

White paper:

HOW TO INTERNATIONALISE THE CURRICULA THROUGH MODULARIZATION: THE CASE OF VITA GLOBAL

Revised structure and division on contributions

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Table of sections and anticipated contributions:

Section	Author/contributor	Notes
1. The key aspects of internationalized curricula	Alecia, SU	
2. What is modularization?	Cecilia Ruiz, ANECA + possible contribution from Kiran G, Middle East College Oman	Draft text already provided below
3. Why is it new and (in some contexts, innovative?)		These sections may overlap and require editing. The idea is discuss how modularization, in an international context, may affect any one of these areas, and how these areas would need to adapt to allow modularization
3.1 Implications for curricular design	Cecilia Ruiz, ANECA	
3.2 Implications for teaching and learning	?	
3.3 Implications for accreditation	Rafeal Llavori, ANECA	
3.4 Implications for recognition	Rafeal Llavori, ANECA	
3.5 Implications for Internationalisation at Home	Alecia, SU	
4. Curricula design based on Modularisation: The experience of different systems and universities		
4.1 Moduralisation in South Africa	Examples from SU and CPUT	1 page/max from each university: Should examine: 1. Definition/

		understanding of modularization, 2. Extent of current implementation of modularization, 3. General flexibility in learning and building degree programmes, 4. Opportunities provided by Vita
4.2 Modularisation in Latin America	General overview from AUGM and example from Uruguay	2 pages max: One page dedicated to how modularization in understood in LA and the limitations in applying such approaches – One page on a unique case study from Uruguay
4.3 Modularisation in Europe - Georgia	Example from TesaU/GTU	1 page max from each university. Should examine: 1. Definition/ understanding of modularisation, 2. Extent of current implementation of modularization, 3. General flexibility in learning and building degree programmes, 4. Opportunities provided by Vita
4.4 Modularisation in Europe – Additional case study	Tbd – OBREAL to coordinate with European partners	Possible reference to current discussion on micro-credits
4.5 Modularisation in India	Symbiosis University, India	1 page
5. What is Vita Global proposing?	OBREAL	Background on the consortium: Partners, countries, regions and different international strategies
6. Internationalising curricula based on modularization: Lessons for Vita Global	OBREAL to coordinate	Case studies of module implementation in different contexts/different usages of the modules To be drafted after modules are piloted: Possibility to have a short

		feedback survey or short contribution from each partner
7. Lessons learned and remaining challenges	OBREAL	

1. The key aspects of internationalized curricula

2. What is modularization?

Higher education institutions (HEIs) have to respond to globalization and the increasing need for life-long learning - LLL. This requires rendering degree programmes more flexible and student-centred and also internationalising the curricula in diverse and creative ways. One response to this movement can be seen in the recent developments in modularization. The change is happening at different speeds in different legislative contexts for higher education. Some HEI have developed advanced programmes premised on credit-based modularity, which allows students to build a study path in a fairly flexible way. Others are just beginning to implement what could be stated to be one of the most important and radical changes affecting higher education currently.

Modularization is found to have many definitions in the literature. However, it is generally based on the principle of dividing the curriculum into small discrete units (modules) that are independent, nonsequential, and typically short in duration.

Modularity is the degree to which a system's components may be separated and recombined, often with the benefit of flexibility and variety in use. The concept of modularity is used primarily to reduce complexity by breaking a system into varying degrees of interdependence and independence across.

Modules are units in a larger system that are structurally independent of one another but work together. In order to modularize a curriculum, the system as a whole must provide a framework, an architecture, that allows for independence even as it functions in an integrated fashion.

Yoseph and Mekuwanint (2015) and Malik (2012) pointed out that a module is a unit of work in a course of instruction that is virtually self-contained and a method of teaching that is based on the building up of skills and knowledge in discrete units. Therefore, a module is a type of learning unit, that together with other unit can constitute a particular area of specialization. According to these authors, each unit or module is a measured part of an extended learning experience, leading to a specified qualification(s) "for which a designated number, and normally sequence, of units or modules is required." While this definition is helpful, it presupposes that modules should be combined to lead to a qualification. While this may be intended in the content of HEI, one should not exclude that a module could have a value or purpose as a self-standing unit of knowledge (Vita Global Focus Group – Madrid, December 2019).

Some HEI use the term modularization in their degrees although, strictly speaking, this is perhaps an incorrect application of the term. Modularization, for the purpose of higher education, should not be:

- An aggregation of discrete courses or credits that will lead to any academic distinction
- "input-based". (explanation needed)
- It should not be an administrative arrangement divorced from pedagogy
- "time out" disaggregation. (explanation needed)
- "pick and mix" designing the curriculum mindlessly

Rather, modularization should be:

- A process of disaggregation of a curriculum (content-based) into bite-size, time shortened units with an intense mode of delivery.
- A student - centered approach pedagogy with well-articulated learning outcomes.
- Focused on allowing credit accumulation, recognizing credits transfer and facilitating mobility.
- An application of pedagogical technology.
- Aimed/allowing the possibility for enhanced inclusion, through flexibility

In 1965 Simon presented the theory of modularization in his book "The Architecture of Complexity". Modularity is explored as a particular property of complex systems, that can be of great heuristic value to understand and innovate within such systems. In this theory, modularity refers to a general strategy in which a complex system is broken down into parts or modules, and is recomposed to improve understanding and / or innovate the system in question. At the most general level, modularity is an approach to manage complexity (Wimsatt, 2007). In this respect, modularity can also be applied to international cooperation in the higher education sector, and the internationalization and integration of curricula.

In this White Paper, the outcome of the Erasmus Plus Capacity Building in Higher Education project 'Vita Global', the basic principles of modularity are explored and illustrate with examples from from diverse countries, universities and higher education systems.

3. Why is it new (in some contexts) and innovative?

Propose one definition that will work specifically for the VitaGLOBAL context (?)

Part of the rationale for modularisation was that it facilitated more flexible patterns of study, allowing students to accumulate 'credit' for courses successfully completed over a period of time which suited their personal circumstances and, by extension, to assemble credit for modules taken at different institutions. There are then two ingredients to this disassembly of traditional patterns of learning supported by the 'credit' revolution:

- the taking apart of traditional subjects as the epistemological units of study; and

- the taking apart of the single university as the topographical location of the unit of study.

In this sense, the modularization of the units of learning in higher education opens opportunities for the expression of two different educational principles. First it makes possible a more student-centred curriculum, i.e. (within certain bounds) and second, it allows students to assemble a degree programme which fits their interests and aspirations. A university may not have thought of offering a degree in, say, Wine tourism, but a student might assemble one by a judicious selection of ingredients from tourism, languages, history, chemistry, and, perhaps, even history of science.

3.1 Implications for curricular design

Though the concept of modularization opens up a much wider discussion on units of learning, how they are conceived and delivered and how they are validated, Vita Global has operated in a context where all universities involved in the partnership frame curricula a basic structure, that of a degree programme. What is more, Vita Global is premised upon co-creation, notably that content of modules that would be a means to deliver curricula, would be co-created, between academics internationally..... As the vocation of the project has not been to immediately design a new programme, co-creation on curricula has been structured into modules, which could subsequently be inserted in existing programmes that the universities currently offer.

In this sense it was found important that partner universities identified the level of the module - basic, elementary or advanced – in which degree cycle it could fit, pre-existing knowledge requirements and the extent to which it would need to be adapted to an existing degree programme.....

3.2 Implications for teaching and learning

In contrast to the linear degree program which comprises a sequence of subjects, modularized degrees tend to be made up of stand-alone, independent units that can be undertaken in different orders and accumulated at different speeds. Modular approaches to learning enables the learner to have control over his/her learning and accept greater responsibility for learning. As opposed to most traditional curricula design, modular design gives greater student autonomy in constructing the programs and greater range of entry gates and exit points (Ali et al., [2010](#)).

Modular curriculum is designed focusing on the competencies that the graduates need to attain by integrating knowledge and skills and aspire to effectively prepare professionals for diverse job opportunities in the areas where student needs skilled professionals. Teacher-centered teaching activities like lecturing are not favorable in modularized curriculum in which independent learning is promoted.

From the point of view of the student, modularization has certain advantages. On the one hand, students can accumulate credits that lead to the degree diploma or not, in such a way that it satisfies the personalized and diverse needs of the students. This curriculum design is more respectful of student diversity. It provides greater flexibility by reducing the gap

between work and the learning community. The globalization of education is enhanced as student mobility is easier. Interdisciplinarity is a requirement in a modularized curricular design.

Modularization as applied in the Vita Global project opens the door for a greater exploring of internationalized teaching, and in this sense, online collaborative learning.....

3.3 Implications for recognition (what are the implications of modularization for mobility and recognition?)

Credit transfer is often described along with credit accumulation. It is described as the mechanism that allows the credits offered by another HE to be recognized, quantified and included in the credit requirements for a program delivered by another HE provider. Therefore, credit transfer depends on the use of credit, which is generally calculated based on the learning outcomes defined, which means the amount and depth of the learning done.

In most programs that now consist of modules, modules are calculated in credits, but other measures could be used. These may be accumulated to comprise a complete programs. In one's own system, it is assumed that the module content respects national and university regulations surrounding credit accumulation, particularly if the module is packed into a degree programme. However, when modules are opened up to be applied internationally (as in Vita) or when students select modules outside their existing university credit architecture, recognition issues may arise.

In theory, if modules are co-conceived internationally in a way that they can be flexibly adapted into different degree programmes in different systems, recognition should not be problematic. This presents a truly interesting opportunity for internationalizing learning; Students can not only choose modules from other universities, they can also choose modules from other degrees of their own university. The dynamic preparation for certain jobs would be greater and perhaps over-qualification (as issue in Europe) could be avoided.

LLL would be facilitated since students could take modules over several years depending on their specialization that once the necessary credits are obtained they can later be recognized as a degree by the university. Modules, delivered online from different international partner universities or companies, could be easily elected by students.

3.4 Implications for accreditation

(To be completed by ANECA)

Accreditation would be increasingly internationalised as well. In this regard, the accreditation of Internal Quality Assurance Systems should be supported, as is already underway in Europe.

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Joint degrees will be easier to carry out since a common module offer would guarantee interdisciplinary training in an area that facilitates the student's choice without. Mobility could also be rendered more smooth.....

Accreditation of on-line education together with modularization – *comment on this.*

3.5 Implications for Internationalisation at Home

4. CURRICULA DESIGN BASED ON MODULARIZATION

- 4.1 MODULARIZATION IN SOUTH AFRICA
- 4.2 MODULARIZATION IN Latin America(Alvaro, Juan/Universidad de Montevideo)
- 4.3 MODULARIZATION IN Europe – Georgia
- 4.4 Modularization in Europe – Other example
- 4.5 Modularization in India

5 What is Vita Global proposing? (OBREAL)

- 5.1 Background on the consortium: Partners, countries, regions and different international strategies

- 5.2 Building a study experience based on modularization: Examples from Vita Global
Case studies of module implementation in different contexts/different usages of the modules - *awaiting implementation*

6 Lessons learned and remaining challenges

- 7 *Annexes: Vita Global self-assessment results, local industry survey, etc.*