind the above, this paper aims to consider the most important elements

of constructive alignment in HE, i.e. student workload expressed through ECTS, study programs, course and unit objectives, LOs, theoretical and practical contents, teaching

and learning methodology, formative and summative assessment methods and effective acquisition of student generic and course-specific competencies.

### THE EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM

ECTS represents the basic tool of the European Higher Education Area (EHEA) for making the level of studies, SPs, and courses more transparent. This tool helps students to move between countries and to have their academic qualifications and study periods abroad recognized. Wagenaar (2006) described an introduction to the European Credit Transfer and Accumulation System (ECTS). Before that, the same author (Wagenaar, 2003) considered educational structures, LOs, workload and the calculation of ECTS. Key features of ECTS are given in the publication by the European Commission (2004). Kennedy (2006) and Kennedy & McCarthy (2016) have shown the connection between LOs and ECTS (2015). Very important questions are how ECTS is viewed by teachers (Gleeson et al., 2021) and how realistic are ECTS credits from the student's perspective (Salar et al., 2022).

The history of ECTS from 1989-2019 was described in detail by Wagenaar (2019). The development of ECTS had to start from scratch because worldwide there was no experience in setting up and running a national and/or international student workload-based transfer system that applied credit points. A Pilot Scheme (1989-1995) was set up to define ECTS. It involved five subject areas, and 145 HEIs in total, and set out to develop a sustainable, robust and reliable tool to facilitate international student mobility. Based on the notions of trust and confidence and the concept of "relative" student workload, this tool was unique. It opted for 60 credit points to represent one academic year. A detailed description of relevant aspects about key features of ECTS, ECTS and EHEA, ECTS for SPs design, delivery and monitoring, ECTS for mobility and credit recognition, ECTS and lifelong learning, ECTS and quality assurance and ECTS and supporting readers can find in documents the ECTS users' guide (European Commission, 2015).

The introduction of ECTS makes sense only if it is implemented at the end of the curriculum development cycle, i.e. if and only

if LOs have been properly defined by then, both for the entire SPs and for individual courses within the SPs, as well as if and only if, based on such defined LOs, methods have been adequately formulated for learning and teaching and assessment, i.e. evaluation of student achievements. Any introduction of the ECTS without satisfying the above conditions is a difficult mistake (Vukasović, 2006; European Commission, 2015).

The basis of the ECTS is the student workload. Therefore, ECTS is not a way to measure the quality of the teaching staff or their status, importance, or difficulty of the course itself. This needs to be especially emphasized since the experiences so far still bear witness to a wrong understanding of ECTS. In this sense, there are three important assumptions: 1. the regular working week of an average student should last 40 working hours; 2. the working week includes all student activities related to higher education, i.e. the working week includes the student's activity during the so-called contact classes, as well as his independent work (in terms of preparation for lectures, exercises, work in the laboratory, preparation for tests, exams, presentations, writing seminar papers and essays, reading literature, etc.) and 3. ECTS implies that one whole semester is worth 30 ECTS points (Vukasović, 2006; European Commission, 2015). Depending on the duration of the semester, i.e. from how many weeks the semester lasts, it is possible to determine how many hours one ECTS credit is worth. In this sense, the following can be distinguished: the relative value of ECTS (in the sense that one semester is worth 30 ECTS or one academic year is worth 60 ECTS) and the absolute value of ECTS, which is calculated by determining the number of hours that make up the workload during the academic year. In most cases, this number is between 1500 and 1800 hours per year, so one point represents 25–30 working hours (Wagenaar, 2003; Vukasović, 2006; European Commission, 2015; Wagenaar, 2019a).

Consequently, considering the defined

LOs and methods of teaching and evaluation, the estimation of student workload for each course is approached. During this process, it is necessary to take into account the independent work of students, and it is most often estimated that for one “contact class” there is one and a half to two hours of independent work, but this should be understood only as a general rule because such a proportion cannot be applied automatically since it represents an average ratio at the level of an average study program as a whole. It is possible to use other measures to assess the workload of students in independent work, such as the number of pages that can be read in an hour, estimating the duration of other learning or research activities, etc. The application of any measures should not be approached superficially, and it is also necessary to check the adequacy of those measures continuously during all semesters. It should be borne in mind that ECTS credits once determined are not determined forever. Precisely because the students’ workload includes their independent work, it is necessary to continuously check whether the workload related to the student’s independent work

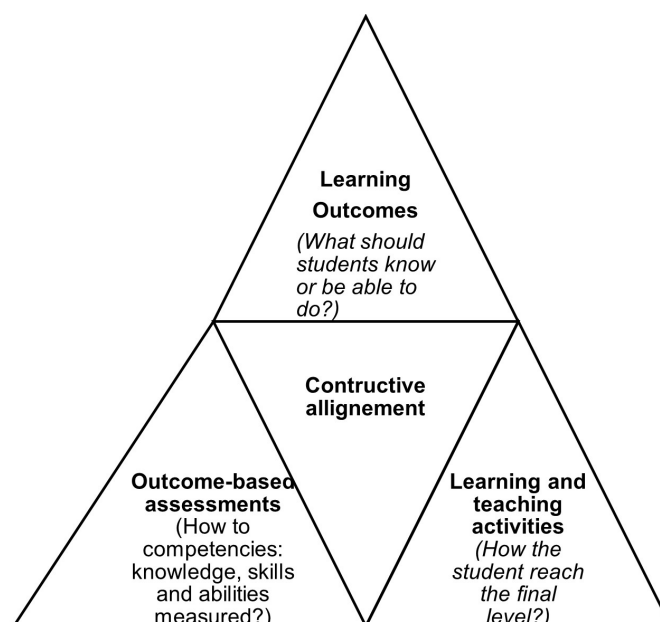
is determined adequately. This implies that consultation with students is mandatory in this process. The participation of students in the bodies dealing with the introduction of ECTS is necessary, which is guaranteed by the Law on Higher Education, the relevant regulations and standards for accreditation, and the self-evaluation of study programs and HEIs as a whole. It should be noted that ECTS does not replace a grade in any case. Every student who has completed a certain course acquires the number of ECTS that are provided for that course, regardless of whether his/her grade is 6 or 10. In the supplement to the diploma, both ECTS and individual grades are listed, if they are provided for listing at all (Bekhradnia, 2004; Wagenaar, 2003; Vukasović, 2006; European Commission, 2015; Wagenaar, 2019a). In essence, by using LOs and workloads in curriculum creation and delivery, ECTS places the student at the centre of the educational process. Furthermore, the use of credit facilitates the creation and documentation of flexible learning paths, thus allowing students greater autonomy and responsibility (European Commission, 2015).

### LEARNING OUTCOMES

Learning outcomes (LOs) are one of the basic elements of curriculum development, but their formulation in practice often comes down to simply satisfying the form prescribed by the Bologna Process, the Law on Higher Education, and standards for accreditation and self-evaluation of study programs and HEIs. However, the LOs hide within themselves the potential for a fundamental change in the HE processes (Allan, 1996; Maher, 2004). The potential of LOs stems primarily from the new philosophy of education, which implies a change in the focus of education from the teaching process to the learning and teaching process (Kennedy, 2006; Kennedy & McCarthy, 2016).

Using learning outcomes in the European Qualifications Framework and the National Qualifications Framework of Serbia (NQFS) are described in detail in relevant publications (European Commission, 2011, and Ministry of Science and Education of the Republic of Serbia, 2017, respectively). A very significant connection

between LOs and ECTS was mentioned earlier, which teaching staff should be aware of (Kennedy, 2006; Kennedy & McCarthy, 2016). Learning outcomes in HE have significant implications for curriculum design and student learning (Allan, 2004; Maher, 2004). There is a significant connection between LOs and student achievement assessment (Gosling & Moon, 2002; Moon, 2004; Moon, 2006; Nusche, 2008; Liu et al., 2012; Kennedy & McCarthy, 2016; Zlatkin-Troitschanskaia et al., 2016). A review of the literature regarding student LOs assessment in higher education and academic libraries was given by Goss (2022). A guide to formulating degree study program profiles including the program competencies and the program LOs is available (Lockhoff et al., 2011). Triangular relationship between learning outcomes, learning and teaching activities and outcome-based assessments in constructive alignments is shown in figure 2.



**Figure 2.** Triangular relationship in constructive alignment.

In essence, the focus of constructive alignment between the elements shown in figure 2 is on what students learn and how they do it with teacher facilitation. The learning outcomes should be determined before the start of the course and they should enable determining which learning activities students should undertake. The learning outcomes also determine the basis for conducting formative and summative assessments. These assessments should show to what extent students have achieved the learning outcomes.

It is a well-known fact that LOs are explicit statements about the result of learning, they describe the learner's capabilities, they are indicators of the area the learner knows, what the learner can do under certain circumstances, for which activity the learner is qualified and how the learner behaves concerning what learner does (what attitudes the learner exhibits). In education, the outcome is a minimum and compulsory learning outcome. The LOs enable confirmation of achievement and are aligned with the developmental characteristics of the learner. LOs are classified into cognitive, psychomotor, and affective domains, and are formulated at the level of knowledge, skills, and attitudes (Kennedy, 2006; Vukasović, 2006; Kennedy & McCarthy, 2016).

A learning outcome is a precisely written statement about what a student should know, understand, or be able to demonstrate at the end of a specific learning unit (a class, course, or upon obtaining a qualification, i.e. at the end of the study program) (Vukasović, 2006; Kennedy & McCarthy, 2016). In essence, the LOs are a clear definition of competencies, skills, and attitudes that the student should acquire during a certain period of study (Kennedy, 2006). LOs, therefore, do not refer to the content or teaching methods, but to what the student is expected to acquire or develop during learning, but the content and methods are defined based on them. LOs can be defined both for the entire study program and for an individual subject or course, and, if necessary, even for smaller units. LOs are most often written keeping in mind the minimum competencies and skills that an average student should acquire to complete a given learning unit, but it is also possible to write them keeping in mind the most successful students and the maximum of acquired competencies and skills. Therefore, it is always necessary to emphasize whether it is the expected LOs (those that correspond to the minimum of competencies and skills) or the desired LOs (those that correspond to the maximum of competencies and skills).

Regarding this comprehensive definition, the authors emphasize the following: it is important that the learning outcome is in written form (this achieves transparency and avoids problems in interpretation) and the “should” part indicates a possibility and not a guarantee, since the lecturer and the HEIs as a whole can only create the conditions for learning, but essentially cannot guarantee that the student will learn it. Also, the authors highlight that a well-written learning outcome should include the following sections: a verb that states what the student is expected to be able to do at the end of the learning period, a word that refers to what the

student has (in case the outcome refers to a skill, the word can describe how the skill is applied) and a word that refers to the nature of the performance required as proof that the subject has been mastered. Therefore, it is necessary to clearly define which competencies the student should have to be considered to have achieved the learning outcome. In addition, the learning outcome includes the obligation to demonstrate the disposition of those competencies (Gosling & Moon, 2002; Moon, 2004; Moon, 2006; Vukasović, 2006; Nusche, 2008; Liu et al., 2012; Kennedy & McCarthy, 2016; Zlatkin-Troitschanskaia et al., 2016).

### GENERAL AND SUBJECT-SPECIFIC COMPETENCIES

It is of great importance that teaching staff and students understand the relationship between learning outcomes and competencies. According to NFQS (Ministry of Science and Education of the Republic of Serbia, 2017), competence is an integrated set of knowledge, skills, abilities and attitudes that enable an individual to effectively perform activities at work, following the expected standard. A framework for defining and comparing generic competencies in higher education was described by Kallioinen (2010). The term “competence” implies expertise in a particular field. Generic competence includes the knowledge, skills and abilities that an individual should possess at a certain level of education, regardless of the profession or scientific field he/she is engaged in. Professional competencies imply knowledge, skills and abilities related to a certain profession and/or a certain scientific field. Braun & Mishra (2016) presented a combination of five approaches for assessing higher education graduates’ competencies, focusing primarily on employment-related competencies (both cognitive and non-cognitive skills, such as personal and social skills, leadership, and communication skills). A detailed description of a proposal for the assessment of generic competencies in competency-based learning is given by Sanchez & Ruiz (2008). The development of generic competencies of graduates in HE must be aligned with labour market requirements (Pukelis & Pileickiene, 2012). Today, the development of digital competencies in HE is considered a core skill for teachers, supporting them in managing several

technological, curricular, and pedagogical aspects. Digital competence of teachers refers to digital skills, pedagogical-didactic awareness and understanding of the impact of learning strategies on student learning. As facilitators of the learning process, the teachers also support the development of digital competencies of their students (Inamorato dos Santos et al., 2023). In all this, the impact of pedagogical training perceived by teachers is very important for teacher professional development in higher education and the development of students’ competencies (Fernandes et al., 2023).

It can be said that competencies are the most important part of the formulation of learning outcomes. It is impossible to define the learning outcome if we do not have clearly defined competencies that we want to develop through a specific course or study program. The difference between the list of competencies and the list of learning outcomes is that the learning outcome also defines how it will be demonstrated, i.e. check whether a given competence has been acquired or not. In this connection, from the formulation of the learning outcomes comes the method of evaluating students, i.e. checks of acquired or developed knowledge, skills and abilities. It should be said that competencies and LOs in a large number of countries also have a normative role, which is primarily reflected in their use as a benchmark for certain study programs in quality assurance and accreditation processes (Vukasović, 2006; Kennedy & McCarthy, 2016).

If we agree that the student and the learning process (and not the teaching process)

are the focus of education and curriculum development, the first step in the creation of a new type of curriculum is starting from the end, i.e. defining the competencies that the student should have upon completion of the study program. And here we come to a problem related to the very concept of competence. One would think that this is nothing new and that both old and existing programs had final competencies in mind, and at the same time, one usually thinks of the goals of the programs, usually defined as a list of occupations that a graduate student will be able to perform or as a list of materials that student to know after graduation (Vukasović, 2006).

The term competence usually refers to knowledge, abilities and skills that a student acquires or should develop, which make them capable of doing something. Student-centred education aims, among other things, for students to be competent at the end of the educational process, that is, to bring students to possess certain knowledge, skills and abilities. Competencies in this sense represent a dynamic combination of knowledge and its application, attitudes and responsibilities that describe the learning outcomes of the educational program (Sanchez & Ruiz, 2008).

Of course, there is not, nor can there be, absolute agreement about what should be the knowledge, abilities and skills that should be set as the goal of education. Different partners in the education process (academic staff, employers, graduates, students still in education, etc.) usually have different views on what the final competencies should be, as well as on which competencies are most important. This, of course, does not mean that the dialogue should not continue, nor that the process of harmonizing between these partners about what should be the learning outcome expressed in the form of competencies is pointless. On the contrary, only if we begin to look at curriculum development and the educational process in general from its projected end and if we begin to define and discuss competencies, we will achieve greater transparency of the entire education process. This is precisely the often-mentioned new language that is being developed, namely the language of competencies that arises from the belief that this language provides the possibility to express comparability in terms of what

people who graduate can do. Also, the language of competencies enables the expression of common reference points for different academic disciplines, thus offering a non-prescriptive frame of reference for the academic community. In addition to the importance, they have for the educational process itself, teachers and students, competencies make it easier to communicate with parties interested in education - primarily employers - who otherwise have difficulty interpreting educational goals, as well as understanding what graduate students are, i.e. their potential employees know and can (Wagenaar, 2014; Wagenaar, 2019a; Wagenaar, 2019b).

There are several divisions of competence. Here we list the divisions created within the Tuning project (<http://tuning.unideusto.org/tuningeu/>). This division, first of all, divides competencies into generic and professional:

- Generic competencies should be possessed by everyone who completes a certain level of education, regardless of the science or profession they are engaged in (such as knowledge of a foreign language, application of knowledge in practice, or electronic literacy) and
- Professional competencies are identified for each profession or field of study and in this sense they are narrower.

Within the framework of the Tuning project, three groups of generic competencies have been defined as instrumental, interpersonal, and systemic.

Instrumental generic competencies include: 1. the ability to analyze and synthesize, 2. the ability to plan and organize, 3. basic general knowledge, 4. grounding in basic professional knowledge, 5. oral and written communication in the mother language, 6. knowledge of a foreign language, 7. elementary computer knowledge, 8. information management skills (ability to obtain and analyze information from various sources), 9. problem-solving, and 10. decision making.

Interpersonal generic competencies include: 1. ability to criticize and self-criticize, 2. teamwork, 3. interpersonal skills, 4. ability to work in interdisciplinary teams, 5. ability to communicate with non-experts from other fields, 6. an understanding of diversity and multiculturalism, 7. ability to work in an

international environment, and 8. ethical commitment.

Systemic generic competencies include 1. ability to apply knowledge in practice, 2. research skills, 3. ability to learn, 4. ability to adapt to new situations, 5. ability to create new ideas (creativity), 6. leadership, 7. understanding of cultures and customs of other countries, 8. ability to work independently, 9. creation and management of projects, 10. initiative and entrepreneurial spirit, 11. concern for quality and 12. a desire for success.

This, of course, does not mean that this division is the only possible one, nor that the list of competencies that Tuning and this text mention is final, and in particular it should be taken into account that each curriculum is

created at a specific HEIs and within a society that may need special general and specific competencies that are not listed here. If, for example, the transitional nature of society and the recent past of the region are taken into account, competencies such as social responsibility, critical thinking and reading, understanding gender and gender relations, etc. can be considered remarkably important. As for professional competencies, it should be emphasized that in this area dialogue within a specific profession is necessary both for the sake of mutual recognizability of the curriculum and for the recognition of parts of studies or final qualifications in the case of student mobility (Vukasović, 2006; Pantić, 2008).

#### **METHODS OF LEARNING AND TEACHING AND EVALUATION OF STUDENT ACHIEVEMENTS**

After the LOes have been properly defined, it is necessary to approach the development of teaching and assessment methods that will enable the realization of those LOs. Here, first of all, the relationship between teaching objectives and LOs should be considered. These two terms are not the same: LOs refer to students and what they learn, while learning objectives refer to teacher activities that enable the achievement of LOs (Kenedy, 2006; Kennedy & McCarthy, 2016). Previously realized curricula and SPs primarily talk about educational goals. Teaching objectives are primarily related to the content of teaching. This means that the content of the lessons, i.e. the description of the topics to be covered in one course should be defined after defining the LOs for that course. Otherwise, the course may be burdened with redundant material, the mastery of which does not lead to the acquisition of competencies expressed through the LOs (Vukasović, 2006).

Today, there is increasing interest in the concept of active learning and teaching (ALT) in higher education. In essence, ALT is a concept, which most often refers to focused on student teaching and learning methods, activating and motivating methods and activities led by the teacher (Bonwell & Eison, 1991; Prince, 2004; Felder & Brent, 2009; Mitchell et al., 2017). Often because of this, ALT is generally considered not a learning concept but an instructional concept. Student learning outcomes have been largely

positive in numerous studies of ALT (Prince, 2004; Freeman et al., 2014; Michael, 2006; Prince & Felder, 2006; Smith, 2005). Accordingly, ALT is a superior approach when compared to traditional, more content-focused approaches such as lectures. There are many barriers to student active learning in higher education (Børte, et al., 2023).

Regarding teaching methods, it is important to note that the success of students in achieving learning outcomes depends on the attitude of the teaching staff towards learning and teaching and the methods of learning and teaching (Marbach-Ad et al., 200; Latchanna, & Dagneu, 2009). Quality achievement of well-defined learning outcomes implies that students understand learning as a process in which they review their understanding of concepts and processes and/or create new concepts and understand the connections between them. For this to be possible, it is necessary that the teaching staff, for their teaching goal, do not simply go over the material, but try to achieve as much as possible the so-called "interactive" teaching, that is, to apply the active learning and teaching (ALT) methodology which implies the purposeful application of numerous strategies, methods and techniques of ALT in the classroom and during an independent study of students at home, in the library, etc. Interactive teaching implies active participation of students during lectures, exercises, laboratory work, etc., and



through discussions, presentations, asking questions, processing part of the material by the students themselves, etc., and a variety of methods used. This is especially important if it is taken into account that the learning outcomes imply the achievement of a diverse set of competencies that cannot be developed if the teaching methods are limited to *ex-cathedra* lectures or only to work in groups or only to presentations, etc. (Ivić et al., 2002).

As for the connection between learning outcomes and assessment methods and criteria, it is important to emphasize the following (Vukasović, 2006):

1. The difference between expected and desired LOs should be kept in mind. Concerning that difference, it is possible to define: a. that it is necessary to fulfil the expected learning outcomes for the transitional assessment and b. that for the highest grade it is necessary to fulfil the desired learning outcomes. In the "space" between the lower and upper criteria, criteria for other grades can be clearly defined;
2. The assessment method must correspond to the defined LOs, or one learning outcome and
3. It is possible that one assessment method evaluates the achievement of several learning outcomes and vice versa - that several different assessment methods are needed to assess the achievement of one learning outcome.

Bearing in mind that the LOs are expressed through generic and specific competencies, the question arises which teaching methods enable the acquisition or development of generic competencies, and which ones enable the acquisition or development of professional competencies? It was found that research studies and active learning promote professional competencies for the 21st century in Finnish teacher education (Niemi & Nevgi, 2014). It is similar in other HE, for example, biology (Armbruster et al., 2009) and information and communications technology engineering

(Llorens et al., 2017). It should be borne in mind that a part of generic competencies is already developed to some extent at lower levels of education, i.e. that the role of higher education is to deepen and/or expand these competencies. It also implies that the role of HE must not stop the development of given competencies or even redirect it, although there are courses in which students are discouraged from demonstrating certain competencies, such as the ability to think critically if students' opinions are not sought or devalued, or the ability to analyse and synthesize if the lecture is reduced to an *ex-cathedra* reading of the material, which is designated as my subject syndrome. Additionally, if the given competencies were not developed during previous education, the role of higher education must be to correct the mistakes made during previous education (Vukasović, 2006, Pérez Martínez et al., 2010).

Furthermore, it is important to understand that there are generic competencies that can be developed within one teaching unit (in the sense of an individual lesson, but also the whole course), i.e. a certain teaching unit is explicitly dedicated to the acquisition of certain generic competencies (or one of them), as well as generic competencies that can be developed within teaching units dedicated to specific competencies, but with the use of adequate learning and teaching methods. As for learning and teaching methods intended for the acquisition and development of professional competencies, the only thing that can be supposed at this level of generality is that the choice of learning and teaching methods must be approached responsibly, bearing in mind the learning outcomes related to the acquisition of professional competences. All this further emphasizes the importance of well-formulated learning outcomes. A well-formulated learning outcome, in essence, contains, more or less explicitly, the methods of learning and teaching as well as an indication of the methods of evaluating student achievements (Vukasović, 2006).

## CONSTRUCTIVE ALIGNMENT

The paper under the title Reclaiming Constructive Alignment by Loughlin et al. (2021) gave many relevant aspects about the history of CA, adoption and adaptation of Outcomes-Based Education (OBE) by HE policymakers: the European context and the national context of UK and Sweden, a vitiated theory: CA in educational practice, alignment: curricula overwhelmed with policy requirements, LOs: a tension between internal and external quality demands, constructivism: disappears from the theory as practised, reaction and resistance: contested understandings, de-professionalisation, academic development, conflating theory with practice, critical appraisal of learning objectives and outcomes, criticism of constructivism and reclaiming CA. It states that CA and particularly LOs are often vilified among academic staff as a pernicious influence on learning and teaching. It is also emphasized that the mechanistic use of alignment and learning outcomes for validation and audit purposes can create an illusion of quality control which bears little relation to the reality of teaching practice and student learning.

In essence, before the definition of CA by John Biggs (1996), curriculum design in HEIs was largely an individual responsibility with teachers using their personal experiences to decide what students should learn. The idea that course teams might work collectively on a course design was only accepted in settings focused on distance education where a more industrial mode of developing course materials was required. CA is now explicitly named as a principle used by many HEIs when designing courses or programs. Part of its appeal is the apparent simplicity of the concept. Nevertheless, it is an idea that also has the potential to be misunderstood (Kandlbinder, 2014).

In the paper by Maffei et al. (2022) described the design of the constructively aligned educational unit. Students' perspectives on how different elements of CA support active learning are studied in the paper by Hailikari et al. (2022). It was found that different elements of CA had a clear role in guiding student learning and study. Factors related to teaching and assessment seem to play a large role. In the course that applied ALT, almost all students had a deeper approach to studying the

material. Teaching that sufficiently challenges students requires active student participation throughout the course, provides opportunities for peer support, and uses high-quality teaching materials, appears to support students to adopt a deep approach to studying. On the other hand, traditionally organized courses with lectures and final exams, and without engaged activities, had significantly more students who adopted a non-reflective or mixed approach.

In the Rulebook of the National Council for Higher Education, 2019, on standards and procedures for external quality assurance of higher education institutions and Standards and guidelines for quality assurance in the European Higher Education Area (ESG), European Association for Quality Assurance in Higher Education (ENQA) (2015) it is emphasized that it is necessary that the HEI regularly and systematically checks and, if necessary, re-determines the goals of the study programs and their compliance with its mission and goals, as well as the structure and content of the study programs in terms of the relationship between general-educational, theoretical-methodological, scientific-professional and professional-applied disciplines, the workload of students measured by the number of ECTS credits, the outcomes and expertise that students acquire when they complete their studies, as well as opportunities for employment and further education. At the same time, the HEIs should ensure that the LOs are based on the descriptors of qualifications of a certain cycle of education in a given scientific field and on the corresponding European and national framework of qualifications, including the requirements of international and national professional associations. To achieve this, the HEIs should have established procedures for approving, monitoring, and controlling study programs. In addition, the HEIs should regularly obtain feedback from employers, representatives of the National Employment Service, and other relevant organizations about the quality of studies in the degree programs. The HEIs should also provide students with participation in the assessment and quality assurance of study programs. The higher education institution must ensure continuous updating of the content of the curriculum

and its comparability with the curricula of corresponding foreign higher education institutions. Curricula of study programs should encourage students to think creatively, to a deductive way of research, as well as to apply that knowledge and skills for practical purposes. The conditions and procedures that are necessary for completing studies and obtaining a diploma of a certain level of education should be defined and available to the public, especially in electronic form, and should be aligned with the goals, contents, and scope of accredited study programs. A HEIs should have mechanisms for monitoring the quality of study programs (e.g. a formal legal procedure for approving study programs, procedures for monitoring the success of studies in a study program and establishing responsibility for their improvement, as well as regular and periodic evaluation of study programs). Within those procedures, the HEIs should regularly review the educational outcomes within the accredited study programs it runs, based on learning outcomes. It is of great importance that the HEIs regularly review how it has established harmony between teaching methods, LOs, and evaluation criteria, especially the teaching method oriented towards student learning and the evaluation system based on the measurement of learning outcomes. Also, the HEI should consider how the learning outcomes determine the content of the study program and its organization, teaching methods, strategies and techniques, and proposed courses and procedures for knowledge verification and assessment. Finally, it is also of great importance that the HEI looks at the subject mapping table as an aid to gaining insight into how the learning outcomes of the study programs are covered within the compulsory subjects defined by the study programme. The mentioned aspects of quality assurance are also emphasized by Biggs (2001), Biggs & Tang (2007), Biggs & Tang (2011a), and Cincović et al. (2020).

Within the framework of internal control, self-evaluation, and accreditation, the HEIs must consider in detail the evaluations of students' achievements in realizing the intended learning outcomes. In addition, the HEIs should have a strategy and methods used to check the achievement of learning outcomes for each study program. Also, the HEI should

assess to what extent the achieved results on study success match the planned learning outcomes. Reviewing the share of learning activities required to achieve the expected learning outcomes (time spent on activities directly led by teaching staff, time spent on independent work by students, on mandatory professional practice, time needed to prepare for the knowledge test, and time included in the knowledge test itself) in the total value ECTS for each subject or module is of crucial importance (Vukasović, 2006; Cincović et al., 2020).

Assessment of student workload necessary to achieve the set learning outcomes and compliance with ECTS should be subject to regular review, through monitoring and gathering feedback from students. The HEI should use a method of exact measurement, not estimation, of the student load for each ECTS, thereby documenting that the allocation of points to parts of the program is based on the student load necessary to achieve the learning outcomes in a formal sense. The institution submits, if it has such data, the results of a survey obtained from students in the process of regular workload monitoring. Also, HEIs should adopt measures and activities to reduce the rate of failure in exams and harmonize student workloads with the values of ECTS points (Gleeson, 2013; National Council for Higher Education, 2019; Cincović et al., 2020).

The improvement and continuous modernization of the existing study programs should be based on the development of science and the new requirements that are placed before the given educational profile. Teachers and students should be familiar with the defined requirements that the graduate work (thesis) should fulfil, especially in terms of academic methodology, formal aspects, practical orientation, and evaluation criteria. The HEI should establish an appropriate way to keep in touch with its graduates. It should evaluate the relevance of the study program for the labour market (local, national, international), as well as the achievements of the graduated students in their later professional development (ENQA, 2015).

Following the Rulebook of the National Council for Higher Education, 2019, on standards and procedures for external quality control of HEIs by using the SWOT analysis method, the

HEI should analyse and quantitatively evaluate the following elements:

- objectives of the study program and their compliance with learning outcomes,
- teaching methods oriented towards learning outcomes,
- an evaluation system based on the measurement of learning outcomes,
- compliance of the ECTS load with the learning activities required to achieve the expected learning outcomes,
- mutual conformity of learning outcomes and expected competencies based on descriptors of qualifications of a certain cycle of education,
- the ability to functionally integrate knowledge and skills,
- procedures for monitoring the quality of study programs,
- feedback from practice about graduated students and their competencies,
- continuous modernization of study programs,
- availability of information about graduate work and professional practice and
- availability of information about study programs and learning outcomes.

### CONCLUDING REMARKS

Based on the literature review of the most significant data related to CA between objectives, teaching and LOs, student competencies, and assessment methods in HE, it can be concluded:

- CA between objectives, teaching and LOs, student competencies, and assessment methods in HE is still not accepted in many HEIs, that is, learning and teaching practices in them are still based on the traditional approach using teacher-centred strategies, where the teachers impart knowledge and students are passive learners and therefore are not allowed to have autonomy over their learning. In this way, students are not experiencing enough chances to interact and communicate to achieve the necessary generic and professional competencies;
- Teachers in HEIs must become familiar with the essence of CA between student workload expressed through ECTS, SPs, course and unit objectives, LOs, theoretical and practical contents, teaching and learning methodology, formative and summative assessment methods, and effective acquisition of student generic and course-specific competencies;
- Accordingly, this paper outlines the specifications of the CA approach which could be used to put an end to this daunting situation in HEIs by designing and developing the existing SPs to meet the 21st-century cognitive skills perspectives;
- CA framework could enable teachers to create and develop SPs based on the actual needs of the target learners in different contexts;
- Also, the involved staff could plan learning and teaching activities by applying this approach in the given daily lessons and
- Finally, it can be concluded that CA improves the quality of students' learning and enables the acquisition of appropriate competencies that trace the way for their lifelong learning.

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## AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work, and approved it for publication.

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## КОНСТРУКТИВНО УСОГЛАСУВАЊЕ МЕЃУ ЦЕЛИТЕ, НАСТАВАТА И УЧЕЊЕТО, КОМПЕТЕНЦИИТЕ НА СТУДЕНТИТЕ И МЕТОДИТЕ НА ОЦЕНУВАЊЕ ВО ВИСОКОТО ОБРАЗОВАНИЕ

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### Резиме

Висококвалитетниот процес на учење во високото образование подразбира правилно и конструктивно усогласување на суштинските елементи, како студиските програми, целите на курсот, содржината на предметните програми, резултатите од учењето, обемот на работа на студентите, активностите во текот на наставата и учењето, методите на оценување и стекнувањето на соодветни компетенции, што во литературата е познато како конструктивно подредување (СА). Во суштина, СА ги усогласува однапред определените компетенции, активностите во текот на учењето и наставата, како и начините на оценување. СА е пристап заснован на резултатите од наставата, при што резултатите од учењето кои учениците треба да ги постигнат се дефинираат пред да се одржи наставата.

Успехот на студентите на сите нивоа на студирање првенствено зависи од конструктивното усогласување како еден од најзначајните и највлијателните принципи во високото образование. Деталното познавање на овој принцип и неговата доследна примена е основна обврска на наставничкиот кадар во високото образование. За да се развие „конструктивно усогласена“ предметна програма, наставникот треба да започне од предвидените компетенции специфични за курсот, потоа избор на најсоодветните активности за учење, поучни и наставни активности, како и методите за оценување за овие специфични компетенции.

Трудот подетално ја објаснува суштината на СА меѓу обемот на работа на студентите изразен преку ЕКТС, студиските програми, целите на наставните програми и курсот, резултатите од учењето, теоретските и практичните содржини, методологијата на наставата и учењето, методите на формативно и сумативно оценување и ефективно стекнување на генерички и компетенции специфични за курсот.

**Клучни зборови:** конструктивно усогласување, оптоварување на учениците, цели, резултати од учењето, активности за учење и настава, оценување, компетенции.