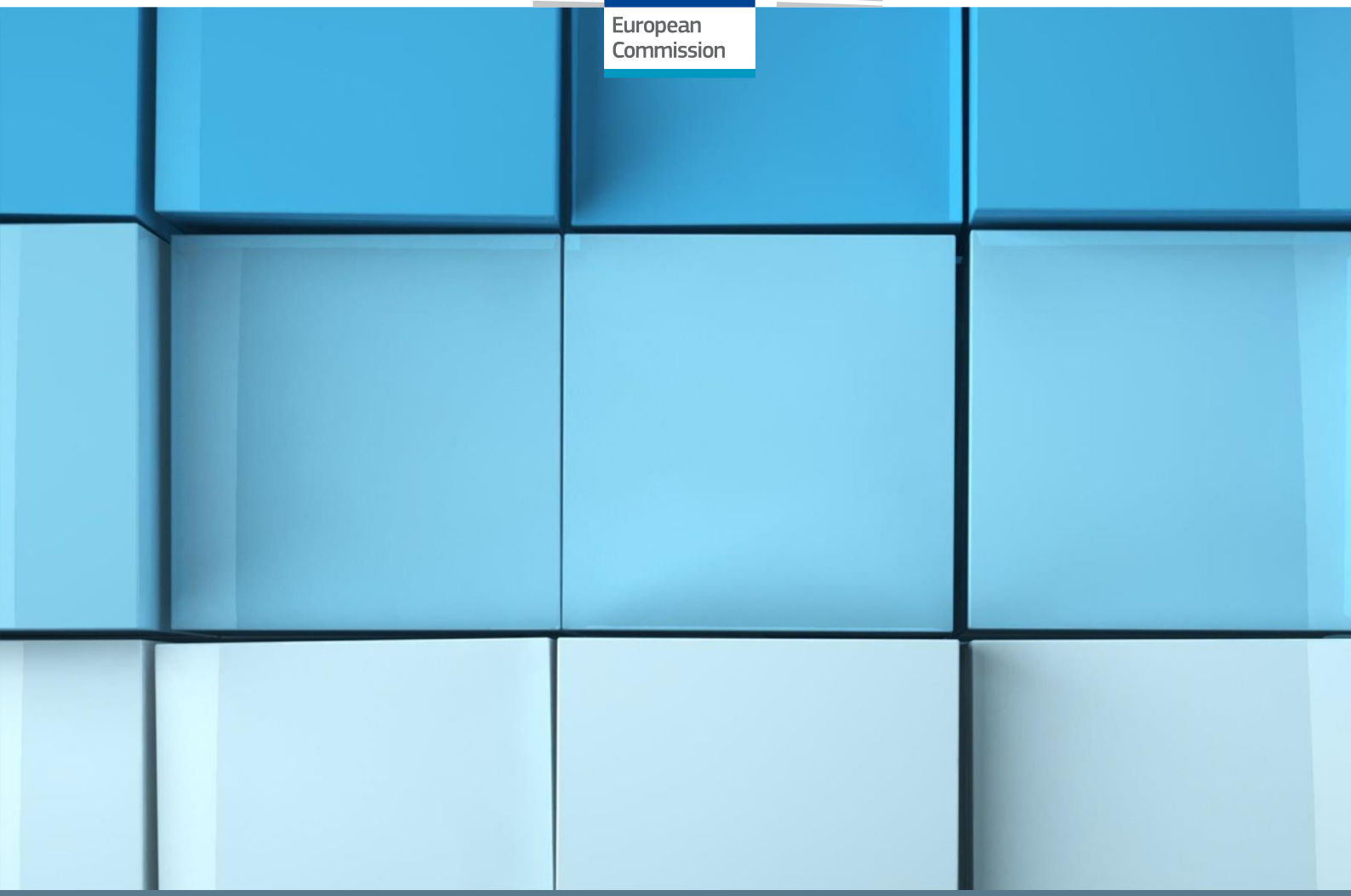

Mapping and analysis of student-centred learning and teaching practices: usable knowledge to support more inclusive, high-quality higher education

Analytical report

NESET

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EUROPEAN COMMISSION

Mapping and analysis of student-centred learning and teaching practices: usable knowledge to support more inclusive, high-quality higher education

edited by:

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2020 Directorate-General for Education, Youth, Sport and EN

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ABOUT NESET

NESET is an advisory network of experts working on the social dimension of education and training.

The European Commission's Directorate-General for Education and Culture initiated the establishment of the network as the successor to NESET II (2015-2018), NESSE (2007-2010) and NESET (2011-2014).

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Boxes with notable student-centred learning and teaching practices

Executive summary

This report defines student-centred learning and teaching (hereafter also referred to as SCLT) as an overarching approach to designing higher education processes, which is founded on the concept of student agency. SCLT primarily concerns the capabilities of students to participate in, influence and take responsibility for their learning pathways and environments, in order to have a transformative learning experience and thus achieve deeper learning outcomes. Furthermore, we conceive SCLT as an approach that moves beyond classroom practice to construct inclusive and supportive learning and teaching environments – student-centred learning and teaching ecosystems - within higher education institutions (HEIs) and their subunits, as well as in broader higher education systems at regional, national and supranational levels.

This report achieves two main objectives. First, it maps notable real-world practices of student-centred learning and teaching – namely, those practices with proven potential to contribute to the quality and inclusiveness of higher education. This mapping has identified a catalogue of best-practice examples of SCLT, the most interesting of which are presented as case studies in the report. We believe that these real-life examples, which have been successfully applied by universities, will allow stakeholders to move beyond abstract theoretical ideas, and to encourage the adoption of SCLT practices by drawing the attention of European universities to the most effective practices of their peers. To ensure relevance in the European context, when mapping the practices, we focused in particular on those applied by the universities that are now part of the European University Alliances – the Commission's policy initiative designed to build networks of European universities working in line with the best practices in higher education. We have also examined best practices in SCLT applied as part of the Horizon 2020 and Erasmus+ projects.

Annex 3 of the report provides a self-assessment tool that enables higher education institutions to assess the existence and effectiveness of student-centred learning and teaching elements within their own institution. This Annex includes a list of considerations regarding each core element of an SCLT ecosystem, and a list of indicators to assess whether these elements exist within a given higher education institution. Higher education institutions are guided through the Annex via the use of questions they can ask themselves in order to ascertain if they are already part of the student-centred learning and teaching paradigm.

The second key objective achieved in the report is to put into context the SCLT practices that have been mapped, by reviewing recent, top-level academic research on SCLT. Insights gained from this research have allowed us to explain how and why certain practices work, what benefits they provide, as well as to identify any negative side-effects they may give rise to. Furthermore, these insights have deepened our understanding of the conditions necessary for SCLT to succeed, and the potential bottlenecks in policy and practice that can prevent the successful implementation of SCLT as a learning and teaching approach. Among other sources, the report has drawn substantially on the forthcoming Routledge Handbook on 'Student-Centred Learning and Teaching in Higher Education', co-edited by Sabine Hoidn and Manja Klemenčič. This Handbook gathers together the latest thinking on student-centred learning and teaching

in higher education by renowned scholars and presents case studies from around the world.

To achieve the two objectives mentioned above, the study was guided by three central research questions:

1. What are the core elements and examples of high-impact practices in the student-centred learning and teaching in higher education that ensure transformative learning experience for all students?
2. How can high-impact practices of student-centred learning and teaching ecosystems be implemented by higher education institutions, and how should their impacts be assessed?
3. How can student-centred learning and teaching practices support inclusive and supportive higher education in the sense of removing barriers for all students to access, actively participate in, and achieve transformative learning experiences in higher education?

Below, we list and explain the main conclusions of the study. We hope these will guide policy makers at European and national level, as well as higher education institutions and other stakeholders, in making student-centred learning and teaching an everyday reality for learners and teachers all over Europe.

Student-centred learning and teaching is an overarching approach to learning and teaching in higher education that is founded on the concept of student agency. It is based on a framework of 10 mutually reinforcing core elements.

There are two key paradigms for learning and teaching in higher education: teacher-centred learning, and student-centred learning. At present, the former paradigm is giving way to the latter. Teacher-centred learning and teaching tends to consider students as passive recipients of information, without considering the need for them to construct their own knowledge and thus actively participate in the educational process. In such an approach, the teacher occupies a privileged position as the student's main source of knowledge. Within student-centred learning and teaching, students are given opportunities to shape their own courses, and to choose distinct learning pathways within a course. Often there is also some built-in flexibility for students to choose particular units within their study programme. Thus, the application of student-centred learning and teaching within higher education institutions requires a shift in focus from what teachers are teaching, to what students are learning.

Previous detailed reviews of the literature have revealed that the majority of student-centred learning and teaching definitions have emphasised a similar list of inherent characteristics. The three elements often used as a foundation for defining student-centred learning and teaching are: (1) student satisfaction; (2) student engagement; and (3) student agency. The literature review carried out for the present study has convinced us that student satisfaction and student engagement may be also achieved within a teacher-centred paradigm; student agency is the element that is exclusive to and inherent in the student-centred learning and teaching paradigm.

Our analysis reveals that, in order for higher education institutions to fully and successfully implement student-centred learning and teaching ecosystems, such ecosystems must encompass 10 mutually reinforcing core elements, namely:

- Policies, rules and regulations enabling student-centred learning and teaching.
- Student-centred curriculum and pedagogy.
- Student-centred assessment.
- Flexible learning pathways.
- Learner support.
- Teaching support.
- Active learning spaces and academic libraries.
- Learning technologies infrastructure.
- Community learning connections and partnerships.
- Quality assurance supporting student-centred learning and teaching.

By 'mutually reinforcing', we mean that these elements work together as parts of or 'gears' in an ecosystem. The more of these elements are present, the more likely it is for a learning and teaching system to function effectively as a student-centred learning and teaching ecosystem. For example, if a higher education institution begins to use more student-centred classroom activities, it will need to introduce a greater level of teaching and learning support. This will subsequently necessitate the drafting of SCLT-focused institutional policies, rules and regulations, and the adjustment of quality assurance procedures to ensure that they are suitable for the student-centred learning and teaching context. Thus, the specific elements of the learning and teaching systems present in a higher education institution tend to converge towards either a student-centred or a teacher-centred process.

The EU and its higher education sector would benefit from reaching an agreement among EU and national policy makers, stakeholders and higher education institutions on the core elements that constitute a student-centred learning and teaching approach to higher education, as well as how to measure and facilitate their implementation.

As Klemenčič (2017, p. 70) puts it, 'without clarity as to its meaning and specific set of indicators to assess institutional practices, almost anything can be 'sold' as student-centred learning.' She also points out the need to develop an overarching policy framework for student-centred learning and teaching that defines the core elements of student-centred learning and teaching in an institutional environment, as well as the indicators required to measure student-centred learning and teaching presence at institutions, which would guide the implementation and quality assurance. This report can be viewed as a kind of 'white paper' for such a policy framework. It outlines the 10 core elements, discusses their key aspects, and suggests indicators to measure their implementation. However, such a policy framework will require the 'buy-in' of various stakeholders involved in higher education policy and practice – in particular, national policy makers and higher education institutions themselves.

At present, there is a number of different definitions of student-centred learning and teaching used by key EU-level stakeholders working on higher education policy. The definition with the greatest policy relevance is the one established in the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015).

However, the European Commission and key stakeholders may consider leading the way in expanding this definition beyond the field of quality assurance and agreeing on its core elements with other stakeholders.

For the most part, we are still living in a teacher-centred paradigm.

Student-centred learning in higher education has already entered the actual work programmes of the key EU financial instruments. Elements of innovative learning and teaching methodology, equity and inclusion are embedded in the Erasmus+ programme. For example, the inaugural call for proposals within Erasmus+ to establish the European Universities, launched in 2018, requires institutions to offer 'student-centred curricula jointly delivered across an inter-university campus, where a diverse student body can build their own programmes and experience mobility at all study levels.'

Hoidn (2017a, b, 2019a, b) points out that higher education is still centred on teachers and traditional teaching methods such as lectures, seminars and assessment. Even the terminology we use, such as 'going to a lecture', or even describing a class format as 'a lecture', along with lecture-based classroom setup, reinforces a culture of teacher-centred practices. Despite some positive changes, the shift in focus from the teacher-centred to student-centred learning and teaching faces various obstacles. The implementation of student-centred learning and teaching is hindered by deteriorating working conditions in higher education, such as increased teaching workloads and expanding class sizes; recruitment and promotion policies that favour research over teaching; declining investment and job security in tertiary education; an increase in the number of bureaucratic tasks; as well as a strong existing tradition of teacher-centred practices (ESU, 2010; Hoidn, 2016, 2017a; Lea et al, 2003). Moreover, both teachers and students may be reluctant to engage in SCLT due to a lack of knowledge, interest or motivation, or due to prior bad experiences with the methods of student-centred learning and teaching (Hoidn, 2017a). As a result, mature student-centred learning and teaching ecosystems are not widespread across Europe. Instead, numerous but highly fragmented 'pockets' of student-centred learning and teaching practices exist within European higher education.

Some elements of student-centred learning and teaching are more widespread than others.

Our review revealed that it is quite common to find instances of at least some of the core elements of student-centred learning and teaching being applied within higher education institutions in Europe. Instructors at many universities tend, at least some of the time, to use student-centred classroom practices or assessment procedures (e.g. formative assessments) that are in line with the student-centred learning and teaching approach. Many other student-centred learning and teaching elements are also common in the discourse of higher education practitioners and university leaders, e.g. flexible learning pathways or learner support (like student-support services), however, many of them are currently not being applied in a way conducive to student-centred learning.

The study also identified elements of the student-centred learning and teaching approach to higher education that currently receive insufficient attention from policy makers and practitioners, despite their importance to the building of effective student-centred learning and teaching ecosystems. Among such elements, we emphasise the need to create active learning spaces and community learning connections – both of

which are key to building an effective student-centred learning and teaching infrastructure.

Student-centred learning and teaching practices can contribute to two main aspects of inclusive higher education: better attention to diversity in the classroom, and improved access to (and within) higher education. These can be achieved through the application of an inclusive curriculum and pedagogy; flexible learning pathways; technology-enhanced learning; learning and teaching support; inclusive learning spaces and libraries and community engagement and partnerships.

Student-centred learning and teaching practices can contribute to more inclusive higher education in two main ways. First, SCLT practices can better attend to the needs of diverse students. SCLT helps to ensure that each student, irrespective of their background, can learn in the way that is most suitable to them, and enjoys the flexibility to choose the most relevant subjects and methods for study. Second, SCLT can contribute to improving access to higher education study programmes for all students, as well as improving their access to the most suitable learning experiences (courses) within higher education study programmes. Access and attention to diversity are two separate aspects of inclusive higher education. The question of access deals with whether and how students can get into the higher education process; attention to diversity deals with the issue of identifying the best way(s) to engage in this process for a diverse community of learners.

Student-centred learning and teaching encourage inclusiveness in higher education through:

- Inclusive curriculum and pedagogy.
- Flexible learning pathways and technology-enhanced learning.
- Learning support.
- Teaching support.
- Inclusive learning spaces and libraries.
- Community engagement and partnerships.

Developing and applying an **inclusive curriculum and pedagogy** is the first step to making higher education more inclusive through student-centred learning and teaching. Inclusive curriculum and pedagogy seek to diversify course materials and teaching strategies to best suit the needs of each learner. It also applies appropriate learning technologies and adjusts assessment practices to ensure that they are sensitive to the needs and life situations of the students.

Flexible learning pathways allow students to choose the most suitable subjects to study, and personalised ways to engage in learning. For example, universities may offer evening classes, flexible schedules to take classes or meet instructors, the opportunity for students not to start a course from the beginning (in cases where a student has already learnt part of the course content), among many other practices. It also refers to recognition of prior learning and credentials obtained through nonformal education.

Technology-enhanced learning also contributes to more inclusive higher education by enabling distance learning. This allows students to learn without being physically present in the classroom, or at times that best suit their schedules. The opportunities for distance learning that are enabled by technologies may attract people to higher education who could not study without flexible schedules or the possibility of learning individually.

Learning support is crucial to ensure that the students who enrol in higher education also successfully complete their chosen study programme. This means ensuring that students do not drop out of higher education due to personal or learning difficulties encountered during the learning process.

It is not enough for institutional leaders to assume that teachers will know how to make their courses more inclusive if asked to do so. **Teaching support** should be offered to instructors to ensure that they are aware of how to make their courses more inclusive.

Inclusive learning spaces and libraries enable mobility and access to learning resources by a diverse student population, including students with disabilities. Inclusive spaces also need to reflect the diversity of the student population in the artefacts they display and the learning materials they offer.

Community engagement and collaboration between higher education institutions and community partners (such as schools, employers, various societal organisations) can provide an effective way to reach out to regional or local communities, and to address existing issues such as underrepresentation, or the low level of participation or attainment of degrees among specific groups.

Résumé analytique

Ce rapport définit l'apprentissage et l'enseignement centrés sur l'étudiant (ci-après également SCLT, de l'anglais Student-Centred Learning and Teaching) comme une approche globale de la conception des processus d'enseignement supérieur, qui est fondée sur le concept d'agence étudiante. La SCLT concerne principalement la capacité des étudiants à participer à leurs parcours et environnements d'apprentissage, à les influencer et à en assumer la responsabilité, afin de vivre une expérience d'apprentissage transformatrice et d'atteindre ainsi les résultats d'apprentissage attendus. En outre, nous concevons la SCLT comme une approche qui va au-delà de la pratique en classe pour construire des environnements d'apprentissage et d'enseignement inclusifs et favorables au sein des établissements d'enseignement supérieur (EES) et de leurs sous-unités, ainsi que dans des systèmes d'enseignement supérieur plus larges aux niveaux régional, national et supranational.

Ce rapport poursuit deux objectifs principaux. Tout d'abord, il dresse la carte des pratiques réelles notables d'apprentissage et d'enseignement centrées sur l'étudiant, à savoir les pratiques dont il est prouvé qu'elles peuvent contribuer à la qualité et à l'inclusivité de l'enseignement supérieur. Cette cartographie permet d'identifier un catalogue d'exemples de bonnes pratiques d'apprentissage et d'enseignement centrées sur l'étudiant, dont les plus intéressantes sont présentées sous forme d'études de cas dans le rapport. Nous pensons que ces exemples réels, qui ont été appliqués avec succès par les universités, permettront aux parties prenantes de dépasser les idées théoriques abstraites et encourageront l'adoption des pratiques SCLT en attirant l'attention des universités européennes sur les pratiques les plus efficaces de leurs pairs. Afin de garantir la pertinence dans le contexte européen, nous nous sommes plus particulièrement concentrés lors de la cartographie sur les pratiques appliquées par les universités désormais membres des alliances universitaires européennes – une initiative politique de la Commission visant à créer des réseaux d'universités européennes travaillant conformément aux bonnes pratiques dans l'enseignement supérieur. Nous avons également examiné les bonnes pratiques SCLT appliquées dans le cadre des projets Horizon 2020 et Erasmus+.

L'annexe 3 du rapport fournit un outil d'auto-évaluation qui permet aux établissements d'enseignement supérieur d'évaluer l'existence et l'efficacité des éléments de l'apprentissage et l'enseignement centrés sur l'étudiant au sein de leur propre établissement. Cette annexe comprend une liste de considérations portant sur les différents éléments clés d'un écosystème d'apprentissage et d'enseignement centré sur l'étudiant, ainsi qu'une liste d'indicateurs permettant d'évaluer si ces éléments existent au sein d'un établissement d'enseignement supérieur donné. Les établissements d'enseignement supérieur sont guidés tout au long de l'annexe par des questions qui leur permettent de déterminer s'ils font déjà partie du paradigme de l'apprentissage et de l'enseignement centrés sur l'étudiant.

Le deuxième objectif clé de ce rapport est la mise en contexte des pratiques SCLT cartographiées, en passant en revue les recherches universitaires récentes de haut niveau sur l'apprentissage et l'enseignement centrés sur l'étudiant. Les enseignements tirés de ces recherches nous permettent d'expliquer comment et pourquoi certaines pratiques fonctionnent, quels avantages elles procurent, et d'identifier les effets

secondaires négatifs qu'elles peuvent engendrer. En outre, ces connaissances nous permettent d'approfondir notre compréhension des conditions nécessaires à la réussite de l'apprentissage et de l'enseignement centrés sur l'étudiant, ainsi que des blocages potentiels dans les politiques et les pratiques qui peuvent empêcher la mise en œuvre réussie de l'approche SCLT. Entre autres sources, le rapport s'est largement inspiré du manuel Routledge à paraître sur l'apprentissage et l'enseignement centrés sur l'étudiant dans l'enseignement supérieur –« Student-Centred Learning and Teaching in Higher Education » – coédité par Sabine Hoidn et Manja Klemenčič. Ce manuel rassemble les dernières réflexions sur l'apprentissage et l'enseignement centrés sur l'étudiant dans l'enseignement supérieur, menées par des universitaires de renom, et présente des études de cas du monde entier.

Afin d'atteindre les deux objectifs mentionnés ci-dessus, l'étude a été guidée par trois questions de recherche centrales :

1. Quels sont les éléments essentiels et les exemples de pratiques à fort impact dans l'apprentissage et l'enseignement centrés sur l'étudiant dans l'enseignement supérieur, qui garantissent une expérience d'apprentissage transformatrice pour tous les étudiants ?
2. Comment les pratiques à fort impact des écosystèmes d'apprentissage et d'enseignement centrés sur l'étudiant peuvent-elles être mises en œuvre par les établissements d'enseignement supérieur, et comment leurs impacts doivent-ils être évalués ?
3. Comment les pratiques d'apprentissage et d'enseignement centrées sur l'étudiant peuvent-elles soutenir un enseignement supérieur inclusif et favorable, en ce sens qu'elles suppriment les obstacles qui empêchent *l'intégralité* des étudiants d'accéder, de participer activement et de vivre des expériences d'apprentissage transformatrices dans l'enseignement supérieur ?

Ci-dessous, nous énumérons et expliquons les principales conclusions de l'étude. Nous espérons qu'elles guideront les décideurs politiques aux niveaux européen et national, ainsi que les établissements d'enseignement supérieur et les autres parties prenantes, pour faire de l'apprentissage et de l'enseignement centrés sur l'étudiant une réalité quotidienne pour les apprenants et les enseignants dans toute l'Europe.

L'apprentissage et l'enseignement centrés sur l'étudiant constituent une approche globale de l'apprentissage et de l'enseignement dans l'enseignement supérieur, qui est fondée sur le concept d'agence étudiante. Elle se base sur un cadre de 10 éléments fondamentaux qui se renforcent mutuellement.

Il existe deux paradigmes clés pour l'apprentissage et l'enseignement dans l'enseignement supérieur : l'apprentissage centré sur l'enseignant et l'apprentissage centré sur l'étudiant. Actuellement, le premier paradigme est en train de céder la place au second. L'apprentissage et l'enseignement centrés sur l'enseignant ont tendance à considérer les étudiants comme des destinataires passifs de l'information, sans tenir compte de la nécessité pour eux de construire leurs propres connaissances et donc de participer activement au processus d'enseignement. Dans une telle approche, l'enseignant occupe une position privilégiée en tant que principale source de connaissances pour l'étudiant. Dans le cadre de l'apprentissage et de l'enseignement

centrés sur l'étudiant, ce dernier a la possibilité de façonner sa propre formation et de choisir des parcours d'apprentissage distincts au sein d'une même formation. Souvent, les étudiants disposent également d'une certaine flexibilité pour choisir des unités particulières dans leur programme d'études. Ainsi, l'application de l'apprentissage et de l'enseignement centrés sur l'étudiant dans les établissements d'enseignement supérieur nécessite un changement d'orientation : de ce que les enseignants enseignent à ce que les étudiants apprennent.

De précédentes analyses détaillées de la littérature ont révélé que la majorité des définitions de l'apprentissage et de l'enseignement centrés sur l'étudiant mettent l'accent sur une liste similaire de caractéristiques inhérentes. Les trois éléments souvent utilisés comme base pour définir l'apprentissage et l'enseignement centrés sur l'étudiant sont les suivants : (1) satisfaction de l'étudiant ; (2) engagement de l'étudiant ; et (3) agence étudiante. L'analyse documentaire réalisée pour la présente étude nous a convaincus que la satisfaction et l'engagement des étudiants peuvent également être atteints dans le cadre d'un paradigme centré sur l'enseignant ; l'agence étudiante est l'élément exclusif et inhérent au paradigme de l'apprentissage et l'enseignement centrés sur l'étudiant.

Notre analyse révèle que, pour que les établissements d'enseignement supérieur puissent mettre en œuvre pleinement et avec succès des écosystèmes d'apprentissage et d'enseignement centrés sur l'étudiant, ces écosystèmes doivent comprendre 10 éléments fondamentaux qui se renforcent mutuellement, à savoir :

- Des politiques, des règles et des réglementations permettant l'apprentissage et l'enseignement centrés sur l'étudiant ;
- Un programme d'études et une pédagogie centrés sur l'étudiant ;
- Une évaluation centrée sur l'étudiant ;
- Des parcours d'apprentissage flexibles ;
- Un soutien aux apprenants ;
- Un soutien à l'enseignement ;
- Des espaces d'apprentissage actif et des bibliothèques universitaires ;
- Une infrastructure de technologies d'apprentissage ;
- Des connexions et partenariats d'apprentissage communautaires ;
- Une assurance de la qualité soutenant l'apprentissage et l'enseignement centrés sur l'étudiant.

Par « renforcement mutuel », nous entendons que ces éléments fonctionnent ensemble en tant que parties ou « engrenages » d'un écosystème. Plus ces éléments sont présents, plus il est probable qu'un système d'apprentissage et d'enseignement fonctionne efficacement en tant qu'écosystème d'apprentissage et d'enseignement centré sur l'étudiant. Par exemple, si un établissement d'enseignement supérieur commence à recourir davantage aux activités de classe centrées sur l'étudiant, il devra introduire un niveau plus élevé de soutien à l'enseignement et à l'apprentissage. Cela nécessitera par la suite l'élaboration de politiques, de règles et de réglementations institutionnelles axées SCLT, ainsi que l'ajustement des procédures d'assurance qualité

afin de garantir leur adéquation avec le contexte de l'apprentissage et l'enseignement centrés sur l'étudiant. Ainsi, les éléments spécifiques des systèmes d'apprentissage et d'enseignement présents dans un établissement d'enseignement supérieur tendent à converger vers un processus centré soit sur l'étudiant, soit sur l'enseignant.

L'UE et son secteur de l'enseignement supérieur gagneraient à ce que les décideurs politiques européens et nationaux, les parties prenantes et les établissements d'enseignement supérieur s'accordent sur les éléments fondamentaux qui constituent une approche d'apprentissage et d'enseignement centrée sur l'étudiant, ainsi que sur la manière de mesurer et de faciliter leur mise en œuvre.

Comme l'écrit Manja Klemenčič (2017), « sans clarté quant à sa signification et sans ensemble spécifique d'indicateurs pour évaluer les pratiques institutionnelles, tout ou presque peut être "vendu" comme un apprentissage centré sur l'étudiant ». Elle souligne également la nécessité d'élaborer un cadre politique global pour l'apprentissage et l'enseignement centrés sur l'étudiant qui définisse les éléments essentiels de l'apprentissage et de l'enseignement centrés sur l'étudiant dans un environnement institutionnel, ainsi que les indicateurs nécessaires pour mesurer la présence de l'apprentissage et de l'enseignement centrés sur l'étudiant dans les établissements, ce qui guiderait la mise en œuvre et l'assurance qualité. Ce rapport peut être considéré comme une sorte de « livre blanc » pour un tel cadre politique. Il présente les 10 éléments fondamentaux, discute de leurs aspects clés et suggère des indicateurs pour mesurer leur mise en œuvre. Cependant, un tel cadre politique nécessite l'adhésion de diverses parties prenantes impliquées dans la politique et la pratique de l'enseignement supérieur – en particulier, les décideurs politiques nationaux et les établissements d'enseignement supérieur eux-mêmes.

Actuellement, il existe un certain nombre de définitions différentes de l'apprentissage et de l'enseignement centrés sur l'étudiant utilisées par les principales parties prenantes au niveau européen qui travaillent sur la politique de l'enseignement supérieur. La définition la plus pertinente politiquement est celle établie dans les Références et lignes directrices pour l'assurance qualité dans l'espace européen de l'enseignement supérieur (ESG, 2015). Toutefois, la Commission européenne et les principales parties prenantes peuvent envisager de montrer la voie en élargissant cette définition au-delà du domaine de l'assurance qualité et en convenant de ses éléments clés avec d'autres parties prenantes.

Pour l'essentiel, nous nous trouvons toujours dans un paradigme centré sur l'enseignant.

L'apprentissage centré sur l'étudiant dans l'enseignement supérieur a déjà été intégré dans les programmes de travail des principaux instruments financiers de l'UE. Des éléments de méthodologie d'apprentissage et d'enseignement innovante, d'équité et d'inclusion sont intégrés dans le programme Erasmus+. Par exemple, l'appel à propositions inaugural d'Erasmus+ pour la création d'universités européennes, lancé en 2018, exige des établissements qu'ils proposent « des programmes d'études centrés sur l'étudiant, dispensés conjointement sur un campus interuniversitaire, où un corps étudiant diversifié peut construire ses propres programmes et faire l'expérience de la mobilité à tous les niveaux d'études ».

Sabine Hoidn (2017a, b, 2019a, b) souligne que l'enseignement supérieur est toujours centré sur les enseignants et les méthodes d'enseignement traditionnelles telles que les cours magistraux, les séminaires et l'évaluation. Même la terminologie que nous utilisons, comme « aller à un cours », ou même la description d'un format de classe comme « un cours », ainsi que la configuration de la classe basée sur le cours dispensé par l'enseignant, renforcent une culture de pratiques centrées sur l'enseignant. Malgré quelques changements positifs, le passage d'un apprentissage et d'un enseignement centrés sur l'enseignant à un apprentissage et un enseignement centrés sur l'étudiant se heurte à divers obstacles. La mise en œuvre de l'apprentissage et de l'enseignement centrés sur l'étudiant est entravée par la détérioration des conditions de travail dans l'enseignement supérieur, comme l'augmentation de la charge de travail des enseignants et de la taille des classes ; les politiques de recrutement et de promotion qui privilégient la recherche par rapport à l'enseignement ; la baisse des investissements et de la sécurité de l'emploi dans l'enseignement supérieur ; l'augmentation du nombre de tâches bureaucratiques ; ainsi qu'une forte tradition existante de pratiques centrées sur l'enseignant (ESU, 2010 ; Hoidn, 2016, 2017a ; Lea et al, 2003). En outre, les enseignants et les étudiants peuvent être réticents à s'engager dans une approche SCLT en raison d'un manque de connaissances, d'intérêt ou de motivation, ou en raison de mauvaises expériences antérieures des méthodes d'apprentissage et d'enseignement centrées sur l'étudiant (Hoidn, 2017a). Par conséquent, les écosystèmes matures d'apprentissage et d'enseignement centrés sur l'étudiant ne sont pas très répandus en Europe. En revanche, il existe dans l'enseignement supérieur européen des « poches » nombreuses mais très fragmentées de pratiques d'apprentissage et d'enseignement centrées sur l'étudiant.

Certains éléments de l'apprentissage et de l'enseignement centrés sur l'étudiant sont plus répandus que d'autres

Notre examen a révélé qu'il est assez courant de trouver des cas où au moins certains des éléments fondamentaux de l'apprentissage et de l'enseignement centrés sur l'étudiant sont appliqués dans les établissements d'enseignement supérieur en Europe. Les enseignants de nombreuses universités ont tendance, au moins une partie du temps, à utiliser des pratiques de classe ou des procédures d'évaluation centrées sur l'étudiant (par exemple, des évaluations formatives) qui sont conformes à l'approche de l'apprentissage et de l'enseignement centrés sur l'étudiant. De nombreux autres éléments de l'apprentissage et l'enseignement centrés sur l'étudiant sont également courants dans le discours des professionnels de l'enseignement supérieur et des responsables d'universités, par exemple les parcours d'apprentissage flexibles ou le soutien aux apprenants (comme les services d'aide aux étudiants), mais beaucoup d'entre eux ne sont actuellement pas appliqués de manière à favoriser un apprentissage centré sur l'étudiant.

L'étude a également identifié des éléments de l'apprentissage et l'enseignement centrés sur l'étudiant qui ne reçoivent actuellement pas une attention suffisante de la part des décideurs politiques et des professionnels, malgré leur importance pour la construction d'écosystèmes efficaces d'apprentissage et d'enseignement centrés sur l'étudiant. Parmi ces éléments, nous soulignons la nécessité de créer des espaces d'apprentissage actifs et des connexions d'apprentissage communautaires – deux éléments essentiels à la

mise en place d'une infrastructure efficace d'apprentissage et d'enseignement centrée sur l'étudiant.

Les pratiques d'apprentissage et d'enseignement centrées sur l'étudiant peuvent contribuer à deux aspects principaux de l'enseignement supérieur inclusif : une meilleure attention à la diversité dans la salle de classe et un meilleur accès à l'enseignement supérieur (et au sein de celui-ci). Ces objectifs peuvent être atteints grâce à la mise en place d'un programme d'études et d'une pédagogie inclusifs ; de parcours d'apprentissage flexibles ; d'un apprentissage assisté par la technologie ; d'un soutien à l'apprentissage et à l'enseignement ; d'espaces d'apprentissage et de bibliothèques inclusifs ; ainsi que d'un engagement communautaire et de partenariats.

Les pratiques d'apprentissage et d'enseignement centrées sur l'étudiant peuvent contribuer à un enseignement supérieur plus inclusif de deux manières principales. Tout d'abord, les pratiques SCLT peuvent mieux répondre aux besoins des divers étudiants. L'approche SCLT permet de s'assurer que chaque étudiant, quelle que soit son origine, peut apprendre de la manière qui lui convient le mieux et bénéficie de la flexibilité nécessaire pour choisir les sujets et les méthodes d'étude les plus pertinents. Deuxièmement, la SCLT peut contribuer à améliorer l'accès aux programmes d'études de l'enseignement supérieur pour tous les étudiants, ainsi qu'à améliorer leur accès aux expériences d'apprentissage (formations) les plus appropriées au sein des programmes d'études de l'enseignement supérieur. L'accès et l'attention portée à la diversité sont deux aspects distincts de l'enseignement supérieur inclusif. La question de l'accès porte sur la possibilité et la manière dont les étudiants peuvent entrer dans le processus d'enseignement supérieur ; l'attention portée à la diversité porte sur la question de l'identification de la (des) meilleure(s) manière(s) de s'engager dans ce processus pour une communauté diversifiée d'apprenants.

L'apprentissage et l'enseignement centrés sur l'étudiant encouragent l'inclusion dans l'enseignement supérieur grâce à :

- Un programme d'études et une pédagogie inclusifs ;
- Des parcours d'apprentissage flexibles et un apprentissage assisté par la technologie ;
- Un soutien à l'apprentissage ;
- Un soutien à l'enseignement ;
- Des espaces d'apprentissage et des bibliothèques inclusifs ;
- Un engagement communautaire et des partenariats.

L'élaboration et l'application d'un **programme d'études et d'une pédagogie inclusifs** constituent la première étape pour rendre l'enseignement supérieur plus inclusif grâce à un apprentissage et un enseignement centrés sur l'étudiant. Les programmes d'études et la pédagogie inclusifs visent à diversifier les supports de cours et les stratégies d'enseignement afin de répondre au mieux aux besoins de chaque apprenant. Ils appliquent également des technologies d'apprentissage appropriées et ajustent les pratiques d'évaluation afin qu'elles soient sensibles aux besoins et aux situations de vie des étudiants.

Des **parcours d'apprentissage flexibles** permettent aux étudiants de choisir les matières les plus appropriées à étudier et offrent des moyens personnalisés de s'engager dans l'apprentissage. Par exemple, les universités peuvent proposer des cours du soir, des horaires flexibles pour suivre des cours ou rencontrer des instructeurs, la possibilité pour les étudiants de ne pas commencer un cours dès le début (dans le cas où un étudiant a déjà acquis une partie du contenu du cours), parmi de nombreuses autres pratiques.

L'**apprentissage assisté par la technologie** contribue également à un enseignement supérieur plus inclusif en permettant l'apprentissage à distance. Il permet aux étudiants d'apprendre sans être physiquement présents dans la salle de classe, ou à des moments qui conviennent le mieux à leur emploi du temps. Les possibilités d'apprentissage à distance offertes par les technologies peuvent attirer vers l'enseignement supérieur des personnes qui ne pourraient pas étudier sans des horaires flexibles ou la possibilité d'apprendre individuellement.

Le **soutien à l'apprentissage** est crucial pour garantir que les étudiants qui s'inscrivent dans l'enseignement supérieur terminent avec succès le programme d'études qu'ils ont choisi. Cela signifie qu'il faut veiller à ce que les étudiants n'abandonnent pas l'enseignement supérieur en raison de difficultés personnelles ou d'apprentissage rencontrées au cours du processus d'apprentissage.

Il ne suffit pas que les responsables des établissements supposent que les enseignants sauront rendre leurs cours plus inclusifs si on leur demande de le faire. Un **soutien à l'enseignement** devrait être proposé aux enseignants pour s'assurer qu'ils savent comment rendre leurs cours plus inclusifs.

Des **espaces d'apprentissage et des bibliothèques inclusifs** permettent la mobilité et l'accès aux ressources d'apprentissage à une population étudiante diversifiée, y compris les étudiants souffrant de handicaps. Les espaces inclusifs doivent également refléter la diversité de la population étudiante dans les objets qu'ils exposent et les ressources d'apprentissage qu'ils proposent.

L'**engagement communautaire** et la collaboration entre les établissements d'enseignement supérieur et les partenaires communautaires (tels que les écoles, les employeurs, diverses organisations sociétales) peuvent constituer un moyen efficace d'atteindre les communautés régionales ou locales et de résoudre des problèmes existants tels que la sous-représentation ou le faible niveau de participation ou d'obtention de diplômes parmi des groupes spécifiques.

KURZFASSUNG

In diesem Bericht wird studierendenzentriertes Lernen und Lehren (im Folgenden auch SZL) als übergreifender Ansatz definiert, mit dem eine Hochschulbildung entwickelt werden kann, die auf dem Konzept des eigenverantwortlichen Lernende basiert. SZL bietet den Studierenden vor allem die Möglichkeit, selbst Verantwortung für ihre Lernwege und ihr Lernumfeld zu übernehmen, diese aktiv zu beeinflussen und über eine transformative Lernerfahrung die gewünschten Lernergebnisse zu erzielen. Außerdem sehen wir SZL als einen Ansatz, der über die bloße Didaktik hinausgeht und in Hochschuleinrichtungen und Instituten und sowie im gesamten Hochschulsystem auf regionaler, nationaler und supranationaler Ebene ein inklusives und unterstützendes didaktisches Umfeld schafft.

Mit diesem Bericht werden zwei Ziele verfolgt. Erstens werden bereits erprobte studierendenzentrierte Lern- und Lehrmethoden kartografiert, d. h. Verfahren, die nachweislich das Potenzial haben, die Hochschulbildung besser und inklusiver zu machen. Im Rahmen dieser Arbeit wurde eine Reihe von besonders bewährten Verfahren des studierendenzentrierten Lernens und Lehrens identifiziert und die interessantesten davon als Fallstudien in diesem Bericht beschrieben. Wir sind davon überzeugt, dass diese Beispiele aus dem echten Leben, die bereits erfolgreich von Universitäten eingesetzt werden, andere europäische Universitäten auf besonders effektive Methoden ihrer Kollegen aufmerksam machen und interessierte Akteure dazu ermutigen können, über abstrakte theoretische Konzepte hinauszugehen und selbst eigene SZL-Verfahren einzuführen. Um zu gewährleisten, dass die kartografierten Methoden im europäischen Kontext relevant sind, haben wir uns besonders auf Universitäten konzentriert, die bereits zu einer European University Alliance gehören, d. h. der politischen Initiative der Kommission, mit der Netzwerke europäischer Universitäten aufgebaut werden sollen, die in der Hochschulbildung bereits vorbildliche Methoden nutzen. Außerdem wurden die SZL-Methoden von Projekten untersucht, die durch Horizont 2020 und Erasmus+ gefördert werden.

Anhang 3 dieses Berichts ist ein Instrument zur Selbstbewertung, mittels dem Hochschuleinrichtungen einschätzen können, ob es in ihrer Einrichtung bereits Elemente von studierendenzentriertem Lernen und Lehren gibt, und wie erfolgreich diese Elemente eingesetzt werden. Der Anhang enthält eine Liste mit den wichtigsten Elementen eines studierendenzentrierten didaktischen Ökosystems sowie eine Liste von Indikatoren, mit den geprüft werden kann, ob diese Elemente in der jeweiligen Hochschuleinrichtung vorliegen. Hochschuleinrichtungen werden mittels Fragen durch das Tool geführt, mit denen sie einschätzen können, ob sie bereits Teil des Paradigmas eines studierendenzentrierten Lernens und Lehrens sind.

Zweitens bietet der Bericht einen Überblick über die neueste wissenschaftliche Forschungsliteratur zu studierendenzentriertem Lernen und Lehren, mit dessen Hilfe die kartografierten SZL-Methoden in einen größeren Zusammenhang gesetzt werden. Durch die so gewonnenen Erkenntnisse können wir erklären, wie und warum bestimmte Methoden funktionieren und welche Nutzen sie haben, aber auch negative Nebenwirkungen identifizieren, die möglicherweise auftreten können. Außerdem ermöglicht der Überblick über den Forschungsstand, die Voraussetzungen für den Erfolg von studierendenzentrierten Lern- und Lehrmethoden sowie die potenziellen politischen

und praktischen Engpässe, die einer erfolgreichen Umsetzung von SZL im Weg stehen, besser zu verstehen. Unter anderem nutzt dieser Bericht stark das in Kürze bei Routledge erscheinende Handbuch „Student-Centred Learning and Teaching in Higher Education", das von Sabine Hoidn und Manja Klemenčič mit herausgegeben wird. Dieses Handbuch versammelt die neuesten Überlegungen anerkannter Forscher zum studierendenzentrierten Lernen und Lehren in der Hochschulbildung und stellt Fallbeispiele aus aller Welt vor.

Um die eben genannten Ziele zu erreichen, ließen sich die Autoren der Studie von drei zentralen Forschungsfragen leiten:

1. Welches sind die wichtigsten Elemente für studierendenzentriertes Lernen und Lehren in der Hochschulbildung, die eine transformative Lernerfahrung für alle Studierenden ermöglichen und welche Beispiele für besonders wirksame Verfahren gibt es?
2. Wie können Hochschuleinrichtungen mit wirksamen Methoden ein Ökosystem für studierendenzentriertes Lernen und Lehren schaffen und wie kann der Erfolg dieser Methoden bewertet werden?
3. Wie können studierendenzentrierte Lern- und Lehrmethoden dazu beitragen, dass *alle* Studierenden Zugang zu und aktive Teilhabe an transformativen Lernerfahrungen haben und eine auf Inklusion und Förderung ausgerichtete Hochschulbildung entsteht?

Nachstehend werden die wichtigsten Ergebnisse der Studie aufgeführt und erläutert. Wir hoffen, dass der Bericht politische Entscheidungsträger auf europäischer und nationaler Ebene, Hochschuleinrichtungen und andere Akteure dabei unterstützt, studierendenzentriertes Lernen und Lehren für Lernende und Lehrkräfte in ganz Europa alltäglich zu machen.

Studierendenzentriertes Lernen und Lehren ist ein umfassender didaktischer Ansatz für die Hochschulbildung, der vom Konzept des eigenverantwortlichen Lernende ausgeht. Er basiert auf einem Gerüst von zehn sich gegenseitig verstärkenden Elementen.

Es gibt zwei grundsätzliche didaktische Paradigmen in der Hochschulbildung: entweder steht die Lehrkraft im Zentrum oder der Studierende. Derzeit sehen wir einen Übergang vom erstgenannten Paradigma zum zweiten. Beim lehrkraftzentrierten Lernen und Lehren werden die Studierenden eher als passive Informationsempfänger betrachtet und es wird nicht berücksichtigt, dass die Studierenden ihr eigenes Wissen aufbauen und aktiv zum Bildungsprozess beitragen müssen. Bei diesem Ansatz nimmt die Lehrkraft eine privilegierte Stellung als wichtigste Informationsquelle für die Studierenden ein. Bei studierendenzentrierten Lern- und Lehrverfahren erhalten die Studierenden die Möglichkeit, den eigenen Studiengang mitzugestalten und innerhalb dieses Studiengangs individuelle Lernwege zu wählen. Häufig ist auch eine gewisse Flexibilität vorgesehen, sodass Studierende innerhalb des Studiengangs die Lerneinheiten selbst wählen können. Um eine studierendenzentrierte Didaktik in Hochschuleinrichtungen umzusetzen, darf nicht mehr im Mittelpunkt stehen, was die Lehrkräfte lehren, sondern, was die Studierenden lernen.

Wie andere ausführliche Forschungsübersichten zeigen, betonen die meisten Definitionen von studierendenzentriertem Lernen und Lehren die gleiche Liste inhärenter Merkmalen. Dabei dienen die folgenden drei Elemente besonders häufig als Grundlage für die Definition von studierendenzentrierter Didaktik: (1) Zufriedenheit der Studierenden, (2) Engagement der Studierenden und (3) eigenverantwortliches Handeln der Studierenden. Die für die vorliegende Studie durchgeführte Literaturrecherche hat uns davon überzeugt, dass Zufriedenheit und Engagement der Studierenden auch im Rahmen des lehrkraftzentrierten Paradigmas erzielt werden können. Das Element, das ausschließlich und inhärent im studierendenzentrierten Lernen und Lehren vorkommt, ist der Studierende als eigenverantwortlicher Akteur.

Wie unsere Analyse zeigt, können Hochschuleinrichtungen nur dann ein studierendenzentriertes didaktisches Ökosystem vollständig und erfolgreich umsetzen, wenn dieses Ökosystem die folgenden zehn sich gegenseitig verstärkenden Elemente enthält:

- Leitlinien, Regeln und Vorschriften, die studierendenzentriertes Lernen und Lehren ermöglichen;
- Studierendenzentrierte Lehrpläne und pädagogische Ansätze;
- Studierendenzentrierte Bewertungsmethoden;
- Flexible Lernwege;
- Unterstützung beim Lernen;
- Unterstützung beim Lehren;
- Aktive Lernräume und wissenschaftliche Bibliotheken;
- Eine Infrastruktur von Lerntechnologien;
- Netzwerke und Partnerschaften zum gemeinsamen Lernen;
- Ein Qualitätssicherungssystem, das studierendenzentriertes Lernen und Lehren unterstützt.

Mit „gegenseitig verstärkend" meinen wir, dass diese Element wie Teile oder „Zahnräder" ineinander greifen. Je mehr dieser Elemente vorhanden sind, umso wahrscheinlicher ist es, dass ein Lernumfeld als studierendenzentriertes didaktisches Ökosystem gut funktioniert. Wenn eine Hochschuleinrichtung zum Beispiel anfängt, verstärkt studierendenzentrierte Unterrichtsmethoden zu nutzen, muss sie auch mehr Unterstützung für die Lehrkräfte und Studierenden anbieten. Dafür müssen wiederum die Leitlinien, Regeln und Vorschriften der Hochschule sowie die Methoden der Qualitätssicherung stärker auf SZL ausgerichtet werden, damit sie zum neuen studierendenzentrierte didaktischen Kontext passen. Aus diesem Grund tendieren alle Element des didaktischen Systems von Hochschuleinrichtungen entweder zum einem studierendenzentrierten oder zu einem lehrkraftzentrierten Ansatz.

Es käme der EU und ihrem Hochschulsektor zugute, wenn sich politische Entscheidungsträger, Interessenvertreter und Hochschuleinrichtungen auf europäischer und nationaler Ebene auf die wichtigsten Elemente eines studierendenzentrierte didaktischen Ansatzes für die Hochschulbildung sowie auf Instrumente zu deren Umsetzung und Kontrolle einigen könnten.

Wie Klemenčič (2017) so treffend sagt „kann ohne eine klare Definition und konkrete Indikatoren zur Bewertung der genutzten Verfahren fast alles als studierendenzentriertes Lernen ›verkauft‹ werden." Außerdem betont sie, wie wichtig es ist, einen umfassenden politischen Rahmen für studierendenzentriertes Lernen und Lehren zu entwickeln, der die wichtigsten Elemente eines studierendenzentrierten Lernumfelds in der Hochschuleinrichtung sowie die nötigen Indikatoren definiert, mit dem der Umsetzungsgrad der studierendenzentrierten Didaktik gemessen werden kann, und der als Richtschnur für deren Umsetzung und die Qualitätssicherung dient. Dieser Bericht kann als eine Art „Weißbuch" für einen solchen politischen Rahmen dienen. Er skizziert die zehn Grundelemente, erläutert deren wichtigste Aspekte und schlägt Indikatoren vor, mit denen ihre Umsetzung gemessen werden kann. Der politische Rahmen kann jedoch nur funktionieren, wenn alle Akteure, die mit Hochschulpolitik und -praxis befasst sind, insbesondere die nationale Politik und die Hochschuleinrichtungen selbst, ganz auf dieses Konzept setzen.

Derzeit nutzen wichtige Akteure, die sich auf europäischer Ebene mit Hochschulpolitik befassen, ihre jeweils eigene Definition von studierendenzentriertem Lernen und Lehren. Die Definition mit der größten politischen Relevanz findet sich im Dokument „Standards und Leitlinien für die Qualitätssicherung im Europäischen Hochschulraum" (ESG, 2015). Die Europäische Kommission und andere Schlüsselakteure sollten jedoch mit gutem Beispiel vorangehen und diese Definition über den Bereich der Qualitätssicherung hinaus ausweiten und sich mit anderen Interessenvertretern auf dessen Grundelemente einigen.

Wir leben zum größten Teil noch im lehrkraftzentrierten Paradigma.

Studierendenzentriertes Lernen in der Hochschulbildung wurde bereits in die Arbeitsprogramme der wichtigsten Förderinstrumente der EU aufgenommen. Das Programm Erasmus+ enthält die Elemente innovative Lern- und Lehrmethoden, Chancengleichheit und Inklusion. So können zum Beispiel gemäß der ersten Aufforderung zur Einreichung von Vorschlägen für die Schaffung von Europäischen Hochschulen im Rahmen von Erasmus+ aus dem Jahr 2018 nur Einrichtungen teilnehmen, die „studierendenzentrierte Studiengänge anbieten, die gemeinsam an einem universitätsübergreifenden Campus durchgeführt werden, an dem eine vielfältige Studentenschaft ihre eigenen Programme zusammenstellen und auf allen Stufen des Studium Mobilität erleben kann."

Laut Hoidn (2017a, b, 2019a, b) liegt der Schwerpunkt der Hochschulbildung jedoch weiterhin auf den Lehrkräften und herkömmlichen Lehrmethoden, wie Vorlesungen, Seminaren und Prüfungen. Selbst die Terminologie, die wir verwenden, z. B. „zur Vorlesung gehen" oder die Bezeichnung einer Unterrichtsform als „Vorlesung" sowie die für den Vortrag einer Lehrkraft vorgesehene Gestaltung von Unterrichtsräumen verstärken die Kultur einer lehrkraftzentrierten Didaktik. Obwohl es auch positive Veränderungen gibt, stößt die Umstellung vom lehrkraftzentrierten auf studierendenzentriertes Lernen und Lehren auf zahlreiche Hindernisse. Die Umsetzung einer studierendenzentrierten Didaktik wird auch durch die sich verschlechterten Arbeitsbedingungen an den Hochschulen behindert. Dazu gehören die zunehmende Arbeitsbelastung der Lehrkräfte und steigende Studierendenzahlen, eine Einstellungs- und Beförderungspolitik, die Forschung über Lehre stellt, abnehmende Finanzierungs- und Beschäftigungssicherheit im Hochschulbereich, wachsende Verwaltungsaufgaben

und die starke Tradition von lehrkraftzentrierten Methoden (ESU, 2010; Hoidn, 2016, 2017a; Lea et al, 2003). Aber auch mangelndes Wissen, Interesse oder Engagement oder frühere schlechte Erfahrungen mit diesen Verfahren können dazu führen, dass Lehrkräfte und Studierende SZL-Methoden nur zögerlich annehmen (Hoidn, 2017a). Aus diesem Grund gibt es in Europa nur wenige ausgereifte studierendenzentrierte didaktische Ökosysteme. Stattdessen ist das Hochschulwesen Europas von zahlreichen, jedoch sehr fragmantierten „Inseln" von studierendenzentrierte Lern- und Lehrmethoden geprägt.

Einige Element des studierendenzentrierten Lernens und Lehrens sind weiter verbreitet als andere.

Wie unsere Recherche gezeigt hat, sind an den meisten europäischen Hochschuleinrichtungen zumindest einige der Grundelemente einer studierendenzentrierten Didaktik zu finden. An vielen Universitäten nutzen die Lehrkräfte, zumindest manchmal, studierendenzentrierte Lehr- oder Bewertungsverfahren (z. B. formative Bewertungen), die einer studierendenzentrierte Didaktik entsprechen. Auch viele andere studierendenzentrierte Elemente kommen im Diskurs von Hochschulmitarbeitern und Universitätsleitungen häufig vor, z. B. flexible Lernwege oder Unterstützung für Lernende (wie Hilfsangebote für Studierende). Allerdings werden die meisten davon bisher noch nicht so eingesetzt, dass sie das studierendenzentrierte Lernen begünstigen.

Im Rahmen der Studie wurden ferner Elemente des studierendenzentrierten Lernen und Lehrens an Hochschulen identifiziert, die derzeit in Politik und Praxis noch nicht ausreichend beachtet werden, obwohl sie für den Aufbau eines funktionierenden studierendenzentrierten didaktischen Ökosystems unverzichtbar sind. Hier soll besonders auf aktive Lernräume und Angebote zum gemeinsamen Lernen hingewiesen werden, die beide für den Aufbau einer funktionierenden Infrastruktur für studierendenzentriertes Lernen und Lehren unverzichtbar sind.

Studierendenzentrierte Lern- und Lehrmethoden fördern zwei wichtige Aspekte einer auf Inklusion abzielenden Hochschulbildung: stärkere Berücksichtigung der Diversität von Studierenden und besserer Zugang zu (und innerhalb der) Hochschulen. Geeignete Maßnahmen sind inklusive Lehrpläne und pädagogische Ansätze, flexible Lernwege, technologiegestütztes Lernen, Unterstützungsangebote für Lernende und Lehrkräfte, inklusive Lernräume und Bibliotheken sowie die Einbindung lokaler Gemeinschaften und Partnerschaften.

Studierendenzentrierte Lern- und Lehrmethoden können vor allem auf zwei Arten zu einer stärker auf Inklusion ausgerichteten Hochschulbildung beitragen. Erstens können SZL-Verfahren besser auf die Bedürfnisse einer diversen Studierendenschaft eingehen. Mit SZL kann eher gewährleistet werden, dass alle Studierende, unabhängig von ihrem Hintergrund, auf die für sie am besten geeignete Art lernen und sich dank der gebotene Flexibilität für die Themen und Methoden entscheiden können, die ihr Studium am besten voranbringt. Zweitens kann SZL dazu beitragen, dass die Studiengänge der Hochschulen für alle Studierenden offen stehen und alle Studierenden einen Zugang zu den optimalen Lernerfahrungen (Kursen) haben, die an den Hochschulen angeboten werden. Zugänglichkeit und die Berücksichtigung von Diversität sind zwei gesonderte Aspekte der inklusiven Hochschulbildung. Das Thema Zugänglichkeit betrifft die Frage,

ob und wie Studierende überhaupt an Hochschulbildung teilhaben können; bei der Berücksichtigung von Diversität geht es darum, wie eine diverse Studierendenschaft optimal an dem Prozess der Hochschulbildung beteiligt werden kann.

Studierendenzentriertes Lernen und Lehren stärkt die Inklusivität der Hochschulbildung durch folgende Aspekte:

- Inklusive Lehrpläne und pädagogische Ansätze;
- Flexible Lernwege und technologiegestütztes Lernen;
- Unterstützung beim Lernen;
- Unterstützung beim Lehren;
- Inklusive Lernräume und Bibliotheken;
- Einbindung lokaler Gemeinschaften und Partnerschaften.

Die Entwicklung und Umsetzung von **inklusiven Lehrplänen und pädagogischen Ansätzen** ist der erste Schritt, um die Hochschulbildung durch eine studierendenzentrierte Didaktik stärker auf Inklusion auszurichten. Durch inklusive Lehrpläne und pädagogische Methoden werden die Kursmaterialien und Unterrichtsstrategie vielfältiger und besser auf die Bedürfnisse jedes einzelnen Lernenden abgestimmt. Außerdem werden geeignete Lerntechnologien genutzt und die Bewertungsmethoden so angepasst, dass sie die Bedürfnisse und Lebensumstände der Studierenden berücksichtigten.

Flexible Lernwege erlauben es den Studierenden, selbst zu entscheiden, welche Themen und Lernangebote sich für ihr Studium am besten eignen. So können Universitäten unter anderem Abendkurse oder flexible Mischformen von Gruppen- und Einzelunterricht anbieten oder Studierenden einen späteren Einstieg in laufende Kurse ermöglichen (z. B. wenn der Studierenden Teile des Kursinhalts bereits gelernt hat).

Auch **technologiegestütztes Lernen** erleichtert die Inklusion in die Hochschulbildung, weil es Fernunterricht ermöglicht. So können Studierende am Unterricht teilnehmen, ohne vor Ort sein zu müssen, oder zu der Uhrzeit lernen, die am besten zu ihren Lebensumständen passt. Wenn technologische Lösungen Fernunterricht ermöglichen, können auch diejenigen Menschen eine Hochschulbildung nutzen, die dazu flexible Zeitpläne oder Angebote zum individuellen Lernen brauchen.

Unterstützung beim Lernen ist wichtig, um zu gewährleisten, dass die Studierenden, die sich an einer Hochschule einschreiben, den gewählten Studiengang auch erfolgreich abschließen. Das heißt, es muss alles getan werden, damit die Studierenden ihr Studium nicht aus persönlichen Gründen oder wegen Schwierigkeiten beim Lernprozess abbrechen.

Es reicht nicht, wenn die Universitätsleitung ihre Lehrkräfte bittet, die Kurse inklusiver zu gestalten und dann davon ausgeht, dass die Lehrkräfte dies ohne weitere Unterstützung schaffen. Den Lehrkräften sollte **Unterstützung beim Lehren** angeboten werden, durch die sie lernen, wie sie ihre Kurse stärker auf Inklusion ausrichten können.

Inklusive Lernräume und Bibliotheken erleichtern die Mobilität und den Zugang zu Lernressourcen für eine diverse Studierendenschaft, einschließlich von Studierenden mit

Behinderung. Inklusive Räumen sollten die Diversität der Studierendenschaft auch durch die ausgestellten Gegenstände und die angebotenen Lernmaterialien widerspiegeln.

Die **Einbindung der lokalen Gemeinschaft**, z. B. durch die Zusammenarbeit von Hochschuleinrichtungen mit lokalen Partnern (Schulen, Arbeitgeber, zivile Organisationen) ist ein wirksames Mittel, um Kontakte mit dem regionalen oder lokalen Umfeld zu knüpfen und Probleme anzugehen, wenn etwa bestimmte Gruppen unterrepräsentiert sind oder unterdurchschnittlich oft ein Studium beginnen bzw. abschließen.

1. Introduction

1.1. Background

1.1.1. A shifting focus in the educational process: from what teachers teach to what learners learn

Teacher-centred learning and teaching tends primarily to consider students as passive recipients of knowledge, without explicitly considering that deep learning only happens when students actively participate in the learning process. In such an approach, the teacher occupies a privileged position as the student's main source of knowledge. The main instructional methods used in this approach include lecturing, note-taking and memorising information in order to reproduce it later. Student-centred learning and teaching (SCLT), on the other hand, sets expectations for students to take responsibility for their own learning. It enables students to actively participate in the construction of knowledge, and to develop their autonomy as learners through self-reflection and improved learning skills (Klemenčič 2015; 2017; 2018, forthcoming). By definition, a student's learning experiences under SCLT are necessarily active, as they are based on the premise that a passive role cannot support or enhance meaningful learning. According to the SCLT approach, it is precisely this cognitively 'active' learning that helps students to learn effectively (MacHemer and Crawford, 2007). SCLT is premised on the recognition of 'mutual interdependence between students, teachers and support staff in co-construction of knowledge and fostering mutual respect and shared responsibilities in teaching and learning processes' (Klemenčič and Hoidn, forthcoming, p. 2). It is also founded on a recognition of the diversity of students, their learning needs and goals, and the need to offer these students learning environments that are supportive for all in the classroom, as well as within the broader institutional context of learning support, learning spaces, learning resources, learning communities and partnerships (ibid.).

Within SCLT, students are given opportunities to shape their courses and study programmes, and to choose individualised and personalised learning pathways. Often some flexibility is built in for students to choose particular content, or to engage in individual research or project work within their study programme. In SCLT, students are conceived of as whole persons, with lives outside the study process. SCLT recognises that learning happens both inside and outside the classroom, and students are supported in making connections between learning and their lives and experiences outside of study (Klemenčič and Hoidn 2020). The application of SCLT within higher education requires a shift in focus from what teachers are teaching, to what students are learning. It must be based on clearly defined learning outcomes, grounded in distinctive disciplinary practices and connected to real-world experiences (EI and ESU, 2010; Wagenaar, 2019; Klemenčič, 2019). The learning outcomes identified within an SCLT environment indicate to students, what skills, knowledge and competences they can expect to develop through their studies. To be regarded as student-centred, learning and teaching processes and assessments must be designed with these learning outcomes in mind.

Although the concept of SCLT began to be explored long before the Bologna Declaration in 1999, its increasing importance in Europe can be linked to the higher education

reforms initiated as part of the Bologna Process. The launch of the Bologna Process in 1999 led to reforms across Europe with the objectives of making higher education programmes both more transparent and more comparable, and to increase the quality of higher education in Europe. The Process also aimed to increase mobility among higher education students and staff across the European Higher Education Area. Implicit in these reforms was the notion of placing students at the centre of the educational process, helping them to manage their expectations and enabling them to purposefully and constructively design their own learning pathways throughout their higher education experience.

While SCLT is mentioned in earlier Bologna Process documents (for example, the London Communiqué in 2007; the Leuven Communiqué in 2009; the Budapest-Vienna Declaration in 2010), the concept came to prominence within European higher education with the adoption of the revised Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015). SCLT was referred to most specifically in the following standard: 'Institutions should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and the assessment of students reflects this approach (ESG, Standard 1.3, 2015, p. 12).' The accompanying guidelines reiterate several aims of SCLT: (1) improving the quality of higher education by encouraging students to take an active role in their own learning process; (2) helping students to develop learner autonomy; (3) encouraging student self-reflection in learning; (4) improving the inclusion of students (especially those from disadvantaged groups) in higher education through the use of SCLT practices; (5) respect for the diversity of students and their needs; (6) enabling flexible learning pathways; (7) developing support to teachers; and (8) making assessment more student-centred. As noted in the Standards and Guidelines for Quality Assurance in the European Higher Education Area 2015, 'SCL respects and attends to the diversity of students and their needs, enabling flexible learning paths.' This report analyses how real-world SCLT practices contribute to the two aims of higher education: quality and inclusiveness.

SCLT in higher education has already entered into the Work Programmes of key EU financial instruments. Elements of innovative learning and teaching methodology, equity and inclusion are embedded into the Erasmus+ programme. For example, the inaugural call for proposals under Erasmus+ to establish the European Universities, launched in 2018, requires institutions to offer 'student-centred curricula jointly delivered across an inter-university campus, where a diverse student body can build their own programmes and experience mobility at all study levels.'[1]

Despite the positive changes mentioned above, the process of shifting the focus from teacher-centred to student-centred learning and instruction faces a number of challenges. Higher education in general still centres on teachers and traditional teaching methods such as lectures, seminars and assessments (Hoidn, 2017). Even the terminology we use, such as 'going to a lecture' – or even describing a class format as 'a lecture' – along with a lecture-based classroom setup, reinforces the culture of teacher-centred practices. The implementation of SCLT is hindered by deteriorating

[1] For more on European Universities, please see: https://eacea.ec.europa.eu/erasmus-plus/actions/key-action-2-european-universities_en.

working conditions in higher education, such as increased teaching workloads and expanding class sizes; recruitment and promotion policies that favour research over teaching; declining investment and job security in tertiary education; an increase in the number of bureaucratic tasks; as well as a strong existing tradition of teacher-centred practices (ESU, 2010; Hoidn, 2016, 2017; Lea et al., 2003). Moreover, both teachers and students might be reluctant to engage in SCLT due to a lack of knowledge, interest or motivation, or due to prior bad experiences with SCLT methods (Hoidn 2016, 2017; Tagg, 2019; Klemenčič, 2019). As a result, mature SCLT ecosystems are not widespread across Europe. Instead, ample but highly fragmented 'pockets' of SCLT practices exist within European higher education institutions (HEIs).

Many countries in the European Higher Education Area mention SCLT in their laws or steering documents. Further commitments can also be found in national plans for higher education and institutional strategies. Nevertheless, SCLT remains the exception rather than the norm in higher education practice (ESU, 2015; EUA, 2019b). Countries struggle with the shift to SCLT, mainly because of a lack of recognition of the value of student evaluation of teaching, independent learning and the use of learning outcomes (European Commission, EACEA and Eurydice, 2015). Uncertainty also exists as to what exactly is meant by SCLT, and how its presence within a higher education institution can be evaluated (Klemenčič, 2019; Hoidn and Klemenčič, forthcoming).

By drawing on the existing scholarship on SCLT, as well as high-impact practice examples, this report aims to inform the future policy and actions of policy makers at European and national level, higher education institutions and other relevant stakeholders, in promoting further change in learning and teaching behaviour within European higher education institutions, through the implementation of high-quality SCLT ecosystems.

1.1.2. What is student-centred learning and teaching?

The term 'learner-centred learning', now also referred to as 'student-centred learning' and 'learning-centred education', was coined by Robert B. Barr and John Tagg (1995) in their seminal article 'From Teaching to Learning – A New Paradigm for Undergraduate Education'. The authors observed a shift in instructional practices in the United States, which they described as follows: 'In its briefest form, the paradigm that has governed our colleges is this: a college is an institution that exists *to provide instruction*. Subtly but profoundly we are shifting to a new paradigm: a college is an institution that exists *to produce learning*. This shift changes everything. It is both needed and wanted.' [emphasis Barr and Tagg's own.] To dispel misconceptions regarding the roles of teachers in learning and teaching processes, and to accentuate learning as the unquestionable goal of such processes, Tagg (2019) introduces the term 'learning-centred higher education', which is endorsed by others (Doyle, 2011; Harris M. and Cullen, 2010; Hoidn and Klemenčič, forthcoming; McCombs, 2012; National Research Council of the USA [NRC], 2000). Both terms, 'student-centred' and 'learning-centred', symbolically place learning at the forefront and implicitly signal a balanced relationship between teachers and students in learning and teaching processes. Some notable works, such as Blumberg (2019) and Tagg (2019), prefer the term 'learning-centred' rather than 'student-centred', to further emphasise a focus on the *process* of learning rather than the *person* (i.e. the student) who is learning. This report uses the term 'student-centred learning and teaching' (SCLT), as it is well established in European policy

documents and policy discourse. We understand this term as emphasising deeper learning as the goal of the SCLT, as well as emphasising the interdependence and shared responsibilities of students, teachers and other instructional support staff with respect to learning and teaching within inclusive and supportive learning environments.

A variety of definitions of SCLT exist in scholarly literature. Most of these are grounded in constructivist education theory but highlight different principles and features that guide teaching-learning processes. Gibbs (1995), for example, emphasises the active (rather than passive) role of the student, when describing student-centred courses. He also suggests that SCLT should concentrate more on process than content with learning decisions taken via interactions between the student and teacher.

Cannon and Newble (2000, p. 16-17) define student-centred learning as 'ways of thinking and learning that emphasise student responsibility and activity in learning rather than what teachers are doing. Essentially, student-centred learning has student responsibility and activity at its heart, in contrast to a strong emphasis on teacher control and coverage of academic content in a much conventional, didactic teaching.'

Lea et al. (2003, p. 322) summarise some of the literature on the topic and present the main tenets of student-centred learning as 'reliance upon active rather than passive learning, an emphasis on deep learning and understanding, increased responsibility and accountability on the part of the student, an increased sense of autonomy in the learner, an interdependence between teacher and learner, mutual respect within the learner-teacher relationship, and a reflexive approach to the learning and teaching process on the part of both teacher and learner.'

Klemenčič (2017, p. 73) suggests that a 'student-centred learning approach promotes active learning activities and ensures ample learning resources and student support, nurtures a culture of mutual respect and collaboration in pursuit of knowledge among members of the academic community and fosters students' capabilities to shape their learning environments and define their learning pathways.'

Sabah and Du (2018) place a focus on student responsibility and ownership of their own learning. They emphasise that classroom interactions which focus on a student-centred approach need to provide students with activities that encourage their participation and engagement with the subject matter, with the teacher and with each other. Such a situation encourages active learning, in which students engage in diverse course activities such as discussions, reflections and group work. They carry out assignments that allow them to explore, solve problems and demonstrate their understanding, while less time is dedicated to lecturing (Hoidn, 2017).

Hoidn and Reusser (forthcoming, p. 8-9) claim that SCLT is about 'students thinking, talking and doing in a way that they are positioned as active participants in the knowledge construction process'. They define SCLT as 'forms of instruction that provide students with opportunities to construct knowledge and make choices regarding what, when, where, how and with whom to study, participate more actively in class activities, and contribute to the educational design of their course.'

Policy makers and practitioners in the European Higher Education Area have also offered their own definitions of SCL. Examples include:

- The website of the European Higher Education Area2 defines SCL as 'an approach to education, which aims at overcoming some of the problems inherent to more traditional forms of education by focusing on the learners and their needs, rather than being centred around the teacher's input.' In the Leuven/Louvain-la-Neuve Ministerial Communiqué (EHEA 2009, p. 3-4), the ministers explicitly stated that student-centred learning 'requires empowering individual learners, new approaches to teaching and learning, effective support and guidance structures and a curriculum focused more clearly on the learner in all three cycles. Curricular reform will thus be an ongoing process leading to high quality, flexible and more individually tailored education paths. Academics, in close cooperation with student and employer representatives, will continue to develop learning outcomes and international reference points for a growing number of subject areas.'
- According to the European Credit Transfer and Accumulation System (ECTS) Users' Guide (2018, p. 15), 'Student-Centred Learning is a process of qualitative transformation for students and other learners in a learning environment, aimed at enhancing their autonomy and critical ability through an outcome-based approach.'
- The European Students' Union (ESU, 2018, p. 1) defines SCL as 'both a mind-set and a culture within a given higher education institution and a learning approach which is broadly related to, and supported by, constructivist theories of learning. It is characterised by innovative methods of teaching, which aim to promote learning in communication with teachers and other learners, and which take students seriously as active participants in their own learning, fostering transferable skills such as problem-solving, critical thinking and reflective thinking.'
- The European University Association (EUA) suggests that student-centred learning requires that 'education provision and all its aspects are defined by the intended learning outcomes and most suitable learning process, instead of the student's learning being determined by the education provided,' (EUA, 2019b, p. 4). The authors of the report also state that SCL 'is not limited to a pedagogy like active learning, nor reduced to student participation in design and decision-making' (ibid, p. 6). Furthermore, acknowledging the existence of different types of students requiring individualised education, the authors suggest that SCL 'is a concept that takes into account the student as a person with a unique background while also ensuring the student's active involvement in shaping his or her own learning path' (ibid., p. 6).

Although there is no single, unanimously accepted definition of student-centred learning and teaching, the majority of definitions used in the literature emphasise a similar list of inherent characteristics. The three aspects often used as conceptual foundations to define student-centred learning were indicated in the meta-analysis produced by Klemenčič (2017). These are: (1) 'student satisfaction'; (2) 'student engagement'; and (3) 'student agency'. Differences between the definitions of SCL stem from a discussion

[2] See: http://www.ehea.info/page-student-centred-learning

as to whether SCLT primarily concerns the capability of students to intervene and influence their learning environments and pathways (implied in 'student agency'); a tendency to behave in a particular way (implied in 'student engagement'); or the market-like assessment of transactional relationships between students and their universities (implied in 'student satisfaction').

Developing on and adapting from these definitions, in this report **we define SCLT as an overarching approach to designing learning and teaching in higher education, which is founded on the concept of student agency**. SCLT primarily concerns the capability of students to participate in, influence and take responsibility for their learning pathways and environments, in order to achieve the expected learning outcomes. Furthermore, **we conceive SCLT as an approach that moves beyond the classroom practice to construct inclusive and supportive learning and teaching environments** within the higher education institution and its subunits, as well as in broader higher education systems at regional, national and supranational levels.

In our view, the SCLT approach encompasses the following principles when it comes to the design of learning and teaching processes (Weimer, 2002; Hoidn, 2017b; Weller, 2019; Blumberg, 2019; Klemenčič and Hoidn, forthcoming; Klemenčič, forthcoming):

- *Learning outcomes:* SCLT involves purposefully defining meaningful learning outcomes and aligning learning and teaching activities, assignments, assessments, and learning and teaching environments, to enable students to achieve and exceed these outcomes.
- *Function of content:* SCLT means imparting students with ways of thinking, communicating and practising as disciplinary experts. SCLT allows students to access new ways of knowing and inquiry through discipline-specific methodologies; content also guides students in developing a conceptual understanding that fosters the development of learning skills and future learning.
- *Function of learning:* Students are enabled to learn deeply within their expected learning outcomes, which they can advance into new learning situations as lifelong learners, as well as applying them beyond study into situations in life, work and civic engagement.
- *Role of students:* Students accept responsibility for their own learning and actively engage in meaningful social experiences of learning; they purposefully work towards developing self-regulated, lifelong learning skills rather than passively listening to lectures and reading study materials.
- *Role of teachers:* Teachers do not merely disseminate information, but rather facilitate students' learning experiences and foster student learning by developing meaningful learning outcomes; aligning teaching and learning methods to these outcomes and to the students' needs; and by creating a supportive and inclusive environment.
- *Responsibility for learning:* Students assume greater responsibility for their learning; responsibility for learning also lies with the teachers, but to a lesser extent.
- *Student agency and autonomy:* Students have capabilities to actively participate in the learning-teaching processes and the design and implementation of the

learning environments (agency); they understand the purpose of their study programme, explicitly accept the responsibility for their learning, proactively engage in setting their learning goals, planning and executing learning activities, they reflect on their learning and evaluate its effectiveness (autonomy).

- *Balance of power between students and teachers:* SCLT involves a mutual interdependence between students, teachers and instructional support staff in the co-construction of knowledge that should be based on mutual respect and the recognition of shared responsibilities in the teaching and learning processes.
- *Purpose and process of assessment:* SCLT entails a shift from one summative assessment that assigns grades at the end of the learning process, towards many smaller and diverse formative assessments and constructive feedback along the way, to promote deep learning; assessment standards and rules that are fair, consistent, transparent and meaningfully aligned with the expected learning outcomes.
- *Flexible learning pathways:* SCLT implies a degree of choice and flexibility built into academic pathways, including the recognition of prior learning and competences acquired outside the course; the permeability of study programmes, in the sense of the recognition of academic credits acquired from comparable courses elsewhere and the removal of administrative obstacles to transfer between study programmes; flexibility in schedules and course delivery; elective courses, elective assignments, and so on.
- *Self-regulation/reflection:* Learning and instruction should include the active monitoring and assessment of their effectiveness, and adjustments to learning and teaching strategies.
- *Supportive and inclusive learning environments:* Support for diversity, equity and inclusion within learning and teaching processes can be achieved by enabling inclusive classroom dynamics and removing barriers to accessing course materials due to financial circumstances, or barriers to accessing class activities due to logistics and scheduling; and by making learning resources accessible via information, advice and mentoring.

These principles are reflected in our choices of high-impact SCLT practices, which we discuss in the Section 2 of this report.

This report also claims that in order for higher education institutions to fully and successfully implement student-centred learning and teaching ecosystems, such ecosystems must encompass 10 mutually reinforcing core elements, namely:

- Policies, rules and regulations enabling student-centred learning and teaching.
- Student-centred curriculum and pedagogy.
- Student-centred assessment.
- Flexible learning pathways.
- Learner support.
- Teaching support.

- Active learning spaces and academic libraries.
- Learning technologies infrastructure.
- Community learning connections and partnerships.
- Quality assurance supporting student-centred learning and teaching.

All of these elements must be implemented in order to achieve a fully functioning SCLT ecosystem. We will discuss them in turn in Section 2 of this report. Finally, we concur with Klemenčič (2017, p. 70), who suggests that 'without clarity as to its meaning and a specific set of indicators to assess institutional practices, almost anything can be 'sold' as SCL.' Klemenčič points out the need to develop an overarching policy framework for SCLT that defines the core elements of SCLT in an institutional environment, as well as indicators to assess the presence of SCLT within institutions (Klemenčič, 2019), in order to guide implementation and quality assurance. In Section 2 of this report, we analyse the 10 core elements of the SCLT ecosystems mentioned above. In addition, we offer case-study examples of high-impact SCLT practices and discuss indicators to evaluate the presence of SCLT at higher education institutions.

1.1.3. How far can student-centred learning and teaching help to make higher education more inclusive?

The increasing student population and its growing diversity provides further imperatives for a shift towards student-centred education. EU higher education policies express the need for more graduates from higher education to create economic growth, and thus the need to make higher education more accessible and inclusive for a wider diversity of students, including those with fewer opportunities; those from different age-categories (e.g. reskilling, adult learning); as well as those working part-time alongside their studies. Similarly, widening participation is recognised as a priority in several countries, which has driven the development of SCLT at both national and institutional levels (ESU, 2010). The diversity of the student body serves as a factor encouraging the shift from a teacher-centred approach to a student-centred approach, in order to better address the diverse needs and perspectives of these different groups. However, challenges persist to achieving such wider participation. For example, people with disabilities, those from lower socio-economic backgrounds and mature students are underrepresented within higher education institutions, while migrants are also less likely to attain a degree (ET2020 Working Group on Higher Education, 2019). Parental responsibilities also influence students' access, success and completion rates. The main issue identified by ET2020 Working Group on Higher Education (2019, p. 3) is that 'governments do not clearly define strategies to promote inclusion, nor do they establish concrete targets to enrol and support students from underrepresented and disadvantaged groups'. Other issues identified are as follows:

- Only some of the underprivileged and underrepresented groups relevant in a regional or national context are targeted.
- Inclusion objectives are implemented in a specific part of the higher education system, without including the most prestigious institutions.
- There is a lack of adequate resources dedicated to supporting students from underrepresented and disadvantaged groups.

- Little support exists for students from underrepresented and disadvantaged groups to complete their studies and enter the labour market.

As a result, the composition of student body in higher education is not representative of the diversity and the social mix of the population as a whole (ET2020 Working Group on Higher Education, 2019).

Furthermore, not only access to, but also completion of higher education is a challenge in some countries more than others. In the context of the EHEA, only a few cross-country overviews of student completion and dropout rates exist, and data are only available for 11 education systems. These data show that completion rates for first-cycle programmes vary from 83.8 % in the United Kingdom to 51.2 % in Estonia (European Commission, EACEA and Eurydice, 2018). While low completion rates may be due to a number of reasons (e.g. lack of individual resources, wrong subject/programme choice, attractive employment opportunities), they may also indicate that higher education does not meet the needs of a diverse student population, suffers from inefficient processes, or lacks a student-centred approach to the design and delivery of programmes.

The need for inclusiveness in higher education is a widely discussed topic; however, as Lawrie et al. (2017) point out, opinions vary as to how to achieve it. The most commonly discussed topics include the accessibility of learning and teaching for students with disabilities, and the ways in which learning and teaching intersect with identity in terms of race, ethnicity, religion, socio-economic status and gender, among other characteristics. Normative propositions to foster the inclusion of groups that were previously marginalised are also important in the context of higher education. Lawrie et al. (2017, p. 5) summarise the literature to establish that 'inclusive education' refers mainly to a situation that meets the following requirements:

- Pedagogies should meet the diversity of learners' needs and should not create barriers to particular students or student groups.
- Pedagogies should enable accessibility and be crafted through consultation between a variety of institutional stakeholders.
- Assessment should be multimodal and flexible, while maintaining academic standards.
- Institutions should adopt a more holistic and comprehensive approach to supporting learning and teaching for diverse groups of learners.

According to Hockings (2010, p. 1), 'inclusive learning and teaching in higher education refers to the ways in which pedagogy, curricula and assessment are designed and delivered to engage students in learning that is meaningful, relevant and accessible to all. It embraces a view of the individual and individual difference as the source of diversity that can enrich the lives and learning of others.'

Many scholars are united in the position that SCLT can help to promote inclusive education and address the challenges to access and completion among a diverse student population. Lea et al. (2003) indicate that the changing composition of student body is one of the most important drivers for the implementation of SCLT approaches. Enrolment is increasing among mature students, students with disabilities and

international students, which requires HEIs to learn more about their needs and expectations in order to effectively address them – for example, by organising part-time or evening courses, online or blended learning courses, lectures for the public, consecutive Master's programmes for professionals and executive education. This diversity can be accommodated by shifting the focus from the teacher to the student – from an input orientation to an output orientation. In catering to the needs of increasingly diverse student population, HEIs themselves are becoming, or are expected to become, lifelong learning institutions.

According to Quinn (2013), the dropout rate among students is not caused by widening participation, but by a lack of consideration for the needs of an increasingly diverse student body and the insufficient use of the SCLT approach in higher education. Lea et al. (2003) also suggest that students are more motivated to stay in a course that meets their learning needs.

The Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015) stipulate that a student-centred approach to higher education helps to broaden access to higher education by embracing flexible learning pathways and allowing more flexible entry routes to higher education programmes through the recognition of prior and informal learning. At the same time, HEIs are also becoming more diverse in terms of internationalisation, digitalisation and the use of new forms of delivery.

According to the Joint Research Centre of the European Commission[3], 'opening up pedagogical practices is about developing the design for learning so that it widens participation and collaboration between all involved.' The SCLT approach is suited to achieving this, as it is better able to respond to the needs and expectations of an increasingly diverse student population than the teacher-centred approach. SCLT empowers and extends opportunities for students from different groups to engage academically and to construct their own learning process (Hockings, 2010).

This report agrees with the scholars above and argues that SCLT practices can contribute to more inclusive and supportive higher education for an increasingly diverse student population. Attending to the needs of a diverse student body and offering more personalised and individualised learning and teaching practices are at the very core of SCLT approaches. SCLT provides a personalised approach to learning and instruction by emphasising students' learning abilities, needs, interests, learning styles and backgrounds (Hoidn and Reusser, forthcoming; Knyvienė et al., 2016). Thus, SCLT enables higher education to become more inclusive, by putting students and their learning at the centre of the educational process. This approach positively influences outcomes by allowing students to take responsibility for their own learning. and to develop strategies for lifelong learning. SCLT aims to support the learning needs of the students and to cater to their diverse interests and learning goals by providing a combination of scaffolding, support and built-in flexibility that allows students a degree of choice as to what, how, when, at what pace, and for what purpose they learn.

Throughout this report, we present and analyse SCLT practices that help to improve inclusiveness in higher education. Our overall insights from this evidence are

[3] JRC: https://ec.europa.eu/jrc/en/open-education/ten-dimensions/pedagogy

summarised in Section 3, together with conclusions on the ways in which applying the SCLT approach can enable and support more inclusive higher education. Section 3 focuses in particular on the following elements of SCLT: curriculum and pedagogy; flexible learning pathways; learning support; teaching support; active learning spaces and libraries; technology-enhanced education; and community engagement.

1.2. Research questions and methodology

This report gathers usable knowledge on the central elements of the SCLT approach to higher education and its implementation in HEIs, in particular by mapping high-impact SCLT practices and presenting insights from the most recent high-quality academic research on SCLT. The study was guided by three central research questions:

1. What are the core elements and examples of high-impact practices in the student-centred learning and teaching in higher education that ensure transformative learning experience for all students?
2. How can high-impact practices of student-centred learning and teaching ecosystems be implemented by higher education institutions, and how should their impacts be assessed?
3. How can student-centred learning and teaching practices support inclusive and supportive higher education in the sense of removing barriers for *all* students to access, actively participate in, and achieve transformative learning experiences in higher education?

The first two research questions are addressed in Section 2, which is structured around the 10 core elements of the SCLT approach to higher education, listed in the section 1.1.2. Each of these elements is described in Section 2, along with insights derived from our review of literature on SCLT in higher education. The report draws substantially on the forthcoming 'Routledge Handbook on Student-Centred Learning and Teaching in Higher Education', co-edited by Sabine Hoidn and Manja Klemenčič. In addition, the study team has reviewed other relevant classical works on SCLT.

The third research question is addressed in Section 3, in which we identify the most relevant and impactful elements of the SCLT ecosystem that contribute to more inclusive higher education.

This report also offers an inventory of notable SCLT practices, together with empirical research on their effectiveness, in order to inform the design of SCLT ecosystems within higher education. For a complete list of the SCLT practices mapped in this study, please refer to Annex 2. The most interesting and notable SCLT practices identified are also presented in boxes throughout the report. High-impact SCLT practices were mainly mapped using the following sources:

- The websites of universities involved in the recently announced Alliances of European Universities. The implementation of innovative learning and teaching practices was among the criteria for inclusion in European Universities projects. We have screened the best practices of these universities involved now, before these projects commence. This enables us to: 1) provide examples of high-impact practices for Alliances to consider in the future; and 2) assess developments in

this area after several years by screening which novel practices they choose to highlight on their websites. In total, practices from 22 universities participating in 10 alliances are presented in Annex 2.

- Erasmus+ funded projects relating to SCLT and inclusive education –in particular, those implemented by the European University Association and the European Students' Union.
- Horizon 2020-funded projects relating to SCLT and inclusive education.
- Academic and policy-relevant research literature reviewed for the study.

The mapping of practices was carried out by screening websites and literature. The method of content analysis was applied for the screening. The following keywords were used in the search query:

- Basic concepts: student-centred learning; learning-centred education; learner-centred practices; student-orientated learning; inclusive higher education.
- SCLT principles: active learning; experiential learning; personalised learning; self-regulated learning; participatory learning; differentiated learning.
- SCLT approaches: inquiry-based learning; project-based learning; problem-based learning; peer-to-peer learning; blended learning; online learning.

Only where we were unable to identify a European example from the above sources have we included high-impact practices from other parts of the world. All recommendations and policy pointers provided in the report are, however, tailored to the EU context.

As always, the approach adopted has certain limitations, as only information provided in the relevant literature and websites was gathered. The methodology did not include field research such as surveys or interviews. Future studies in this area could further analyse or clarify the practices mapped in this study through the use of field research methods such as an in-depth analysis of SCLT practices in selected HEIs. These could include, for example, the institutions involved in the Erasmus+ European Universities initiative.

Finally, Annex 3 of the report provides a self-assessment tool for HEIs to assess the existence and effectiveness of student-centred learning and teaching elements within their own institution. The Annex includes the list of considerations concerning each core element of the SCLT ecosystem, and a list of indicators to assess whether these elements exist within a given institution. HEIs are guided through the Annex via questions they should ask themselves to ascertain whether they are already part of the student-centred learning and teaching paradigm.

2. Designing student-centred learning and teaching ecosystems in European Higher Education Institutions

For SCLT ecosystems to be fully functional in higher education institutions, they must encompass 10 core elements, namely:

- Policies, rules and regulations enabling student-centred learning and teaching.
- Student-centred curriculum and pedagogy.
- Student-centred assessment.
- Flexible learning pathways.
- Learner support.
- Teaching support.
- Active learning spaces and academic libraries.
- Learning technologies infrastructure.
- Community learning connections and partnerships.
- Quality assurance supporting student-centred learning and teaching.

This section presents and analyses each of these elements in depth to outline the main insights from our review of the scholarly literature, and to discuss challenges to their implementation.

2.1. Policies, rules and regulations enabling student-centred learning and teaching

Shifting to the SCLT approach in higher education requires the adjustment of the national and institutional policies, rules and regulations. The commitment of governments and higher education institutions towards SCLT can be determined through their policies, rules and regulations on:

- Learning and teaching in general.
- Hiring, promotion, remuneration, workload and professional development of the academic teaching staff.
- Student conduct.
- Governance and strategic leadership of SCLT.
- Funding of SCLT.

2.1.1. National policies on student-centred learning and teaching

The countrywide implementation of SCLT is greatly facilitated if the government and the leadership of HEIs share a vision for strengthening the quality of learning and teaching in higher education that is based on the principles of student-centred education and clearly expressed in higher education policies. As discussed earlier, to develop fully

functioning SCLT ecosystems, policy makers should be committed to implementing *all* of the core elements of SCLT listed above.

Policy making at national and institutional levels should be evidence-based, drawing on robust and comprehensive collection and analysis of data on higher education. To achieve the desired policy outcomes, attention should be paid to ensuring that policies are coordinated and integrated horizontally with other public or institutional policies (such as, for example, policies on research and innovation or policies on primary and secondary education), as well as vertically across all levels of higher education governance, for a concerted effort to achieve the desired policy outcomes.

Furthermore, both government and the national leadership of higher education should devise a strategy to put their policy on learning and teaching into practice. A national strategy document would benefit from the inclusion of benchmarks from the best-performing countries or institutions. Its objectives should align with the overall vision, instruments and the powers of authorities and individuals responsible for achieving the objectives. A timeline and concrete indicators should be put in place to evaluate policy implementation. Ideally, national programmes or initiatives should exist for the advancement of SCLT in higher education (see the example from Ireland in *Box 1*).

Box 1. Ireland's National Forum for the Enhancement of Teaching and Learning in Higher Education

The National Forum for the Enhancement of Teaching and Learning in Higher Education is the body responsible at national level in Ireland for leading and advising on the enhancement of teaching and learning in higher education. The Forum works with those who teach, learn and shape policy and practice to ensure a valued and informed teaching and learning culture in Irish higher education. The Forum focuses on the professional development of all those who teach; teaching and learning in a digital world; teaching and learning within and across disciplines; and student success. As a national body, the Forum leads the enhancement of teaching and learning in partnership with students, staff and leaders in higher education to develop an inclusive, collaborative and innovative culture that maximises learning impact for the success of all students. See: https://www.teachingandlearning.ie/.

2.1.2. Institutional policies and strategies on student-centred learning and teaching

According to Dakovic and Zhang (forthcoming, p. 13), '86 % of the institutions that were surveyed under Trends 2018 have an institutional strategy or policy for learning and teaching, mostly at central level (46 %), or at both central and faculty level (38 %). The top three elements included in these strategies and policies are academic staff development (86 % of respondents have a strategy/policy), providing international opportunities (87 %), and general measures to improve teaching (84 %).'

However, Šušnjar and Hovhannisyan (forthcoming) argue that despite the inclusion of SCLT in European policies, as well as strong lobbying efforts by the European Student Union and support from stakeholders, the implementation of SCLT in practice is still lacking. This is partly the outcome of poor conceptualisation of SCLT. According to Šušnjar and Hovhannisyan, SCLT is either rarely operationalised, or its definition is too

narrow. Moreover, the policies of HEIs rarely consider the need for students to be consulted and prepared for SCLT.

Kember (forthcoming) indicates that HEIs can use different types of initiatives to promote SCLT at an institutional level. Such initiatives can include models of good practice from award-winning teachers; compulsory teacher training courses for new junior teachers and teaching assistants; projects funded by teaching development grants; programme reviews; and evaluation systems at institutional level.

Successful implementation of SCLT in HEIs is facilitated by an institutional leadership that has a vision for, and commitment to, SCLT. As discussed earlier, the institutional leadership needs to understand that a comprehensive approach – indeed, a framework for the SCLT ecosystem – is required in order to achieve an institutional shift from teacher-centred to student-centred education.

Institutional strategy on SCLT should include an operational implementation plan, with tasks designated to specific personnel, a timeline and concrete indicators to evaluate policy implementation. Ideally, institutional programmes or initiatives should exist for the advancement of SCLT in a higher education institution (see the example from the University of Limerick in *Box 2*).

Box 2. 'Engaged Learning: Teaching, Learning and Assessment Strategy' at the University of Limerick

In 2014, the University of Limerick launched a teaching, learning and assessment strategy underpinned by a deep commitment to the principle that students should be actively and deeply involved in their own education. The strategy consciously emphasises the concept of engagement, which is associated with educationally purposive activities, academic achievement and broader student success.

The broad framework for engagement was created to capture the most pertinent characteristics of an engaged approach to teaching, learning and assessment. The main aspects of engaged learning are:

- **Academic rigour:** a disciplined and rigorous approach to learning challenges students by setting high expectations for their academic performance that match their potential and ability. Equally, a rigorous approach to programme design and continual curriculum development is characterised by an ethos of research-led teaching and learning.
- **Enriched educational experiences:** enriched learning opportunities, both inside and outside the formal class setting, cultivate the development of desirable attributes in graduates. Learning opportunities include co-curricular and extra-curricular activities and practices.
- **Supportive Campus Environment:** a supportive campus promotes student success and positive social and working relationships between students.
- **Active Collaborative Learning:** intensive and active involvement in their education enhances students' learning. Different forms of teaching and assessment (including self-directed and long-term exercises) better prepare students for the uncertainty they face during and after university.

- **Meaningful Student/Staff Interaction:** academics act as mentors and role models for students through their interactions with them, both inside and outside the classroom. These interactions deepen students' learning by allowing them to witness at close quarters how experts deal with complex problems and difficult material.

2.1.3. Rules and regulations on teaching staff

The professional development of academic staff is considered to be an important part of institutional strategies (see section 2.6 on teaching support). As noted by the European Trade Union Committee on Education (ETUCE, 2016, p. 1), potential pitfalls exist to the achievement of quality learning and teaching if the predominant focus on learning outcomes is not also accompanied by support for advancing the scholarship on learning and teaching, the professional development of educators, and the full engagement of students. Providing educational opportunities for teachers in higher education has also been recommended by the European Science Foundation in its position paper *The Professionalisation of Academics as Teachers in Higher Education* (ESF 2015). This is accompanied by a number of other recommendations, including: (1) defining professional standards for higher education teachers; (2) measuring teaching effectiveness and providing constructive feedback for academics; (3) establishing a local institutional support base for educational development; (4) recognising teaching excellence through hiring and promotion decisions; (5) promoting the idea of the teacher researcher; (5) recognising research on teaching as a research activity; (6) allocating meaningful funding to educational development; (7) establishing a European forum within a currently existing institution, which pools and shares resources and existing expertise on educational development across borders.

Another important aspect of HEI policies is the promotion of academic staff. ETUCE (2016) issues a number of warnings related to this area: (1) that promotion procedures, particularly those for senior academic positions, continue to prioritise research outputs and the ability to obtain external funding; (2) that a growing number of teachers in higher education are employed on fixed-term or teaching-only contracts (as adjunct teaching staff); and (3) that gender inequalities exist in terms of teaching loads and types of contracts (fixed-term and teaching-only).

To successfully implement SCLT, it is of paramount importance that the rules and regulations on the hiring, promotion, remuneration, workload and professional development of academic teaching staff include SCLT-based criteria. These could include the submission of teaching portfolios that encompass complete course design (syllabi); assessment guides and rubrics that assess evidence of SCLT approaches; teaching statements that express an understanding of, and commitment to, SCLT; and (if applicable) certification by professional development programmes in SCLT in higher education). Institutional evaluations and measures of teaching effectiveness should be considered as part of hiring and promotion decisions and should be matched with teaching support.

Also important for the implementation of SCLT is the availability of teaching support in form of professional development for teachers and support for innovation in learning and teaching. Teachers should be expected to develop and submit a rigorous and detailed teaching methodology for each of their courses in a similar manner to the way

in which researchers are expected to submit research proposals for funding (Klemenčič 2019). A course syllabus functions as a framework or 'contract' for teachers and students alike (Palmer, Bach and Streifer, 2014). It has to communicate clearly what students will learn from the course, and why this knowledge is important (learning outcomes, objectives and goals); how learning and assessment will take place (learning tasks and assessments); what scaffolding support is available; how course policies define the learning environment and course climate; which responsibilities for learning lie with the student, and also what is the balance of power between student and teacher; as well as what agency the student possesses within the course (Blumberg, 2019; Weller, 2019).

To ease the workload on academic staff, HEIs should seek to offer opportunities for teaching fellowships to graduate students and teaching assistantships to undergraduate students. Such opportunities simultaneously provide important learning and professional opportunities for these student teaching staff. Rules and regulations on the hiring, remuneration, workload and professional development of graduate teaching fellows, undergraduate teaching assistants and teaching support staff (e.g. instructional designers, learning technology experts, librarians) should also include SCLT criteria such as familiarity with SCLT approaches to classroom instruction and ways to use learning technologies to further SCLT practice, etc.

To strengthen support services for SCLT and at the same time offer educationally purposeful work or extracurricular volunteer opportunities to students, HEIs should offer paid and volunteer opportunities to both undergraduate and graduate students to serve in learning and teaching support roles. This could include serving as peer tutors, interns in learning and teaching units, interns in quality assurance units, professional employees in libraries, in learning technology units (see sections 2.5 and 2.6).

Attention also needs to be given to raising the prestige of teaching *vis-à-vis* research. This should be reflected in the criteria used for hiring and promotion. Teaching-track career pathways can be established in parallel to the traditional academic (professorial) tracks for academic staff whose primary engagement is in teaching and in advancing learning and teaching, while also conducting research into learning and teaching or in their disciplines.

A shift to SCLT requires that education-focused career pathways be both recognised and better developed. For example, the National University of Singapore has established certain requirements for faculty to progress in their teaching careers. Promotion is conditional on demonstrating evidence of positive impact on student learning, educational leadership and influence on institutional learning and teaching practices, as well as contributing to pedagogical research (Di Napoli and Geertsema, forthcoming).

Box 3. Teaching Hero Awards from Ireland's National Forum for the Enhancement of Teaching and Learning in Higher Education

In 2014, the National Forum for the Enhancement of Teaching and Learning in Higher Education launched its National Teaching Hero Award initiative. This enables students from across the higher education sector in Ireland to recognise those teachers who have made a strong and lasting impact on students' learning and lives. The awards aim to enhance and motivate outstanding teaching across all higher education institutions in Ireland.

The awards are organised by the National Forum in collaboration with the Union of Students in Ireland. The National Forum for the Enhancement of Teaching and Learning in Higher Education holds the awards nationally. Each institution's Students Union promotes the awards on campus using posters, information stands, social media, email and class representatives. Individual students then nominate their Teaching Hero using an online nomination form. The form asks students to write a short personal text explaining why this person is their Teaching Hero. This nomination form is managed by the National Forum. Once nominations close, the National Forum returns an anonymised list of nominations to the corresponding institute. The institute scores each nomination according to an agreed qualitative framework and returns the scored nominations to the National Forum. The National Forum then calculates the final score for each nominated Teaching Hero, and returns the complete data set to each institution. The data received includes the top Teaching Heroes and all other nominated heroes from the respective institution. Lastly, the National Forum announces the top two Teaching Heroes in each institution and invites them to a National Awards ceremony.

2.1.4. Rules and regulations on student conduct

The principles of SCLT set out clear expectations for students to take responsibility for their learning and development as self-regulated, autonomous learners. Accordingly, institutions must clearly communicate these institutional expectations via their guidelines on student conduct (e.g. student handbooks).

SCLT principles also grant students the capabilities to shape their learning and teaching processes and environments. Thus, institutional rules and regulations for students should include provisions on students' academic integrity and ethical behaviour in education processes in the same way as these expectations exist for all other members of the academic community (i.e. teachers, researchers and other staff). As suggested by Klemenčič (2019, p. 14-15), the 'SCLT ecosystem cannot be established in an academic environment which is not fully committed to the highest standards of academic integrity and ethical behaviour. Breaches of such standards, for example, by tolerating plagiarism, cheating on exams, etc., undermine and hamper the implementation of SCLT. As part of the implementation of SCLT ecosystems, higher education institutions have to revise and strengthen their policies, procedures and institutional bodies responsible for preventing and sanctioning unethical behaviour in educational processes. Teachers have to be aware of the ways to prevent (for example, by showing standard citation practices, designing new problem sets for exams rather than recycling them, avoiding rote learning practices, etc.) and to sanction breaches of academic integrity.' In other words, there should be clear institutional guidelines stating what is expected of

students in terms of academic integrity and ethical behaviour within education processes and offering resources to help students understand and meet these expectations.

Institutional guidelines should also exist that clearly communicate student rights and complaint procedures. These should be transparent, fair and objective, and must ensure that students do not face retaliation in the event that they make a complaint. The Standards and Guidelines for Quality Assurance in the European Higher Education Area also identify the provision of procedures for student complaints as one of the elements of SCLT (Struthers and Van Arsdale, forthcoming). Complaints from students can be important drivers to improve various aspects of higher education (see *Box 4* for an example). In order to be useful, a complaints system must be well managed, and student complaints must be addressed. It is important that HEIs provide feedback to the complainant in the case of both favourable and unfavourable decisions. This in turn encourages student satisfaction, engagement and loyalty (Mapunda and Rajabu, 2018).

Box 4. Student engagement at the Department of Philosophy of University College London

> The Department of Philosophy at University College London worked with its students to identify, discuss, and find solutions to existing issues within the department, especially in the areas of assessment and feedback. This initiative was started due to the department receiving low scores in the National Student Survey. A student facilitator was employed to facilitate smooth discussion and partnership between staff and students. As a result, the department's scores in the National Student Survey improved significantly, with overall satisfaction rising from 70 % to 89 % and assessment and feedback scores improving from a low 44 % to a much higher 77 %.

Student involvement in institutional governance and quality assurance bodies is also becoming increasingly important as institutions shift towards SCLT (see *Box 5* for an example on how Erasmus University College Brussels includes students in various institutional bodies and engages them in decision-making processes). The Standards and Guidelines for Quality Assurance in the European Higher Education Area 2015 require that students are involved in internal quality assurance processes. This increases the accountability of the institution and instils a sense of responsibility among all internal stakeholders, including students. A study by PPMI (2018) showed that internal quality assurance procedures within HEIs usually include a number of different stakeholder groups, including students. More than 70 % of HEIs (Erasmus Charter holders) surveyed by PPMI in the same study indicated that students are significantly involved in programme design, evaluation and curriculum development. However, it was also noted that differences persist between EU Member States and between HEIs in terms of governance, feedback and the provision of information. Student participation in the institutional governance and quality assurance of SCLT is a necessary condition for its successful implementation. Furthermore, provisions should exist to engage students in learning and teaching by generating research on SCLT, acting as consultants for SCLT and serving in learning and teaching support roles, such as course teaching assistants (and graduate teaching fellows); course research assistants; peer advisers or learning technology support staff; or as interns in teaching and learning centres, etc.

Box 5. Innovative student engagement tools used at Erasmus University College Brussels

Erasmus University College Brussels has employed focus group discussions, social media and student counselling services as innovative tools to enhance student engagement. The university's quality assurance office works to enter into dialogue with all major stakeholders, especially students. Its goal is to achieve a more equal relationship between staff and students and ensure a continuous dialogue (rather than merely focusing on student satisfaction surveys). Moreover, Erasmus University College Brussels seeks to immerse students in a context of diversity to encourage openness towards diversity and the values of solidarity, inclusiveness and emancipation among students. To achieve these objectives, the university involves students in the development and evaluation of policy. They participate in focus groups and co-creation initiatives. Face-to-face communication with students adds to the quality of interactions, triggering improvements in programmes from within as well as improving the university's reputation.

2.1.5. Funding of student-centred learning and teaching

Funding can also have an impact on the implementation of the SCLT approach in HEIs. Higher education institutions are expected to strive for high performance in fulfilling their missions of teaching, research, innovation and outreach services, encompassing the aspects of quality, efficiency and equity. Budgets are usually provided to help them achieve these goals. In relation to SCLT, the primary goal is to be able to finance human resources (teaching staff, graduate teaching fellows, undergraduate teaching assistants and learning and teaching support staff), including their professional development and support services, as well as funding material resources (e.g. learning technology infrastructures, learning spaces, libraries) to implement SCLT across HEIs and higher education systems. The bulk of expenditure is, of course, associated with personnel costs. Investment in teaching technologies can also be costly, especially capital investments in digital course platforms, learning analytics tools, the digitalisation of learning support or personalised learning through artificial intelligence, and other elements of digital infrastructure that support SCLT, i.e. educational operations as well as other university operations.

National authorities such as ministries, funding agencies and other public authorities use different funding mechanisms to allocate funding to HEIs in relation to their education mission and to SCLT:

- Block grants based on negotiation or historically determined allocation.
- Performance-based funding.
- Project-based funding.
- Contracts.
- Other direct funding including targeted funding.

The type of funding that is most able to contribute to the widespread use of SCLT is performance-based funding (PBF). PBF is an incentive mechanism used to influence institutional behaviour. When an institution is given a clear financial stimulus, the

desired policy outcomes are easier to achieve (e.g. encouraging the use of a student-centred learning and instruction approach; reducing dropout rates, increasing student attainment, improving employability, fostering knowledge transfer and increasing collaboration between academia and industry). Thus, authorities identify specific indicators to monitor how different HEIs implement policy goals. These performance metrics (e.g. graduate employment, dropout rates, staff structure/quality) can potentially create financial incentives for HEIs to encourage the wider use of SCLT and better implement its different elements. It is important to consider not only student outcomes among the criteria for performance-based funding, since these can lead to unintended consequences. For example, if student graduation rates are the sole criterion for performance-based funding, HEIs could lower their academic standards in order to ensure more students graduate, or could become more selective over admissions in order to admit only those students who are likely to graduate. The implementation of SCLT ecosystem elements should also be monitored.

Funding bodies may also offer competitive project funding for the advancement of SCLT practices (e.g. for professional development training in SCLT and other policy learning/networking/multiplier events; prizes for excellence in student-centred teaching and course development; funding for the purchase of educational technologies supporting SCLT and the remodelling of academic learning spaces for active learning). Examples are provided in *Boxes 6* and *7* below). Another possibility is to offer competitive research funding for basic and applied research as well as knowledge exchange in learning and teaching.

Box 6. Funding provided by the Irish National Forum for the Enhancement of Teaching and Learning in Higher Education

The National Forum for the Enhancement of Teaching and Learning in Higher Education provides a variety of funding opportunities to support teaching and learning enhancement across the Irish higher education sector.

The Teaching and Learning Enhancement Fund enables strong cross-sectoral collaboration, as well as partnerships with other education providers and external stakeholders – all with a view to institutional enhancement for maximum national impact. Projects financed by this Fund reflect collaborative innovation across Irish higher education. Calls for applications to the Fund align with the current national strategic priorities (e.g. the quality of the student experience, quality of teaching, scholarship and external engagement, internationalisation).

The National Seminar Series provides opportunities for those working in higher education to connect with colleagues and focus on shared interests in both the research and practice of teaching and learning enhancement. The series also creates opportunities to hear from national and international experts in different areas of teaching and learning. These events cover various topics, including student engagement, formative assessment, feedback, promoting inclusivity through Universal Design for Learning, digital technology and professional development.

The National Forum also offers funding to support conferences that underpin the enhancement of teaching and learning in Irish higher education. Conference organisers can apply for funding if their event aligns with one or more of the National Forum's key strategic priorities (e.g. professional development, teaching and learning in a digital world, student success), if it will have a positive impact on student engagement/learning, and if it will have significant reach across the higher education community.

Box 7. European Award for Excellence in Teaching in the Social Sciences and Humanities

Central European University organises the annual European Award for Excellence in Teaching in the Social Sciences and Humanities. This pioneering award, first announced in 2011 on the occasion of the 20th anniversary of the university's founding, honours academics in social sciences and humanities who teach at higher education institutions within the European Higher Education Area. Its goal is to promote excellence in teaching. The award is accompanied by the Diener Prize of EUR 5,000.

All candidates must have an outstanding overall teaching record. In addition, candidates must show exemplary experience in one or more of the following practices:

- applying innovative teaching methods.
- combining theory and practice, relevance and scholarly excellence.
- using research elements to achieve excellence in teaching.
- applying problem-based/problem-oriented teaching.
- achievements in the encouragement of critical thinking.
- sustained commitment to teaching excellence, rather than one-off achievements.

Applications from candidates working with less affluent students or students from disadvantaged social backgrounds are particularly welcome.

The selection process is coordinated by the CEU Center for Teaching and Learning. The selection committee comprises distinguished international faculty and higher education leaders.

2.1.6. Governance and strategic leadership of student-centred learning and teaching

Higher education systems, sub-systems, HEIs and their sub-institutional units, must all possess adequate governance structures and processes to implement SCLT policies efficiently and effectively. The administrative and managerial bodies responsible for the implementation of SCLT policies and strategies must have sufficient and competent human resources to guide, support and monitor the implementation of SCLT policies, and these professionals must have direct access to the strategic leadership.

In addition, an overall institutional commitment to organisational learning – to being a learning organisation – further enables the shift to SCLT (Hoidn, forthcoming). Being a learning organisation means that the leadership initiates periodic reviews of the organisation's structures and procedures (including governance) not only ensure efficiency, but also to ensure that those structures and procedures are person-centred and learning-oriented, and are able to adapt to new trends and developments such as the adoption of learning technologies and support for the professional development of the organisation's own personnel. Furthermore, the organisation's leadership should initiate institutional research into own functioning and outcomes. Governance structures and processes must be coordinated across all levels (system, sub-system, institutional, sub-institutional). The full involvement should be ensured of stakeholders in general, and students in particular, in the organisation's governance and administration.

Strategic leadership can have a positive impact on the successful development and implementation of the policies, rules and regulations discussed above. To ensure a successful shift to SCLT, it is crucial that the strategic leadership possesses a vision to strengthen SCLT, as well as a commitment to do so through the implementation of the SCLT ecosystem elements discussed in this report. Furthermore, a similar vision and commitment to SCLT as being synonymous with strengthening the quality of learning and teaching should be shared by the representative bodies of teachers and students.

According to Hoidn (2017c), strategic leadership with professional internal management is crucial to developing a culture in which SCLT is a daily practice rather than just a mission statement. Leaders must be engaged in the management processes of analysing, planning, implementing, monitoring and evaluating the HEI's approach to SCLT, as well as collaborating with multiple stakeholders, and understanding and responding to emerging issues and changing environments (Quong and Walker, 2010). First, HEIs need to develop a clear understanding of the SCLT approach and establish a framework that can guide their practices and help them to maintain a genuine culture of SCLT. This culture must be communicated to and understood by the stakeholders (Hoidn, 2017c). It is then important that institutional leaders appoint knowledgeable staff or create new institutes or departments to facilitate in-house discussion, training and cooperation among instructors and administrative staff with regard to the design, development and delivery of curricula, assessment practices, the adjustment of learning spaces and involvement of students in various organisational bodies, as well as the provision of student support services. The institutional leadership and the administrators appointed can further contribute to the implementation of SCLT by developing strategic administrative plans and allocating the necessary resources to the teaching mission. This can be achieved by attaching greater importance to teaching skills when hiring and promoting teachers, assessing teaching performance, supporting the professional development of teachers, and in recognising and rewarding best practices in teaching (Hoidn, 2017c).

A shift to SCLT requires a change in university culture. This can be particularly challenging in the light of powerful cultural forces and existing traditions in higher education (Di Napoli and Geertsema, forthcoming). Thus, it is important to consider that changing policies do not automatically generate new forms of learning and teaching on the ground. Because major changes in the area of learning and teaching result from the

interaction between teachers, students and institutional management, the responsibility for making a shift to SCLT happen is a collective one.

2.2. Student-centred curriculum and pedagogy

By shifting to SCLT, an institution can make wider use of classroom activities that encourage active learning and deep learning. Student-centred classroom activities encourage students to cognitively engage in the processes of understanding, reflecting and integrating new information.

Trends in higher education suggest that while lecturing is still the most dominant approach in higher education, it has begun to give way to more student-centred approaches. When speaking about SCLT practices, we should distinguish between SCLT approaches and SCLT techniques. SCLT approaches refer to a 'broader' definition of a practice. SCLT classroom approaches include collaborative learning, inquiry-based or research-based learning, peer-to-peer learning, project-based learning (see *Box 8* on how project-based learning can be applied in practice), self-regulated learning or technology-supported learning. Meanwhile, teaching techniques are used to implement the above SCLT classroom practices, and include debate, case study, presentation, role play, game/simulation, discussion, journaling, 'quick write', 'do now', 'think-pair-share', 'four corners', concept maps, 'speed dating', 'jigsaw' and peer instruction, among others.

For example, peer-to-peer learning may be an SCLT approach to designing a class, while SCLT techniques refer to very specific practical methods. Role play or a simulation in a classroom of a real-world situation could be an SCLT technique used to implement the SCLT approach of peer-to-peer learning.

Box 8. Project-based learning in the education programme at Sheffield Hallam University

> At Sheffield Hallam University, the project-based learning approach is applied to accelerate change in the built environment education programme. The project replicates the activities of the various professions into which students are likely to progress. For example, students carry out full, measured surveys of a construction site and prepare a detailed planning application. The project requires data collection, the preparation of existing drawings and the subsequent design and submission of a detailed planning application on behalf of a 'real' client. The local planning authority supplies literature and written guidance during the project. Students' proposals and planning applications are assessed by a senior planning officer at the end of the project.

In the classroom, SCLT practices challenge the long-standing idea of students as passive participants who simply absorb knowledge transmitted to them by their teachers. SCLT also challenges the idea that the 'act of learning is synonymous with the act of teaching' (Ashwin, forthcoming, p. 3). As Hoidn and Reusser (forthcoming, p. 19) put it, 'the core elements of active learning are student activity and engagement in the learning process through class discussion, small group work, debate, posing questions to the class, think-pair-share activities, short written exercises and polling the class.' These SCLT techniques encourage students to solve problems, answer questions, formulate their

own questions, debate, discuss, explain, evaluate, analyse and reflect on their learning. These techniques also engage students with the learning material, with the goal of making them think about the material they are studying and evaluate their own level of understanding and skill in the particular subject matter. For an example of how this can be applied in practice, see *Box 9*. Even though it is crucial to focus on the students and their ability to become active participants in the learning process, the role of teachers should not be overlooked. Teachers who apply classroom practices create opportunities for students to organise new information in meaningful ways and guide them towards higher order thinking and learning outcomes (Hoidn and Reusser, forthcoming). However, the use of SCLT approaches and techniques is not sufficient in itself; in order to create a climate conducive to learning, teachers must be knowledgeable and skilled (Schneider and Preckel, 2017). They must also carefully consider the use of SCLT practices in the classroom to ensure they fit the learning outcomes and needs of students in a specific situation (Duraisingh, forthcoming).

Box 9. Peer instruction methodology 'ConcepTests'

> Eric Mazur, a professor at Harvard University, has generated a specific methodology for peer instruction, which refers to the process by which students learn from each other. 'ConcepTests' (essential questions) are incorporated into lectures. The purpose of the 'ConcepTests' is to illustrate the difficulties faced in trying to understand the learning material. Students are given two minutes to think about a given question and formulate an answer. They are then given two to three minutes to discuss the answer in small groups of three to four students and decide upon the correct answer. The process enables students to think through their argumentation and enhances their reasoning skills.

Higher-order thinking and learning outcomes are based on learning taxonomies and the idea that some types of learning require deeper cognitive processing, but at the same time offer greater benefits. Higher-order thinking involves the learning of more complex skills such as problem solving or critical thinking. However, according to Bloom's Taxonomy, which is a classification of the different cognitive objectives and skills that teachers set for their students, learning on the higher level can only happen when knowledge and skills are attained at lower levels. The revised taxonomy classifies thinking according to six levels of learning (Anderson & Krathwohl, 2001) 'in order to build content knowledge that provides a useful foundation for developing learning objectives, course activities and assessment tasks' (Hoidn, 2017a, p. 83):

- Remembering: retrieving, recognising and recalling knowledge.
- Understanding: constructing meaning through interpreting, exemplifying, classifying, summarising, inferring, comparing, and explaining.
- Applying: taking action by executing or implementing.
- Analysing: determining how things relate to one another or to an overall structure through differentiating, organising and attributing.
- Evaluating: making judgments through checking and critiquing.

- Creating: combining parts to make a new whole or reorganising parts into a new structure by generating, planning or producing.

Classroom practices stimulate active learning, meaning that students engage the information presented to them by thinking about, analysing, evaluating and using it, rather than simply receiving and memorising it (Damşa and de Lange, 2019; Duraisingh, forthcoming). An example of how active learning can be introduced into classrooms is provided in *Box 10* Sugino (forthcoming, p. 3) provides a well-summarised definition of active learning from the Central Council for Education (CCE) report (CCE, 2012, p. 37), stating that it is 'a general term for learning and teaching methodology that involves learners' active participation in learning, which is different from one-way, lecture-style instruction. It intends to cultivate versatile ability, including cognitive, ethical, and social ability, knowledge, and experience. It includes heuristic instruction, problem-based learning [see Box 11 and Box 12 for examples on how problem-based learning can be implemented in a classroom], experiential learning, and inquiry-based learning. Group discussions, debates, and group work in class are also effective methods for active learning.' Sugino's study (forthcoming) shows that low- and medium-level academic achievers, who usually tend to be passive in the classroom, can become active participants when they find classroom activities enjoyable and meaningful to them. This can be achieved by employing a different approach to learning, even in cases where students are not interested in the subject matter.

Box 10. 'Lab baths' for students

The Catholic University of Leuven organises 'lab baths', a type of intensive laboratory session, during which students apply theoretical knowledge in practice. The university organises lab baths in different disciplines on several campuses. These are attended by students from various study programmes and faculties. Other learning activities, such as preparation for the laboratory sessions or study of the subject matter, are completed via online learning modules. Overall, lab baths allow students to plan their learning process in a more flexible way.

Box 11. Problem-based learning and the international classroom

Maastricht University has implemented problem-based learning into its international classroom. The aim of the international classroom is to create as much diversity as possible within each small group, so that all students can benefit from different perspectives. Problem-based learning brings together students and instructors with diverse backgrounds into small groups. In this environment, students are expected to develop the necessary knowledge and related skills, as well as contributing to their open-mindedness. Problem-based learning in the international classroom is also expected to prepare students for the rapidly globalising labour market.

Box 12. Problem-based learning at Aalborg University

At Aalborg University (AAU), all programmes are based on a problem-based learning approach. Students work in groups and apply problem-oriented methods in preparing projects. The learning model provides AAU students with the opportunity to:

- Acquire knowledge and skills independently and at a high academic level.
- Work analytically and in accordance with the problem, using result-oriented methods.
- Cooperate with the business community.

The university has established a problem-based learning academy with the aim of supporting the continuous development of its problem-based learning model across different departments and faculties. The academy organises problem-based learning activities, supports research networks and raises issues relating to problem-based learning, both inside and outside the university.

Hoidn and Reusser (forthcoming, p. 20) summarise the implications of active learning pedagogies identified by Drew and Mackie (2011) as follows:

- Responsibility for learning shifts from teacher to students, since students are positioned as central to active learning with a key role to play (students are in the driver's seat of the learning process).
- The teacher's role shifts from lecturer to facilitator, supporter or guide, positioning the teacher in a more peripheral role while the students hold centre stage.
- Changes occur in the beliefs, habits, roles, and power structures (mindset) of the teachers, as well as in their teaching methods and strategies (practice).
- A shift occurs in the relationship between teachers and students, with both becoming partners and co-learners who communicate, cooperate and collaborate.

Moreover, the literature strongly emphasises that an SCLT approach stimulates deep learning, to which is attributed the effectiveness of the learning (Baeten et al., 2010; Hoidn, 2017a; Lea et al., 2003). Teachers who adopt an SCLT approach need to carefully select learning and teaching activities and assessment tasks so that students acquire the necessary understanding and skills required by the specific course. This entails learning and teaching methods that encourage the use of higher-order cognitive activities, including questioning, applying and generating solutions. These facilitate the adoption of deep approaches to learning (Hoidn, 2017a). According to Deeley and Bovill (2017), greater student engagement in the assessment process also leads to the adoption of a deeper approach to learning.

Baeten et al. (2010) showed that student-centred teachers (i.e. teachers that are actively involved in discussions with students beyond the classroom) tend to inspire the students towards deeper learning, where deep learning is characterised by the students' increased desire for knowledge, a focus on in-depth understanding of the subject, and independent thinking about the subject. Research has also found that students who perceive their learning positively (e.g. a safe environment, useful content, the

appropriateness of workload/assessment, teaching, and clarity of goals) employ a deeper learning approach (Baeten et al., 2010; Vermetten et al., 2002; Wilson and Fowler, 2005; Hoidn and Reusser, forthcoming).

Lea et al. (2003, p. 332) explain that 'a central facet of student involvement in the learning process is their perception of that process and their anticipation of what it might produce.' Students are concerned about the context of teaching and how it will affect their learning outcomes. As a result, students adopt a learning approach, which guarantees them the most success, whether it is a surface-level or a deep approach to learning (Lea et al., 2003).

According to Hoidn (2017a), SCLT environments dedicate less time to lecturing and more time to engaging activities that encourage student involvement, including discussions, administered reflections, group work and the use of information and communications technology tools. Such activities stimulate discovery processes and encourage students to be accountable actors, as well as active and vocal participants in the learning process at all times. This, in turn, promotes deep approaches to learning. Hoidn (2017a, 2017b, 2019b) developed an instructional framework for designing and enacting student-centred learning environments at the classroom level. These environments provide students with opportunities for deeper learning, based on findings from multiple case studies on higher education classrooms. Students in such situations are positioned as accountable authors in the processes of knowledge construction, as active and vocal participants in social interactions, and as responsible co-designers of the educational agenda. The framework can support teaching staff in designing and enacting SCLT in their classrooms.

Despite the benefits offered by SCLT classroom practices, some issues and concerns have emerged surrounding these practices. In some cases, the implementation of SCLT approaches and techniques can be hindered by unwillingness to implement them on the part of the faculty (McCarthy and Deslauriers, forthcoming). Teachers may be hesitant to change their teaching strategies because they fear that it will require a lot of time and effort and will not be well received by students. According to Brenner et al. (forthcoming, p. 5) 'there is also the perception that student-centred learning takes more time than a traditional lecture, and that instructors have less control over their classes, both of which would tend to decrease the amount of class time devoted to 'content coverage'—something which many faculty tend to think is already in short supply.' These barriers can be overcome by raising awareness about SCLT and providing support to both students and teachers.

Hoidn (2017a) points out that when discussing SCLT, it is important to highlight that student choice over content, process, deliverables and assessment must be offered within a curricular framework that is designed by teaching staff with knowledge of the specific subject.

It is also important that faculty clearly communicates the expectations, activities and available resources so that students have an understanding of what SCLT entails (Damşa and de Lange, 2019). As noted in earlier sections of this report, the implementation of SCLT classroom practices can be challenging and often requires substantial instructional knowledge and resources (Baeton et al., 2010; Inamorato de Santos et al., 2019; Lea et al., 2003; Sabah and Du, 2018). Moreover, it is important to ensure that the implementation of SCLT is relevant and effective, and that the most

appropriate approaches and techniques are used. The suitability of SCLT approaches and techniques can depend on various factors such as diversity of student body, instructional objectives, personal preferences, and the facilities and resources available (Eberlein et al., 2008).

Although SCLT has attracted a significant following, some criticism of the approach has emerged that revolves around 'cognitive and pedagogical concerns based on empirical research comparing guided and unguided forms of instruction' (Hoidn, 2017b). Kirschner et al. (2006) draw attention to the idea that minimally guided instruction is likely to be ineffective, based on knowledge on human cognitive architecture. The main arguments are that minimally guided instruction does not produce a change in long-term memory, and places a huge burden on working memory. Kirschner et al. (2006, p. 77) argue that 'the consequences of requiring novice learners to search for problem solutions using a limited working memory or the mechanisms by which unguided or minimally guided instruction might facilitate change in long-term memory appear to be routinely ignored.' However, they add that guidance becomes less important when students have acquired sufficient knowledge to facilitate 'internal' guidance. Kirschner et al. (2006) cite 'controlled experimental studies supporting instructional guidance, especially in science learning' (e.g., Brown and Campione, 1994; Moreno, 2004), and refer to work examples and process worksheets as evidence-based possibilities for effective guided instruction (see also Clark and Hannafin, 2011; Hattie, 2009). Still, some scholars in the area of cognitive load (e.g. De Jong, 2010; DeSchryver and Spiro, 2009) have also begun to underscore the significance and potential of further research into more student-centred learning environments (Hoidn, 2017b, p. 159).

The scholarly debate over the advantages and disadvantages of guided lecture compared with active learning instructional practices implies that the instructional approach has to be adjusted not only to the expected learning outcomes, but also to the academic development – or academic maturity – of students. Some foundational knowledge can be better imparted via guided lectures accompanied by active learning activities such as peer-to-peer learning through collaborative work on problem sets. The more advanced the student is academically, the more they benefit from greater choice and freedom over the learning and teaching processes. This implies more active, experiential learning and less guided lecturing.

2.3. Student-centred assessment

In teacher-centred learning, the summative assessment, which measures a student's achievement at the end of the course, is the most important form of assessment. A shift to SCLT means that:

- A relative shift in importance may occur from a one-off, high-stakes summative assessment to a greater number of regular, lower-stakes formative assessments. Formative assessment means assessing students' performance during instruction. This usually occurs regularly throughout the instruction process.
- Choice may be offered as to the form of assessment (if possible).
- A shift occurs from a situation in which only the instructor carries out the assessment, to one that allows self-assessment and peer-assessment.

- Formative assessment strengthens the role and use of constructive feedback, which becomes more frequent.
- Assessment criteria and standards must be transparent/unambiguous, fair and objective.
- Assessment policies must be clearly communicated and consistently applied.

Assessment is one of the most crucial aspects to consider in comparing SCLT with teacher-centred learning and teaching (Baeten et al., 2010). The important precondition for SCLT is for students to participate in the evaluation of their learning. The ability of students to contribute to the development of assessment by letting them choose assessment tasks or discuss assessment criteria (Gibbs, 1995) is vital to the success of student-centred assessment practices. O'Neill and McMahon (2005) also emphasise that such practices provide students with choice, which is one of the main indicators of SCLT. Weimer (2013, p. 17) emphasises that 'evaluation is not just something used to generate grades; it is the most effective tool a teacher has to promote learning.'

O'Neill and McMahon (2005, p. 32) summarise the suggestions of Brown et al. (1994)'s as to how teachers can include students in the assessment process. First, students can be involved in the stage at which the task is set by:

- Choosing the assessment task.
- Setting the assessment task.
- Discussing the assessment criteria.
- Setting the assessment criteria.

Second, students can be involved after the task is finalised by:

- Making self-assessment comments.
- Making peer-assessment feedback comments.
- Suggesting self-assessment grades.
- Assigning self-assessment grades.
- Assigning peer-assessment grades.

Assessment has been traditionally considered as a form of measurement. According to Contreras-McGavin and Kezar (2007), most policy efforts have traditionally been grounded in quantitative measurements that emphasise percentages and benchmarks because they are easy to collect, interpret and distribute. They also suggest that qualitative approaches such as portfolios are a more mature means to assess student learning and best support efforts to improve learning. Contreras-McGavin and Kezar suggest that qualitative approaches should also be employed on college and university campuses to help develop a richer and more meaningful portrait of undergraduate student learning. They suggest that leaders should focus on those assessment activities that best support student learning, rather than simply developing measures to 'placate external agents'. Gibbs and Simpson (2002) also express the idea that assessment should focus more on learning, rather than being used as a tool for measurement.

The literature emphasises that SCLT involves more formative assessment and less summative assessment, compared with teacher-centred learning and teaching (Baeten et al., 2010). The main difference between summative and formative assessment is that summative assessment measures students' achievements at the end of instruction, while formative assessment is an ongoing process that regularly assesses students' performance throughout instruction. 'By developing various forms of formative course assessments, instructors can help students to pursue their interest in the subject matter, identify their learning gaps and help them to reflect on and revise their work to develop their ideas further' (Hoidn, 2017b, p. 110). It is important that assessment criteria and methods are negotiated with students and well explained, so that students take more responsibility for their learning (Hoidn, 2017b, 2019b).

Feedback is an important part of formative assessment that influences its success (Sabah and Du, 2018; Schneider and Preckel, 2017). It can take a form, among other, of written comments on assignments, feedback on essays, multiple choice questions/answers that are used for feedback only, and grades given during the year that do not contribute towards the student's end-of-year marks (Baeten et al., 2013). See *Box 13* for an example of innovative practice in providing feedback. Feedback can be provided on a wide variety of activities such as group assignments, portfolio assignments, case-based evaluations, in-class pair discussions and computer-assisted tasks (Baeten et al., 2010; Wright, 2011). SCLT classroom practices often include peer-assessment and self-assessment which, according to Lea et al. (2003, p. 322), encourages 'the increased sense of autonomy in the learner'. Segers et al. (2008) emphasise that feedback results in enhanced performance when it is well integrated into the learning environment. Doyle and Doyle (forthcoming, p. 16) also note that students cannot improve their learning 'without clear and specific feedback as to what they did wrong, left out, put in that did not belong or why their thinking process was incomplete or misguided. It is also vital that they know what they did right, so they can continue those practices'.

Box 13. Ongoing feedback in the Jazz Improvisation and Compositions in Theory and Practice module at Newcastle University

A teacher of the Jazz Improvisation and Compositions in Theory and Practice module at Newcastle University provided ongoing feedback to students throughout the module to help students improve their communication and reflective skills. The teacher filmed the students practising their performance pieces and subsequently watched the footage, noting down questions based on students' performances and other issues that the teacher wanted the students to reflect on. The videos were uploaded to YouTube. The teacher then sent the students a link to the videos, together with a list of questions. If a student had a particularly personal response, they could respond to the teacher directly but often they shared their responses with the group. The teacher also encouraged the students to ask further questions of themselves and each other in order to encourage their communication and reflective skills. This practice was developed with the objective of moving away from a more traditional approach to feedback, in which a lecturer provides feedback at the end of the assessment and the students act upon it for their next assessment.

The teacher aimed not only to provide continuous feedback, but for students to challenge the feedback and come back with further questions, as well as providing feedback to their peers and reflecting themselves. The main benefit noted by the teacher was the way in which students communicated with each other during rehearsals. Improvements were apparent in the way students worked together and in their ability to reflect. In recognition of this practice, the teacher won an award for 'Outstanding Contribution to Feedback' at the Teaching Excellence Awards.

Assessment as part of SCLT can have both encouraging and discouraging effects in stimulating the adoption of deep approaches to learning (Baeten et al., 2010). The literature also suggests that the appropriateness of the assessment plays a major role in a student's approach to learning. The perceived appropriateness of assessment has a positive impact on a deep learning approach (Baeten et al., 2010; Brown and Knight, 1994; Segers et al., 2008). According to Baeten et al. (2010, p. 249), 'Gulikers, Kester, Kirschner, and Bastiaens (2008) proved that students who perceived the assessment as being more authentic and more resembling their future professional practice, employed deeper learning than students who perceived the assessment as being less authentic.' Furthermore, Segers et al. (2008) found that portfolio assessment can support deep learning by students when it is integrated into the learning environment. In order to encourage deep approaches to learning, it is important for teachers to communicate and discuss assessment tasks with students as well as providing them with timely feedback.

Another important way of assessing students is testing. Schell and Martin (forthcoming) present the role of testing in retrieval-enhanced learning, and discuss how it can contribute to SCLT. Retrieval-enhanced learning, also known as the 'testing effect', is based on the principle that learning is encouraged when learners retrieve information from their memory. It is suggested that 'testing for learning through retrieval practice has a number of benefits including retention of knowledge and skills, motivation for learning, and the ability to transfer learning to new and unfamiliar contexts' (Schell and Martin, forthcoming, p. 1). The incorporation of retrieval practice is recommended when it is critical for students to retain specific knowledge or skills that are expected to be used in the future. Thus, testing should take into account the material that is actually critical for students, and should align with the programme's stated learning outcomes. It may be used before, during or after learning, and can take different forms such as multiple-choice questions, open-ended questions, group discussion questions, group presentations among others. Even though the literature suggests that the testing effect can be useful, it is often overlooked when considering ways to encourage SCLT, as testing is mainly used to measure performance instead of encouraging learning. See *Box 14* for an example of how testing is used as a tool of formative assessment to encourage learning and reflection. In addition to being overlooked by teachers, Schell and Martin (forthcoming) note that many students do not use retrieval practice as their primary learning strategy. They rely mostly on reading, re-reading and reviewing study material, which means that students retain information less effectively in the long-term.

Box 14. Online postgraduate formative assessment at Newcastle University

Formative assessment in the form of tests is carried out during the postgraduate module 'Advanced Seminar in Artefact Studies' at Newcastle University, in order to provide supplementary feedback on student progress and learning. A teacher created a series of weekly online tests on ancient artefacts (especially coins) to augment day-to-day teaching. Each test required students to engage with a resource (this might be an online database, article or a reference work relating to the artefacts). The students then took a weekly test, which assessed the knowledge and skills they had gained from their independent study. As an example, the test might assess students' ability to identify the mintmarks on a Roman coin based on the resources they had studied. This practice was adopted to provide more frequent formative feedback before the main practical summative assessment at the end of the module, as well as to encourage deeper engagement with the study material. According to the teacher, the practice proved beneficial: all students taking the module attempted these tests, and many repeatedly retried assessments until they scored 100 %. This resulted in better outcomes in the summative assessment. Moreover, the adoption of such a practice mainly requires effort at the initial stage when the learning materials and tests are created on the online platform, which teachers run themselves.

The implementation of assessment based on SCLT can be challenging. Several key difficulties must be addressed in adjusting assessment to facilitate SCLT. Weimer (2013, p. 17) summarises as follows the main issues teachers face, which hinder an SCLT approach to assessment: 'instructional realities of large classes, heavy teaching loads, no clerical support for teachers, pressure to publish, and required service to the institution'. Moreover, there is a lack of understanding and practice of formative assessment. Sabah and Du (2018, p. 527) emphasise that 'instructional innovation demands changes not only in classroom practices but also, more importantly, in assessment methods.' Teachers might not be willing to change long-established practices and methods. They also frequently have a heavy workload, which encourages them to choose a type of assessment that is the least time-consuming and most familiar to them, and therefore focus on summative rather than formative assessment, and reduce the amount of feedback (Inamorato de Santos et al., 2019; Sabah and Du, 2018). SCLT-based assessment can also be challenging for students, many of whom are used to teacher-centred environments. The difficulties mentioned above impede the alignment of assessment with SCLT, which in turn limits the effectiveness of an SCLT approach.

2.4. Flexible learning pathways

Flexible learning pathways are an integral part of SCLT, allowing learners to adapt their learning pathways to suit their interests, abilities and needs in relation to goals, time, place, content, instructional methods, and modes of delivery. To put it more simply, flexible learning pathways are expected to provide students with choices as to what, how, when and where they learn. For example, the curriculum can include selective courses, or courses can be delivered via part-time, distance or e-learning provision.

With regard to the student's choice of what to learn, the design of the study programme is important. According to Lea et al. (2003), SCLT requires that students have a choice as to what they study (see *Box 15* for an example of student engagement in course design). This choice is represented in some way in the modularisation of study programmes in which students can choose which modules they prefer to study.

Box 15. The Centre for Environment and Development Studies (CEMUS) at Uppsala University

The Centre for Environment and Development Studies (CEMUS) is a student-initiated transdisciplinary centre at Uppsala University and the Swedish University of Agricultural Sciences. The mission of CEMUS is to contribute to a more just and sustainable world. The three main pillars of the centre are:

- Student-led education.
- Collaboration and partnership.
- Transdisciplinary research.

CEMUS provides students with the opportunity to study a wide range of courses within the fields of environment, development and sustainability. Its transdisciplinary courses complement other subjects at Uppsala University and the Swedish University of Agricultural Sciences. The courses are built on close collaboration between students, course coordinators, teachers, researchers, university administrators and societal actors.

The introduction and use of learning outcomes, which focus on the things that students will know and be able to do at the end of their course or programme, has also contributed to a growing flexibility in the learning process. Hoidn (2017a, 2019b) presents a curriculum for understanding in which students are provided with opportunities to be involved in the course design by negotiating learning outcomes and choosing learning objectives based on their prior knowledge, experience and interests.

Box 16 provides an example of how flexible learning pathways can be applied in massive open online courses (MOOCs). *Box 17* provides an example of how taking into account the knowledge and experience of students can improve the learning and teaching process by reducing dropout rates and improving student achievement.

While teachers identify the non-negotiable aspects of learning and teaching, students' thoughts and questions influence the content and learning paths. However, Bovill et al. (2011) highlight that students are often overlooked in the design of teaching approaches, courses and curricula.

Box 16. Flexible massive open online courses

Some massive open online courses (MOOCs) allow students to create learning pathways that align with their strengths, needs and preferences by selecting modules. The content provided in these modules often allow learners to control the sequence and timeline of content presentation. Learners are also often allowed to some extent to select learning objectives, content, assignments and modes of assessment. Students also have the flexibility to arrange the time and level of assignments and assessment. The flexibility permitted in individual programmes varies between MOOCs and can include the various elements mentioned above. For example, the University of Barcelona permits some flexibility in its MOOC programmes.

Box 17. Part-time ordinary degree at the Dublin Institute of Technology

The curriculum at the Dublin Institute of Technology focuses on the existing skills and attributes of part-time students. For example, the Bachelor of Technology in Electrical Services Engineering programme is populated almost exclusively by mature students (mainly electricians) who complete this degree part-time over four years. The programme has promoted success by adopting a student-centred approach, in which recognition is given to students' experiential and prior learning experience. Overall, adjustments to the curriculum have resulted in a reduced drop-out rate and improved the grades of part-time students.

Box 18. Online course 'PreScriptum' at Utrecht University

At Utrecht University, an online course called 'PreScriptum' enables students to create individual learning pathways. Students can determine their own learning route by working non-linearly in an online learning environment. The course is designed for PhD and master's students, and focuses on formulating research problems. 'PreScriptum' offers customised education in which the lecturer guides groups of students from different faculties at the same time. 'PreScriptum' has managed to combine freedom of choice with strict didactic structure through the use of a common start and closing meeting and by setting fixed deadlines for the submission of weekly assignments.

Most often, however, flexible learning pathways are concerned with time, place and modes of delivery. Time mainly relates to the various delivery schedules, and usually includes part-time, accelerated or decelerated. These can be applied both to complete programmes (e.g. a part-time bachelor's degree) or within a programme (e.g. flexibility for students to meet deadlines on an individual level). As previously mentioned, Barkley (2010) cites the example of students being given the opportunity to choose the dates for their assessment. Similarly, students can be given an opportunity not to attend some classes due to their personal obligations and abilities (e.g. work and family obligations or special needs). In such cases, teachers usually provide students with the necessary study materials so they can keep up with the course individually.

Place can also be an important aspect of flexible learning pathways. This allows students to access the necessary material outside the classroom. Another example is the 'flipped classroom', an instructional practice that requires both in-class and outside activities. Bishop and Verleger (2013) provide an overview of various studies that show students are generally positive about this practice. Bishop and Verleger (2013, p. 10) indicate that 'students prefer live in-person lectures to video lectures, but also liked interactive class time more than in-person lectures. Shorter, rather than longer videos were preferred'.

Flexible delivery modes are to some extent connected with flexibility over time and place, and include part-time, distance and online learning. They allow students to adjust their learning to their personal needs and circumstances. The use of distance and online learning creates an opportunity for students to engage with learning materials at home or at work. This not only allows students to balance their studies with other responsibilities such as work or family, but also creates an opportunity for students who require more time to read and understand study material, not to fall behind in the educational process. This is strongly supported by the increased use of technology, which has resulted in the emergence of a wide range of information and communications technology products in higher education.

Despite flexible learning pathways being at the core of SCLT, and contributing to the ability to attending to a diverse student body, their use is sometimes limited. In Sabah and Du (2018, p. 524), the majority of teachers interviewed (10 out of 12) thought that 'instructors should decide which activities to provide, what materials to use and how to structure student activity time and form, and should also ensure students reach 'the correct' answers.' This result might be affected by the time pressure these teachers face in delivering all the required content for their courses.

Weimer (2013) also observes that decisions about courses are mainly made by teachers, and that this is largely what students expect and want. Weimer came to this conclusion after gathering opinions from her class, using a course outline as an example to ask who is responsible for activities such as the content, conditions for learning and evaluation process. She concludes that students still lack empowerment in shaping their learning and teaching experiences.

2.5. Learning support

A shift to SCLT requires the strengthening of learner support services in higher education institutions. The introduction of a student-centred approach to learning and teaching can be challenging for some students. Moreover, the growing diversity of the student body means that students may have very different and individual skills, knowledge and abilities.

The goal of learner support is to ensure that all students enjoy equal opportunities for success. This is achieved by addressing barriers and promoting engagement over learning and teaching. Learner support is also expected to fill the gap between classroom instruction and student learning by providing assistance with both study content and the process of learning (Revuluri, forthcoming). Academic support usually refers to a range of resources in the form of 'subject tutoring, writing tutoring, and academic advising (including course selection, placement in the appropriate level based

on student past experience and testing, requirements advisement, discussions of post-graduation career or other path), though many institutions group all the services of a learning centre, disability services, advising, and even career services under the rubric of academic support' (Revuluri, forthcoming, p. 2). It is also common for student support services to include the integration of specific student groups such as students with disabilities or international students (see *Box 19*).

Box 19. University of Granada mentor programme

The University of Granada (UGR) has created inclusive learning environments through its mentor programme. The UGR Mentor Programme is a student-centred initiative designed to foster the cultural, academic and social integration of the international community at the university. Before joining the programme, mentors (local students) must complete a 10-hour preparatory course on intercultural skills, provided by the university.

The Mentor Programme seeks to enhance the academic and personal experience of incoming international students, enabling them to form close bonds with local students. Mentors help foreign students to overcome the language barrier and assist with initial administrative procedures. At the same time, local students are provided with an opportunity to gain insights into new cultures and lifestyles, practise their language skills, and build up their international contacts and networks.

In addition to the Mentor Programme, UGR has recently launched a 'buddy abroad' programme, which aims to connect UGR students who intend to undertake a mobility period abroad with students from the foreign university at which they will study. In other words, international students participating in the Mentor Programme will, in turn, become the mentors of UGR students. The programme ensures a reciprocal process that facilitates the academic, social and cultural integration of the UGR community abroad at other universities.

HEIs that provide academic support usually do so outside the classrooms in learning centres, using staff with expertise in specific subjects or in student development. The most commonly provided support services are one-on-one coaching, workshops on key skills (e.g. time management), as well as tutoring on writing or subject matter. The last of these is often provided by peers. Staff in these learning centres possess valuable information and insights on student learning and the areas in which students experience most difficulties. Such general information could be useful to instructors, providing them with better insights into how the students are learning and possible ways to adopt and incorporate different strategies and tools.

One common misconception about SCLT is that the responsibility for whether or not students have learnt something is largely down to the students themselves (Ashwin, forthcoming; Holmes, 2004). It is assumed that when students are active rather than passive participants in the learning process, they achieve success and good results regardless of other factors. Following this argument, some think that SCLT appears to draw on the premise that 'any failure in learning [is] due to the student being the wrong kind of learner, or the teacher the wrong kind of teacher' (Ashwin, forthcoming, p. 10). Thus, the idea exists that learner support is used to 'rescue' students, or to allow them

to remain passive. However, as Revuluri (forthcoming, p. 7) puts it, 'at the core of academic support philosophy… is empowering students. The goal of academic support resources is to build self-efficacy in students, giving them the tools they need to succeed'. Some universities are introducing a variety of tools that are expected to empower students, to guide them in their learning process, and to provide them with personalised support. For examples of such practices being used in European universities, see *Boxes 20-22* below.

Box 20. 'HowULearn' tool at the University of Helsinki

'HowULearn' is a research-based survey applied at the University of Helsinki. The online tool allows students to receive individual suggestions as to how they can enhance their learning process. The tool is a mechanism for collecting feedback and providing advice used to support SCLT. More specifically, student answers can be aggregated to any level to see what adjustments can be made at the level of the individual course, study programme or the entire institution. The current system provides incentives for students to participate by allowing them to fill out their self-assessment questionnaire across six dimensions, and to gain feedback and advice on how their performance could be improved. This advice includes practical tips on managing their time and learning process more effectively, as well as in-depth analysis of their performance compared to their peers in any of the areas evaluated. This gives students a better understanding of which areas require improvement.

Box 21. Learner Engagement Activity Portal (LEAP) at the University of Essex

The University of Essex has designed a student-centred personalised engagement tool, the Learner Engagement Activity Portal (LEAP). This provides a holistic view of the study experience, giving students the opportunity to take control of their learning. The LEAP algorithm combines student engagement with university resources and activities to produce an overall engagement indicator. Five indicators of engagement level (high, good, partial, low and very low) help students to map and better understand their patterns of engagement over time.

Students can use LEAP to:

- Reflect on their overall engagement, and on their engagement with specific activities (e.g. logins to university computers, activities such as accessing their reading list, accessing specific pages within the reading material, listening to recordings) to make informed decisions about their academic studies.
- Check their attendance and ensure the information is correct.

Tutors and other university staff can use the information in LEAP to:

- Suggest ways students in which students could achieve better outcomes.
- Check that all is well and offer information, advice and guidance.
- Help students in areas of their studies in which they are experiencing challenges.

Box 22. Tele-messaging service (FLO) at the University of Staffordshire

> The University of Staffordshire uses a type of automated text-messaging technology called 'Flo' to contact first-year student nurses from the commencement of their training programme to the end of their clinical experience taster week. These messages aim to welcome, encourage and support as well as providing information regarding support services, assessment dates and student events. Depending upon a student's responses, the co-ordinator receives an alert which allows them to follow up on the student's response, contact the student and, where appropriate, provide individualised support for the student. The aim of this practice is to improve student retention, transition, learning and teaching experience, participation and their sense of belonging to the university community. The initiative enhances the relationship between the university and the student while increasing the student's sense of belonging. Overall, the use of Flo has revealed the importance of personal tutoring and the effects of student support to mitigate student drop-out.

It is not always taken into account that students might not be prepared to assume the active role in their education required under an SCLT approach. Students may lack experience with such learning and teaching practices. They may also lack skills or understanding of the content, or may prefer to work individually. Moreover, as diversity grows within the student body, individual students bring different skills and levels of preparedness into higher education classrooms. It is important to acknowledge that students learn differently, and that some might need more support in specific situations. However, this can be mitigated by providing learner support to increase students' capacities and gradually empower them to assume an active role in their education (Revuluri, forthcoming). In order to achieve the best results, learner support services should be designed to better include a student-centred approach and establish a more centralised structure. Revuluri (forthcoming) highlights that this is especially important within large institutions because they often rely on student agency in seeking out the help they need and identifying the sources from which they can obtain it.

2.6. Teaching support

SCLT emphasises the necessity of effective support and guidance structures for both students and instructors. Teaching support is an important element of SCLT ecosystems. It includes:

- Professional development opportunities for higher education teachers.
- Pedagogical training to graduate students and undergraduate teaching assistants.

Dakovic and Zhang (forthcoming, p. 14) report that 'according to Trends 2018, 65 % of responding institutions have a dedicated unit or centre for the development of learning and teaching for the entire institution, and 19 % have such a unit or centre at both institutional and faculty or departmental level.' These structures are important in the context of SCLT because they can offer valuable support to teachers who want to apply innovative learning and teaching methods in a systematic and structured way.

For teachers in higher education, a shift towards an SCLT approach, and maintaining this approach over time, is by no means a simple task. Where teachers are used to working in a teacher-centred environment, the first stage in this transition can be difficult for them. It can also be difficult for students to challenge the assumptions they have taken for granted. The SCLT approach involves an ongoing reflexive process for teachers, during which they engage in 'thinking about their thinking' in order to improve their conventional pedagogy and delineate how they teach (EI and ESU, 2010). See *Box* 23 and *Box 24* for examples of teaching development practices.

Box 23. Teaching for Learning Conference at the University of Tartu

> The University of Tartu organises a Teaching for Learning Conference dedicated to the development of innovative learning and teaching practices. The event is open to members of the higher education community in Estonia and abroad (teachers, graduate students, trainers of teachers, educational developers, administrators of the HEI). The goal of the conference is to promote a learning-centred instructional approach. The dissemination of good SCLT practices takes place at the conference, enabling the academic community to use them as inspirations in their work.

Box 24. Centre for Teaching Excellence at Heidelberg University

> The Centre for Teaching Excellence (CTE) at Heidelberg University has implemented a student-centred approach across the entire curriculum by providing teaching consultations, group programmes and technology workshops for faculty members. More specifically, CTE meets with individual faculty members and generates ideas to improve courses, gather student feedback more effectively and set up teaching observations.

Teachers have been the focus of traditional teacher-centred learning, which means that they are vital in the shift towards SCLT. This transition can be difficult for teachers because it challenges traditional higher education hierarchies and examines the fundamental values that inspire the higher education community. It requires a shift in mentality and culture with respect to teachers' approach to learning and teaching (ESU, 2010). As Subah and Du (2018, p. 524) note, 'teachers' definitions and perceptions to SCL were mainly defined by their past experiences with SCL. Past experiences with SCL make a difference in their understanding of the topic and choice of strategies.'

The literature often emphasises that SCLT requires teaching staff to: (1) be more flexible in using a variety of pedagogical methods; (2) regularly evaluate and adjust their pedagogical methods and modes of delivery; and (3) change their role from being the main presenter to one of facilitator and contributor to student learning (EI and ESU, 2010; Fahnert, 2015; Inamorato de Santos, 2019; Jacob et al., 2015). Thus, continuous professional development for teachers is important in order to expand their knowledge and enable them to apply innovative teaching approaches and techniques conducive to SCLT (Trowler et al., 2005). *Boxes 25-27* below provide examples of professional development programmes at two European universities and in an Erasmus+ project.

Box 25. Teachers for learners (T4L) at the University of Padua

Teachers for learners (T4L) is a development plan for teaching skills and e-learning for lecturers at the University of Padua. After completing a T4L course, teachers will be able to experiment with new ways to encourage students to participate more actively in the learning process. The specific objectives of the course are to:

- Encourage awareness of the assumptions and values underpinning learning and teaching.
- Create an environment in which learning and teaching issues can be freely discussed.
- Promote new methods, techniques and technologies that encourage student participation and involvement.
- Create an opportunity for peer observation in the classroom and constructive feedback.
- Learn coaching and mentoring practices that will help colleagues to develop better ways of generating learning.

In addition, the university organises workshops in innovative teaching and new technologies. A digital 'badge' to certify the skills acquired is awarded to teachers who have participated in at least five workshops. Examples of workshops include 'Learner-centred teaching', 'Building a learning community' and 'Effective feedback for promoting learning'.

Box 26. University Pedagogical Support Platform (UNIPS) at the University of Turku

A digital solution for developing academics' pedagogical competencies, the University Pedagogical Support Platform (UNIPS), has been implemented at the University of Turku. This consists of small modules used to develop the teaching competencies of academics and doctoral students. UNIPS modules include self-study materials (e.g. audiovisual materials, short videos, journal articles, glossaries, quizzes). UNIPS has proved to be effective in changing conceptions of teaching among novice staff. The results of the platform reveal that participants' interpretations of teaching situations has moved towards a more student-centred approach. Overall, feedback on the modules has been positive and academics report that they have gained new ideas for their teaching and have found the content highly motivating.

Box 27. Development of student-centred learning, teaching and assessment within the Bologna Learning Network (LOAF)

The Lithuanian Ministry of Education, Science and Sport, together with the Education Exchanges Support Foundation (the Erasmus+ National Agency of Lithuania), has implemented Erasmus+ (KA3 – Support to policy reform) projects over recent years to underpin mobility and internationalisation and develop institutional capacities for student-centred learning. The most recently completed Erasmus+ funded initiative, 'Development of student-centred learning, teaching and assessment within Bologna Learning Network (LOAF)' (2016-2018), created recommendations for teachers and students on aligning student-centred learning, teaching and assessment at the level of study programmes, subjects and modules.

Hoidn (2017a, p. 379) highlights a number of often-overlooked aspects of professional development, namely: 'awareness about and knowledge of (a) how to design high-level learning outcomes with a focus on performances of deep conceptual understanding (fostering concepts and practices of a discipline), that is, what students are able to do; (b) how to critically examine classroom talk and social interaction from a sociocultural/situative perspective in order to promote instructors' capacity to facilitate dialogic and productive discussions to support students' learning (e.g., Mercer and Howe, 2012); (c) how to arrange a supportive learning environment that fosters the enhancement of self-regulated learning in regular higher education classroom (e.g., Kistner et al., 2010).'

Students expect the professional development of teachers to support their learning process (Fahnert, 2015). For example, the annual HEPI-HEA Student Academic Experience Survey of 2016 revealed that 57 % of students believed that it was important for teachers to receive training in how to teach. Meanwhile, 50 % believed that it was important for teachers to maintain and improve their teaching skills on a regular basis.

Gilis et al. (2008) have established a competence profile for the role of student-centred teachers in higher education in Belgium. The profile is based on semi-structured, in-depth interviews with teachers from different HEIs in Belgium, known for their student-centred approach to teaching. The authors employed an innovative research method compared to those used for existing competence profiles in the literature, which were usually developed on the basis of conversations with pedagogical experts. By exploring practice and having teachers participate in the development of a competence profile, acceptance of this competence profile is much higher. The result of the study was a validated competence profile that takes into account critiques of existing competence profiles. This profile consists of 15 competences and 46 indicators. The 15 competences are divided into three domains. First, a student-centred teacher possesses professional attitudes with regard to teaching, the students and the team (e.g. to be creatively flexible with regard to the instructional process; to respect the student as a partner in the educational process; to be prepared to cooperate with colleagues). Second, he or she possesses didactic competences such as the design of education, the delivery of education and the quality assurance (e.g. to design an activating learning environment; to integrate the evaluation of students' development in student support; to reflect on

one's own teaching practice). Third, student-centred teachers possess competences in the subject matter (e.g. they possess the required expertise, content-wise). The competence profile provides further insight into the functioning of teachers within a student-centred pedagogy, and can be used as a starting point for the educational development of teachers within this pedagogy.

Even though the literature recognises professional development as a necessary condition for the successful implementation of SCLT, within higher education the professional development of teachers is somewhat rare and unsystematic (Inamorato de Santos et al., 2019; Fahnert, 2015). Fahnert (2015, p. 2) states that 'according to Land and Gordon (2015), approaches to enhancing excellence in HE learning and teaching vary around the globe, ranging from sporadic (e.g. in Africa, India, Latin America, Middle East, Southern and Eastern Europe) to fairly unorganised (e.g. Australasia, Hong Kong, North America, North-Western Europe and South Africa).' Jacob et al. (2015, p. 4) note that 'the overall trend of faculty professional development in European HEIs is uneven. Even though European higher education leaders have realised that promoting student-centred teaching and improving teaching quality are critical for the future, and some countries such as Belgium, Finland, Ireland, the Netherlands, Norway, Sweden and the United Kingdom have taken actions to proactively support high-quality, student-centred instruction, most European countries still rely on a more traditional teacher-centred approach.'

Several obstacles exist to the participation of teachers in professional development and the adoption of SCLT practices. These exist on systemic, institutional and individual levels, and are often inter-related (Inamorato de Santos et al., 2019). The obstacles most commonly mentioned in the literature are listed below (Inamorato de Santos, 2019; Fahnert, 2015; Jacob et al., 2015):

- HEIs are unwilling to change their traditional academic practices.
- HEIs do not have the financial, organisational and knowledge capacity to develop professional development schemes.
- Teachers are unwilling to move away from traditional teaching practices.
- Teachers are not required or motivated to develop their teaching skills.
- Teachers do not have enough time to develop their teaching skills.
- Researchers' careers and promotion are more dependent on research rather than teaching.

Some countries are implementing certification programmes for teachers in higher education (Carter and Aulette forthcoming). These programmes aim to ensure that academic staff who are entering into teaching in higher education have undergone systematic training. These programmes have developed rigorous curriculum specifically for this purpose. Therefore, while such postgraduate certification for teaching might not be desirable or feasible elsewhere, it is worth considering how parts of the curriculum in these programmes could be applied in the professional development for teachers in higher education.

2.7. Active learning spaces and academic libraries

A shift to SCLT has an impact on the ways in which learning spaces are expected to be designed. Learning spaces need to be adjusted and redesigned to encourage active learning. Active learning spaces can include modular furniture that can be easily rearranged and reassembled, moveable and unusual writing surfaces, and integrated technologies. The main feature of an active learning space is its flexibility, so that the learning environment can transition seamlessly between class components or activities, such as presentations by the instructor, small group work, or student-led presentations. Thus, active learning spaces are expected to expand teaching options and create spaces in which student-centred classroom practice can be implemented.

Finkelstein and Winer (forthcoming) highlight that the design features of learning spaces have an effect on student cognition, performance and learning. When designing learning spaces, it is important to pay attention to acoustics and lighting, air quality, temperature and ventilation, furniture and information technologies. Each student should be provided with a sufficient workspace. Currently, most workspaces are rather small, which prevents the use of laptops during class. This limits note taking (especially among students with special needs), as well as class activities that require students to interact with a simulation, spreadsheet or to access the Internet. Larger surfaces allow students to better engage with the content. Engagement can also depend on lighting and acoustics. Students who cannot hear the teacher well will not engage with or understand the material presented to them. The ability to adjust lighting supports different classroom activities such as playing a video or a presentation.

The layout of learning spaces should also be designed to enable greater circulation around the room by avoiding long rows or fixed layouts. The use of furniture that allows flexibility, such as movable tables and chairs, is crucial. This allows the configuration of the classroom to be changed for lectures, when students are expected to face the teacher, and group activities and discussion in which students need to sit in a circle and face one another. Flexible layout allows better interactions and collaboration between teacher and students. The classroom is expected to provide enough space for the teacher to circulate around the classroom and engage with students. Examples of active learning spaces are provided in *Boxes 28* and *29* below.

Box 28. Redesigning of large classrooms at McGill University, Canada

McGill University redesigned its 70-seat classroom to include movable tables, chairs, patterned guides on the classroom floor and signage on the door to indicate standard lecture and collaborative layouts, which reduces the cognitive load required to shift layouts. Moreover, it has writable walls and multiple projectors, which can be used by both instructor and students.

Box 29. Redesign of a dual-purpose facility at McGill University, Canada

McGill University has redesigned a dual-purpose facility that serves as both an active learning classroom and a dry lab for geology. Like the previous example, it has movable chairs, writable surfaces and multiple projection screens. It also includes counter-height tables, which allow students to better interact with a teacher who can stand and talk with student groups without having to bend. Students can use stools or stand during their work. A height-adjustable table also accommodates students with mobility issues.

The shift to SCLT has led to the concept of active learning classrooms that are specifically designed to support active and collaborative learning (for examples of how learning spaces can be used to encourage active learning, see *Box 30* and *Box 31*). The emergence of active learning classrooms has been an outcome of a rethinking of the model used to teach physics, changing it from a lecture-based curriculum to a more studio-learning active approach (Finkelstein and Winer, forthcoming). The successful implementation of such change required a rethinking of learning spaces in terms of their layout, furniture and technologies. The first SCALE-UP ('Student-Centered Active Learning Environment for Undergraduate Programmes') classroom designed by Bob Beichner to support studio physics teaching included round tables of nine students, space for the instructor in the middle of the room, and projection surfaces surrounding the classroom (Finkelstein and Winer, forthcoming). Even though such classrooms are gradually being introduced in HEIs around the world, especially in the US, they are still fairly uncommon.

Box 30. Active learning environment at the University of Arizona

The University of Arizona has established a dynamic and integrative environment connecting technology, programme content, campus and services. The environment was created for the university libraries information commons centre. The centre's mission is to create an inviting out-of-classroom environment for active learning, growth and enrichment, while providing student-centred research assistance. At the same time, the centre seeks to reach out to all students and provide innovative instructional services that enable students to design their own learning pathways. The environment created for the information commons centre serves as a physical space for student collaboration. In addition, it also offers several virtual courses and online learning resources.

Box 31. International Classroom at the University of Amsterdam

The University of Amsterdam has created a dynamic learning space, the 'International Classroom'. Both physically and virtually, the Classroom encourages active learning by establishing interactions between students, peers and teachers in a global and diverse environment. All students, irrespective of their background, are engaged and exposed to research-inspired teaching. It is expected that students will attain capacities that will help them grow into well-informed global citizens.

Most learning spaces in HEIs such as classrooms, laboratories and libraries require adjustments in order to create environments for SCLT. HEIs with older buildings and large class sizes face the greatest difficulties in adjusting their learning spaces. Moreover, study courses are still largely dominated by lectures, which means that the lecture halls, auditoria, and theatres cast students in passive roles in which knowledge is transmitted to them by the teacher. Tiered classrooms with large front-of-room spaces encourage lecturing, while flat classrooms with round tables and no designated space at the front suggest that collaborative work is expected.

The research suggests that active learning classrooms support student learning effectively and have an impact on students in terms of outcomes and engagement, and teachers in terms of pedagogy and practice. Finkelstein and Winer (forthcoming) note that impacts on student outcomes can be quantitative (e.g. course and assignment grades) as well as the development of '21st century' skills (e.g. information management, communication skills and social responsibility). Active learning classrooms also encourage student engagement as well as collaboration, interaction and creativity. Moreover, the literature suggests that teachers in active learning classrooms tend to lecture less, spending less time on the podium and more time interacting with students.

However, it is important to consider the limitations of the existing research. When considering the use of active learning classrooms, it is important to see *how* they are used rather than *whether* they are used. Classroom practices that encourage active learning can positively impact students and teachers in both active learning spaces and traditional learning environments. In other words, such impacts cannot be determined by the space alone (Finkelstein and Winer, forthcoming). Even though active learning classrooms create conditions for good learning and teaching, there must be a readiness and willingness on the part of instructors and students to use this space.

Libraries are another crucial learning space in an academic environment. They are also a vital part of teaching and learning support, as well as infrastructures for learning technologies. Libraries need to be redesigned following line with new findings about how humans learn, the diversity of the student population, the increasing use of online resources and the challenges associated with information overload and the need to navigate reliable sources (Vedentham, forthcoming). Some of the core issues in the design of library spaces and services in the context of SCTL include 'strengthening student autonomy as learners, nurturing students' growth mindsets and attention to using library spaces to support inclusion and belonging' (Klemenčič and Hoidn, forthcoming, p. 13).

2.8. Learning technologies infrastructure

A shift to SCLT encourages the rise of technology-enhanced learning and teaching. This refers to 'the use of technologies for the purposes of the direct support and enhancement of the student learning experience, in all of its aspects and wherever it might occur' (IGI Global)[4]. Thus, technology can be used to organise whole online

[4] Technology-Enabled Education: https://www.igi-global.com/dictionary/technology-enabled-education/29559

courses (massive open online courses). See *Box 32* for an example of the application of massive open online courses in practice, and *Box 33* for an example of electronic and online activities coupled with face-to-face teaching (blended-learning).

Box 32. Massive open online courses (MOOCs) at the University of Barcelona

The University of Barcelona uses massive open online courses to implement innovative and student-centred teaching. This new teaching model aims to address students that are connected to technology and have a shorter attention span. Thus, the university aims to improve the quality of teaching and optimise students' learning experiences. The university decided to use MOOCs in response to the rising expectations and demands of its students.

Box 33. Flexible blended mode environment at Lund University

The Faculty of Sciences at Lund University has developed online courses to enhance physical and virtual exchange and to promote the joint delivery of courses with partner universities. The purpose of this initiative is to increase the flexibility of studies within joint programmes. As part of the development of a blended learning course, Lund university has included an online research tool, 'Global Research Gateway'.

Technology is being increasingly used in higher education settings. According to Motschnig and Cornelius-White (forthcoming), 'one-third of university students now enrol in an online course, and even more have at some time had an online class. Moreover, these days about three-fourths of classes at universities are blended (Kelly 2017), combining face-to-face classes with computer-supported tools and online learning sequences.'

Furthermore, digitalisation of learning and teaching in higher education is high on the agenda at European, national and institutional levels (see Box 34 for an initiative that seeks to enhance digital integration in learning, teaching, training). As Dakovic and Zhang (forthcoming, p. 16-17), explain: 'In 2015, the European Higher Education Area ministers called to encourage and support higher education institutions and staff to fully exploit the potential benefits of digital technologies for learning and teaching.' HEIs regard digital learning as a useful tool to enhance learning and teaching: the Trends 2018 survey showed that institutions employ digital methods to innovate learning (93 % of respondents) and for regular teaching (87 % of respondents).

Box 34. Learning Toxicology Through Open Educational Resources (TOX-OER)

> The University of Bologna is participating in a joint project, 'Learning Toxicology Through Open Educational Resources' (TOX-OER). The initiative aims to enhance digital integration in learning, teaching, training and youth work at various levels by developing scientific, pedagogical, informative and formative information and communications technology-based materials in toxicology. The project involves the design of an international MOOC on toxicology that will be translated into the languages of all partner-countries (Spanish, Portuguese, Italian, Romanian, Czech, Bulgarian and Finnish). Information will be available through open educational resources, which are a useful way to reach audiences from disadvantaged backgrounds. Due to the previous lack of European MOOCs in Toxicology, the open education resources and MOOCs resulting from this project will be fundamental to improving access to education, active learning and virtual mobility.

The use of technology can offer supportive and enabling functions. Below are some examples of the ways in which the use of technology (especially through learning management systems such as Moodle) can contribute to SCLT:

- Technology can support collaborative processes by enabling discussions outside the classroom between students and teachers as well as among students (Hoidn, 2017b).
- It allows the introduction and explanation of the most essential or complex issues during a lecture. Additional information is available online that allows students to learn from these online materials in ways that suit them best (Motschnig and Cornelius-White, forthcoming). Thus, the learning platform is used as an archive in which class material, teacher presentation slides and recordings can be stored.
- Technology can support and ease the collaborative process among students by creating a space into which team project documents can be uploaded, inspected and used by all students. They can also use these materials to practice giving and receiving feedback (Motschnig and Cornelius-White, forthcoming).

Technology is also increasingly used to alter learning and teaching situations through the use of learning analytics. This refers to a process of collecting, evaluating, analysing and reporting organisational data to improve learning (Wong, 2017; Toetenel and Rienties, forthcoming). Capturing and analysing data can also change the ways in which decisions are made and resources are allocated. It allows HEIs as well as teachers to better plan and enact strategies at both institutional and classroom level. According to Wong (2017, p. 21), learning analytics can:

- Facilitate evaluation of the effectiveness of pedagogies and instructional designs for improvement.
- Help to monitor closely students' learning and persistence.
- Predict students' performance.
- Detect undesirable learning behaviours and emotional states.
- Identify students at risk.

This allows teachers and other HEI staff to take prompt follow-up action and provide the necessary assistance to students.

Data analytics can also provide useful insights for students, enabling them to better understand how their learn. For example, it can provide students with useful data about their learning characteristics and patterns. These can, in turn, make their learning experiences more personal and engaging, and promote reflection and improvement (Wong, 2017; Klemenčič and Brennan, 2013; Klemenčič, 2016).

One way to collect data is through HEIs' virtual learning management systems (e.g. Moodle). Every time students use their accounts to submit online assessments, take online quizzes or browse library catalogues, they leave digital trace behind, which can then be collected and analysed. Data can also be collected through formative assessment and self-report surveys.

The main advantages of using learning analytics stem from their multipurpose application as:

- A tool for quality assurance and quality improvements at both individual and organisational levels. At an individual level, teachers can identify existing issues and implement changes accordingly in their classrooms. At the institutional level, the information can inform the design of different modules or even degree programmes.
- A tool for boosting retention rates by identifying at-risk students and intervening with support and guidance at an early stage.
- A tool for assessing different outcomes among student population by monitoring the engagement and progress of different groups of students.
- A tool for personalised learning in which learning material and tasks can be customised for each student.

2.9. Community learning connections and partnerships

A shift to SCLT places a greater emphasis on intra-institutional partnerships such as research, entrepreneurship and outreach functions with the local community and business actors. Thus, community learning connections are an integral part of an SCLT ecosystem.

The role of the university is not limited to education, research and innovation. It also includes a fourth mission: to engage with society. *Box 35* provides an example of how industry and the public sector can be engaged in practice. This fourth mission covers a wide range of activities, from providing human resources to licensing and exploiting intellectual property, creating spin-off companies and undertaking work for the public, private and community sectors (Larédo, 2007). At the same time, community engagement has emerged as a priority in the European Commission's Renewed Agenda for Higher Education. The Commission's Renewed Agenda emphasises that 'higher education must play its part in facing up to Europe's social and democratic challenges' and should engage 'by integrating local, regional and societal issues into curricula, involving the local community in teaching and research projects, providing adult learning and communicating and building links with local communities' (European Commission,

2017). Thus, community engagement is understood as a process whereby universities engage with community stakeholders to undertake joint activities that are mutually beneficial (TECFE policy brief, 2018).

Box 35. Project-based learning at the University of Leicester

> Project-based learning has been implemented at the University of Leicester. Students can choose a project from a range of options. Each project involves a consultant from industry or the public sector and an academic tutor. The project-based learning initiative benefits students by providing access to research infrastructures such as a radiation laboratory. During the course of each initiative, students write a project report and provide a poster presentation. The external consultant is involved in evaluating students' achievements.

Benneworth et al. (2009) argue that community engagement:

- Takes place through student-centred learning and instructional activities during which students participate in project-based and research-based learning.
- Takes place through service missions or service-based learning activities. For instance, it enables students to take part in volunteering initiatives or informal knowledge-exchange activities.
- Delivers activities through formal knowledge exchange work that touches hard-to-reach communities, often in the form of 'student science shop'-type activities and public engagement activities.

The university activities indicated by Benneworth et al. (2009) incorporate a community-based learning approach. This is a pedagogical practice that encompasses student volunteerism, experiential learning, service-learning, and community-engaged coursework (Nicholson et al., forthcoming). Community-based learning serves community needs, integrates reflective practice and embraces challenging and disruptive aspects that lead students to a broader understanding of their role in the community. In addition, community-based learning models have also incorporated other SCLT approaches such as problem-based service-learning, direct service-learning, and community-based research. The overarching goal of community-based learning is to enable students to achieve their transformational learning goals of personal development. During community-based learning, transformational experiences occur in authentic community-based settings. These provide opportunities for students to address the personal, interpersonal and civic dimensions of service-learning and to develop intercultural competences, empathy, perspective-taking and confidence (Nicholson et al., forthcoming).

Community-based learning consists of three main components (Nicholson, Richard and Winterbottom, forthcoming):

- Service-learning courses that offer students opportunities to link theory and practice through structured engaged learning and research activities in collaboration with local communities. Students and community partners discuss relevant issues in society such as poverty, literacy, access to health care and

education. Afterwards, students can apply the theoretical knowledge gathered during their community-based service.

- University-community partnerships are ongoing relationships between the university and community stakeholders. For instance, together with local businesses, a university can establish an innovative learning lab that develops and teaches interdisciplinary, experiential, and social entrepreneurial programmes for societal development.
- Internships or field experience during which students are placed in selected service sites where they apply their knowledge and skills in practice.

Examples of successful community learning connections supported by a community-based learning approach include (Nicholson et al., forthcoming):

- Initiative of community partners, faculty experts, and industry mentors to help students to address the technology needs of non-profit organisations.
- Adaptive toys built for disabled children by students from physical therapy and engineering programmes. During the activity, collaboration was formed between an undergraduate engineering programme and a graduate physical therapy programme.
- The requirement for students on a sports management course to assess the needs of their non-profit partners, evaluate different ways to solve a variety of real-world issues, and adapt their approach by engaging in reflection-in-action.

In addition, successful community learning connections can be established by designing and implementing a connected curriculum – a research-based education approach that incorporates SCLT concepts such as inquiry-based learning, innovation and student empowerment (Struthers and van Arsdale, forthcoming). The core principle of the connected curriculum is that students learn by research, critical enquiry and engagement with global challenges. The connected curriculum recognises collaboration as a core educational goal.

According to Nicholson, Richard and Winterbottom (forthcoming), the key bottlenecks hindering the establishment of community learning connections are:

- An insufficient amount of time spent directly collaborating with the community. Short-term engagements may not provide students with sufficient experiences to achieve the desired learning outcomes.
- Lack of time and flexibility in establishing community learning connections. Addressing the desired transformational student outcomes usually requires additional time beyond typical course preparations. It can often span multiple academic semesters.
- Course characteristics such as size and complexity should be considered when deciding if a community experience will be effective, and how such experiences should be designed.

2.10. Quality assurance that is conducive to student-centred learning and teaching

A shift from teacher-centred learning and teaching to SCLT will also have an impact on the way in which quality assurance in higher education must be designed and implemented. HEIs will need to adjust their internal quality assurance strategies and processes accordingly, while quality assurance and accreditation agencies will have to adapt their external quality assurance practices. National ministries of education and science also have an important role to play in steering the process politically and encouraging HEIs and quality assurance agencies to take into account the growing importance of SCLT in high-quality higher education.

The most important policy document on quality assurance in higher education at the level of the European Higher Education Area is the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015), which was adopted at the Yerevan Ministerial Summit of the European Higher Education Area in May 2015. This includes a standard on SCLT – a novelty introduced for the first time in this version of the document. Standard 1.3, which relates to SCLT, is described as follows: 'Institutions should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and the assessment of students reflects this approach' (ESG, 2015, p. 8).

This standard is then explained in the more detailed guidelines, which includes at least two core of the aims of SCLT: (1) improving the quality of higher education by encouraging students to take an active role in their learning process; and (2) improving the inclusion of students (especially those from disadvantaged or non-traditional groups) in higher education, through the use of student-centred learning practices.

As noted in the Standards and Guidelines for Quality Assurance in the European Higher Education Area 2015, the implementation of SCLT:

- Respects and attends to the diversity of students and their needs, enabling flexible learning paths.
- Considers and uses different modes of delivery, where appropriate.
- Flexibly employs a variety of pedagogical methods.
- Regularly evaluates and adjusts the modes of delivery and pedagogical methods.
- Encourages a sense of autonomy in the learner, while ensuring adequate guidance and support from the teacher.
- Promotes mutual respect within the learner-teacher relationship.
- Provides appropriate procedures for dealing with students' complaints.

The Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015) emphasises the key role of assessment procedures in ensuring the functioning of SCLT, and therefore provides HEIs and quality assurance agencies with specific guidance as to how the quality assurance of assessment procedures should be implemented:

- Assessors should be familiar with existing testing and examination methods, and should receive support in developing their own skills in this field.
- The criteria for and method of assessment, as well as criteria for marking, should be published in advance.
- The assessment should allow students to demonstrate the extent to which the intended learning outcomes have been achieved. Students should be given feedback which, if necessary, is linked to advice on the learning process.
- Where possible, assessment should be carried out by more than one examiner.
- The regulations for assessment should take into account mitigating circumstances.
- Assessment should be consistent, fairly applied to all students, and carried out in accordance with the stated procedures.
- A formal procedure should be in place for student appeals.

Several other standards provided in the Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015) also relate to SCLT; for example, standard 1.5 on teaching staff and standard 1.6 on learning resources and student support.

The recent report by the EUA (2019b, p. 15) explains that quality assurance in the context of student-centred learning is 'a set of policies and processes through which an institution ensures that measures to support student-centred learning are embedded in its education provision'. To achieve the best results, institutions must make a commitment to student-centred learning by:

- Including SCLT in their learning and teaching strategies and policies, as well as more specifically in guidelines and approaches for programme design.
- Supporting SCLT at the stage of programme delivery by addressing it in pedagogical training for teaching staff, ensuring appropriate learning spaces, resources and services for students, and decisions on teaching methods.
- Evaluating and monitoring how SCLT is applied in the institution and using the results to inform changes and feed into new planning processes (EUA, 2019b).

A study by PPMI (2018) analysed certain aspects on the ways in which HEIs and quality assurance agencies apply standard 1.3 from the Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015) to SCLT. The study was based on large-scale surveys of HEIs (Erasmus charter holders) and quality assurance agencies that are members of the European Association for Quality Assurance in Higher Education (ENQA) and the European Quality Assurance Register for Higher Education (EQAR). A positive finding was that SCLT had clearly entered into the everyday discourse and work processes of both quality assurance agencies and HEIs. Over 95 % of the quality assurance agencies surveyed said that they were required to evaluate 'student-centred learning, teaching and assessment within programmes'. Furthermore, over 65 % of quality assurance agencies said that this issue had become more important over the past three years, and that SCLT was now the number one issue that quality assurance agencies expected to become more important over the years.

In the survey of HEIs, around 55 % of respondents said that SCLT is 'very important' to their internal quality assurance system, while an additional 35 % said that it is 'rather important'. Around 50 % of HEIs agreed that SCLT had become more important as a concept in their internal quality assurance over the previous three years.

These findings clearly demonstrate that policy commitments are transferred much more quickly (probably via European stakeholder organisations such as the ENQA and EQAR) to the work processes of quality assurance agencies, compared to the speed at which they enter the work processes of HEIs. One of the next steps for European policy makers will be to find ways to ensure that agreements on how to carry out quality assurance of SCLT escapes the 'policy bubble' and actually reaches HEIs. The current European Universities Initiative may prove a considerable help in this undertaking, as innovative learning and teaching are among the requirements for the European University Alliances.

In relation to the extent to which HEIs and quality assurance agencies implement the SCLT-related statements made in policy documents, the empirical findings of the PPMI study show that the overall situation is not as gloomy as it sometimes seems in the academic literature. The survey mentioned above reveals that quality assurance agencies and European HEIs are certainly taking SCLT into account in their quality assurance processes. The issue is perhaps that while SCLT is part of the discourse of HEI administrations and quality assurance agencies, there may be a lack of 'common understanding of what features or indicators would demonstrate the presence of SCL at institutions' (Klemenčič, 2019).

To assess the impact and outcomes of SCLT ecosystems, learning data analytics will become more important. The list of mapped practices in Annex 2 includes examples of the way in which advanced learning data analytics can inform the SCL process (see also Box 36 for examples of how student-centred quality assurance mechanisms are implemented in practice at Dublin City University). However, previous research (e.g. Kember, forthcoming) underlines certain difficulties with using learning data to inform actual decisions relating to the learning and teaching process. In cases where the analysis is carried out qualitatively (via interviews with students, focus groups), its conclusions may be considered subjective by the administrations of the HEIs. Where complex quantitative analyses are applied, on the other hand, administrations may find the results difficult to understand. The credibility of the process is especially likely to be challenged when certain departments or study programmes are evaluated poorly (Kember, forthcoming, p. 17).

Box 36. Student-centred quality assurance mechanisms at Dublin City University

Several SCL quality assurance mechanisms have been implemented at Dublin City University. One of these is the Student Survey of Teaching (SSOT), which collects feedback from students via Loop Moodle infrastructure. This survey looks specifically at students' learning experience within modules and helps coordinators and lecturers to improve the design of the courses. Another type of student-centred quality assurance mechanism implemented at the Dublin City University is quality review student surveys. Students are asked to complete a survey, take part in a focus group discussion, or attend a meeting with a course review panel. The purpose of this feedback is to understand the quality of the learning experience within the faculty or school, and to draft recommendations on how students' learning experiences can be further enhanced.

Another issue with using learning data on SCLT to improve teaching was underlined by PPMI (2018, p. 135): '(…) administrative overload and data collection burdens often arise from the increasing expectations of a variety of interested parties, each with their own accountability requirements.' The report indicates that additional data collection should therefore be avoided if it is not completely necessary.

3. How do student-centred learning and teaching ecosystems contribute to more inclusive higher education?

As discussed in section 1.1.3, SCLT practices contribute to more inclusive higher education mainly by better attending to the needs of the diverse student body and by improving access to higher education and to the most suitable learning experiences within higher education. SCLT encourages inclusiveness through:

- Inclusive curriculum and pedagogy.
- Flexible learning pathways and technology-enhanced learning.
- Learning support.
- Teaching support.
- Inclusive learning spaces and libraries.
- Community engagement and partnerships.

Zhu and Engels (2013) highlight that 'innovations like student-centred learning are most typical in the organisations that have integrative structures, emphasise diversity and place an emphasis on collaboration and teamwork.' Knyvienė et al. (2016) also suggest that teachers who employ SCLT provide students with a wider variety of opportunities to learn. They also assist students, consider their backgrounds and change teaching methods accordingly. Moreover, student-centred teachers engage students in discussion about the activities being conducted and assist them in finding their own learning pathways. Consideration of a student's pace of learning is also important.

According to Knyvienė et al. (2016), the diversity of the student body may require the individualisation of instruction. This can be achieved in numerous ways. Teaching programmes can be arranged in different settings (e.g. classroom or online). They may consist of various activities (e.g. problem-based learning, group work, independent work, work using online tools). They may include the process of co-designing the curriculum, and involve a dialogue between the teacher and students to ensure that learning and teaching helps students to master their learning outcomes. Another important aspect is access to student support services that encourage diversity and address the needs of individual students.

Barkley (2010) emphasises that students drop out of a course largely due to their perception that they will not be successful in it. As a result, she looked for different strategies to ensure the success of her students. This led to the development of 'safety nets'. These includes various teaching tricks that are continually reviewed and further developed. First, they tackle issues relating to the course's attendance requirements. The changing composition of the student body often means that a larger proportion of students cannot adhere to strict attendance rules due to being a parent or working alongside higher education. Thus, attendance was no longer monitored, and an alternative was provided to enable students to acquire the same information online. According to Barkley (2010), such a practice also benefited those students who needed more time to review the material (e.g. those with learning or language difficulties). Furthermore, she developed a 'blended delivery' model that allows students to choose the way in which they want to involve themselves in the class, by selecting from a continuum that ranges from completely traditional on-campus to completely online participation. This practice is designed to meet the demands of the individual learner so that they do not have to drop out of the course if they miss several classes.

Wright (2011) has found the SCLT approach to be effective in dealing with multicultural issues when classroom activities stimulate students' engagement in dialogue. Students benefit from the presentation of variety of perspectives that can also challenge their beliefs.

Quinn (2013) identifies institutional practices that hinder inclusiveness, namely 'poor assessment practices, unsupportive staff who do not respect student difference, curricula and pedagogies that are rarely student-centred and fail to acknowledge diverse forms of knowledge; inaccessible buildings and facilities and lack of recognition of the needs of students with disabilities.'

Lea et al. (2003, p. 328) found that despite the fact that students have a positive approach towards SCLT, they are concerned about being told to 'just go away and find out without sufficient guidance, or before we have the necessary skills under our belt.' Another major concern was that academic staff might not be capable of addressing the different levels of guidance that individual students might need. As a result, such a situation might further favour very able students over those who have disabilities or are less successful academically.

To summarise, students should enjoy equitable opportunities to learn, regardless of their race, ethnicity, sexual orientation, gender, religion, linguistic or socioeconomic background, ability and more. In order to foster inclusive classroom practices, teachers must set the tone for inclusivity at the beginning of the class by allowing introductions and emphasising the classroom as a collective learning community, and highlighting the

social nature of learning. Teachers should also get to know their students (at least via an entry survey that includes demographic details and other relevant aspects relating to student identities), seek feedback on the classroom climate, and acknowledge and respond to difficult topics or disagreements in the classroom (ibid).

The EUA (2019a) also indicates the importance of making inclusiveness a strategic issue in higher education institutions and, to some extent, at system level. Even though numerous valuable initiatives, programmes and projects deal with the topics of inclusion and diversity, institution-wide strategies and actions are required to strengthen inclusiveness in higher education. The main barriers to promoting diversity and inclusion in higher education institutions were indicated in the INVITED survey (EUA, 2019a, p. 44): 'the lack of awareness among the university community about diversity and inclusion issues is a continuing challenge, followed by a lack of funding and other resources as well as the difficulty to identify the target groups'. The survey revealed that little more than half of respondent HEIs possess a specific office that deals with the topic. These offices usually do not have the necessary human resources to build capacity through training and awareness-raising measures. The lack of dedicated human resources and dedicated activities are often linked to a lack of funding. Another major barrier identified by the respondents is the lack of consensus or support from within the university community. The institution's societal context often determines which dimensions of diversity are recognised (e.g. gender, religion, socioeconomic background, as detailed in the paragraph above). Even though the agenda for diversity and inclusion is mainly driven from within the institution (e.g. by the institutional leadership, dedicated offices, etc.), legislation on anti-discrimination or ensuring access can also encourage and drive change within institutions.

3.1. Inclusive curriculum and pedagogy

Inclusive classroom practices comprise a number of strategies that promote supportive and inclusive learning and teaching processes. These include:

- Diversifying course material to bring in perspectives from multiple identities, communities and international perspectives/authors.
- Diversifying teaching strategies to include class activities and assignments that enable and validate different learning styles and allow students to show learning in various ways, i.e. a 'universal design' framework that allows for customised course design to meet individual student needs.
- Using technology to enable more inclusive practice, including making course materials available electronically, recording lectures and making them available, making class notes and handouts electronically available; allowing for anonymous pools on controversial issues.
- Class entry assessments and low-stakes assessments that help teachers identify the gaps in students' knowledge and the need for scaffolding and learning support.
- Teachers being explicit, and clearly articulating their expectations of students' learning and choices of course materials, assignments and assessments; offering a glossary of key terms.

- Where possible, enabling students to demonstrate their learning in various ways by allowing choice in assignments or assessments.
- Getting to know students in order to understand possible social or cultural factors that might affect teacher-student interactions.
- Enabling equal access to learning resources by guidance and mentoring.
- Offering constructive feedback on assignments that helps students to evaluate their own achievement of learning outcomes; if needed, adjusting learning strategies and seeking additional learning support.
- Enabling inclusive classroom dynamics that embrace different identities and intersectionality, address implicit biases and stereotypes, tackle manifestations of power and privilege in classroom.
- Making course norms and requirements explicit in course descriptions to address misconceptions of the 'hidden curriculum'.
- Considering barriers to accessing course materials due to financial circumstances, or to class activities due to logistics and scheduling.

Box 37. Inclusive assessment and culturally inclusive teaching at the University of Plymouth

The University of Plymouth has a reputation for its commitment to inclusivity. Its activities promote access and academic success through inclusive teaching and assessment.

Inclusive assessment was first endorsed at Plymouth University through the Staff-Student Partnership for Assessment Change and Evaluation (SPACE) project in 2006. The SPACE project recommended that an inclusive assessment approach would meet the needs of the university's diverse student population. Inclusive assessment does not compromise academic or professional standards but improves opportunities for all students to demonstrate their attainment of the learning outcomes.

The University prepared its Assessment Policy 2014-2020, which was written and developed with the involvement of both staff members and students. It has been developed around five main topics:

- The purpose of assessment (e.g. providing a fair and reliable measure of students' performance, knowledge and skills against the learning outcomes; helping students to develop through timely and constructive feedback).
- The things students can expect in relation to assessment (e.g. pre-assessment activities, designed to help you understand what assessment is and how it works; clear and transparent assessment guidelines and briefs, and marking criteria for each assessment, with clear information on how and when feedback will be provided; a range of assessment methods; a schedule that spreads formative and summative assignment deadlines throughout the year; to have assessments marked anonymously; to receive provisional marks and feedback within maximum of 20 working days).

- The things the university expects from students in relation to assessment (e.g. engaging with 'feed-forward' and feedback in formative and summative assessments; meeting the professional and ethical standards appropriate to the subject; informing as to the necessary modifications to assessment; complying with University of Plymouth academic regulations).
- The things that the university's schools and staff have to ensure in relation to assessment (e.g. that assessments are reliable, inclusive and authentic, and are designed to minimise the use of modified assessment and over-assessment of learning outcomes; schedules of assessment that spread formative and summative assessment deadlines across the programme; students have the opportunity to take part in pre-assessment activities, guidance and support; students receive constructive personal, group or general feedback).
- The ways in which the university supports inclusive assessment (e.g. providing staff development workshops in all aspects of assessment; providing digital tools to encourage innovative assessment; appointing and training appropriately qualified external examiners; monitoring how the assessment policy is put in place across the University).

Teaching staff at the University of Plymouth are also expected to ensure culturally inclusive teaching by:

- Taking time to reflect on their own practice and question how their social and cultural assumptions might affect their interactions with students; how students' backgrounds and experiences might influence their motivation and engagement; and whether course materials can be more engaging and accessible to all students in the class.
- Diversifying the curriculum (e.g. including more diverse literature on the subject).
- Encouraging intercultural interaction and participation.
- Considering teacher and student expectations of coursework.
- Minimising the use of jargon, idiom and colloquialisms.
- Being sensitive in language use and when referring to cultural stereotypes.

In order to continue to develop an inclusive and stimulating learning environment for a diverse student body, the University of Plymouth has also funded a number of Inclusivity Development research projects looking at inclusivity across the student lifecycle. These have produced the following outputs:

- A series of video case studies of staff and students talking about best practices in inclusive teaching and assessment.
- A series of written case studies in which University of Plymouth academics across departments have instigated inclusivity initiatives.

Box 38. Discursive approach to introducing student-centred learning practice at John Moores University

> Liverpool John Moores University highlights the importance of discussion between university staff and students. The goal of the university is to introduce inclusiveness as an all-embracing, student-centred practice. The university focuses on discursive approaches between students and staff to explore the possibilities of inclusive learning and teaching. This has created a non-threatening and supportive environment in which staff and students can share their perspectives and ideas for change. More specifically, the project team in the faculty of health and applied social sciences aims to raise awareness of inclusion and diversity issues. The goal of the team is to encourage a shift in attitudes and responses to meet the needs of an increasingly diverse student body. The project centred on a planned programme of awareness-raising activities such as workshops, focus groups with students and discussions with programme teams.

Universal Design for Learning is a curriculum framework that is used most frequently to meet the needs of students with learning disabilities within inclusive classrooms in regular education. It is an educational framework based on research in the learning sciences, including cognitive neuroscience, that guides the development of flexible learning environments that can accommodate individual learning differences. The primary goal of Universal Design for Learning is the accessibility of the curriculum for all students. To that end, Universal Design for Learning focuses on differentiating methods of instruction and delivery, activities for practice, and assessment. The literature (Schreiber, 2017) indicates that the use of Universal Design for Learning benefits not only students with identified learning disabilities, but also the general student population. In addition, Universal Design for Learning is appropriate at all levels of education, from elementary through to post-secondary, and can be used in the curricula of all subject areas. See *Box 39* for an example of a Horizon 2020 project that demonstrates how Universal Design for Learning can encourage an inclusive learning environment.

Box 39. Universal Design in higher education - licence to learn

> The concept of Universal Design represents a framework for the inclusion of students with disabilities in higher education. The H2020 project on Universal Design of Learning aims to demonstrate how Universal Design can foster an inclusive learning environment and higher quality teaching. The project aimed to include students with disabilities in higher education institutions by implementing the general principles of Universal Design and practical solutions from the pedagogical concept of Universal Design for Learning.
>
> In addition, the project aimed to fulfil measures and strategies set in the United Nations Convention on the Rights of Persons with Disabilities, which states that the member states shall ensure an inclusive education system at all levels.

3.2. Flexible learning pathways and technology-enhanced learning

The Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015) stipulates that a student-centred approach to learning and teaching helps to broaden access to higher education by embracing flexible learning pathways and allowing more flexible entry routes to higher education programmes by recognising prior and informal learning. The wider use of flexible entry routes and the provision of high-quality part-time study opportunities can improve the accessibility of higher education to mature students and contribute to the up-skilling of the workforce to meet the need for high-level skills and productivity (ET2020 Working Group on Higher Education, 2019). It also makes HEIs more diverse in terms of internationalisation, digitalisation and the use of new forms of delivery. Thus, it is important that universities create inclusive and supportive environments for students.

Flexible learning pathways allow students to choose the most suitable things to study, as well as personalised ways to engage in learning. For example, universities may offer evening classes, flexible schedules to take classes or meet instructors, the possibility to not start a course from the beginning (in cases when a student has already learnt part of the course content), among many other practices. Flexible learning pathways are another area intrinsic to SCLT. The recognition of prior learning or out-of-class learning enables non-traditional learners to gain academic credit and thus shorten their study time and add motivation for study. Evening classes, flexible schedules to take classes or meet instructors are other practices that support and enable learners who combine study with work and/or family responsibilities. The permeability of study programmes (in the sense of recognising academic credits from comparable courses obtained elsewhere) is also an important aspect of flexible learning pathways. When learning outcomes include explicit technical competences (such as, for example, coding in R) academic programmes ought also to consider and seek to recognise certificates, badges, nanodegrees and other forms of credentials obtained in alternative (possibly non-academic) programmes (Klemenčič 2020).

Support for flexible learning pathways can ensure access to higher education for a more diverse student body. Flexible learning pathways allow students to adjust their learning to better suit their interests, abilities and needs by providing them with a choice as to what, how, when and where they learn. This means that students can (a) make easier transitions from one learning pathway to another; (b) avoid repeating knowledge and skills they have already accumulated; (c) gain access to higher education through previous work-related experience; (d) balance their studies with other commitments; (e) access materials outside the classroom. For example, universities may offer evening classes and flexible schedules to take classes or meet instructors for students who have other commitments (e.g. work or family).

Technology-enhanced learning also contributes to more inclusive higher education by enabling distance learning, which allows students to learn without being physically present in the classroom, and at times that best suit their schedules. The opportunity of distance learning enabled by technology may attract people to higher education who would not be able to study without flexible schedules and without the possibility of learning individually.

3.3. Learning support

Learning support is crucial to ensuring that students who have enrolled in higher education also successfully complete their chosen study programme. This means ensuring that students do not drop out from higher education due to learning or personal difficulties encountered during the learning process. For example, some students may experience changes in their personal lives that may worsen their emotional situation and therefore reduce the effectiveness of their learning. Other students may have difficulties in keeping up with the pace of learning in an extremely competitive university or study programme. In these situations, the SCLT practices applied by HEIs can support students, helping them not to drop out. Such SCLT practices first of all include student support services, provided both by student support offices and by instructors (e.g. additional meetings with students to help them keep up with the pace of learning). Such SCLT practices can also include support from peers – for example, through peer tutoring – or provided by the wider community.

3.4. Teaching support

Teachers should also be offered training and/or (online) resources to help them make their courses more inclusive. Opportunities to share best practices between teachers within the institution, or between institutions in a national context, also strengthen the practice of inclusive higher education since they enable teachers to share examples from practice, seek solutions to the problems they encounter and to collectively address key challenges. It is not enough for institutional leaders to assume that teachers will know how to make their courses more inclusive if they are asked to do so. As discussed earlier, inclusive education consists of several dimensions, and SCLT approaches are particularly conducive to strengthening its practice.

3.5. Inclusive learning spaces and libraries

Finkelstein and Winer (forthcoming) report that active learning spaces are not only more conducive to active learning, but are also more accessible to students as they enable increased movement throughout the classroom space. This is especially important for students with disabilities in movement. Similarly, active learning spaces also enable the instructor to move around the room more easily, thus reaching or coming into proximity with more students. This enables a greater number of personalised interactions. If such spaces are also supported by learning technologies, these can enable students to engage with content through multiple modalities, again potentially providing them with easier access to the content and improving student experiences (Finkestein and Winer, forthcoming). Classroom acoustics too can impair student engagement, and can be remedied as part of classroom refurbishments. Overall, active classroom spaces are not only potentially more inclusive because they are geared towards enabling the active engagement of all students and towards collaborative or peer learning, but they may be particularly helpful for students with disabilities due to a design of the space that enables greater movement and use of technology, sound and lighting that can aid, in particular, students with disabilities.

To make library spaces more inclusive, administrators need to understand how, when and why students use libraries. In particular, they need to address the needs of students who may not have much library exposure in the past. Vedantham (forthcoming) reminds us that libraries should not intimidate or alienate certain elements of the student population by, for example, displaying only images or works by one particular segment of population (such as male authors or male library benefactors), or those from a particular time period or specific culture. Like active learning classrooms, libraries should enable student movement and be particularly mindful in making their spaces and resources accessible to students with disabilities.

3.6. Community learning connections and partnerships

Inclusiveness and access to higher education can also be strengthened through better community engagement. Community engagement has emerged as a priority in the European Commission's Renewed Agenda for Higher Education. This emphasises that 'higher education must play its part in facing up to Europe's social and democratic challenges' and should engage 'by integrating local, regional and societal issues into curricula, involving the local community in teaching and research projects, providing adult learning and communicating and building links with local communities' (European Commission, 2017). Thus, community engagement is understood as a mutually beneficial collaboration between different actors. The TEFCE project[5] (Towards a European Framework for Community Engagement in Higher Education) defines community engagement as a 'process whereby universities engage with community stakeholders to undertake joint activities that can be mutually beneficial'.

Currently, many higher education institutions engage with business and policy makers but have fewer collaborative links with NGOs, social enterprises or other civil organisations (TEFCE, 2018). Community engagement activities include teaching, research and other initiatives led by the university or by academics. Based on the review of international literature conducted by the TEFCE project (2018), community engagement by HEIs has seven key dimensions: '(i) institutional engagement (policy and practice for partnership building); (ii) public access to university facilities; (iii) public access to knowledge (dissemination of academic findings); (iv) engaged teaching and learning; (v) engaged research; (vi) student engagement; and (vii) academic staff engagement' (TEFCE, 2018, p. 2).

Community engagement and collaboration between higher education institutions and community partners can provide an effective way to reach out to regional or local communities and address existing issues such as underrepresentation, or the low level of participation or attainment of degrees among certain groups. For example, Ireland provides financial support to regional clusters of HEIs for the development of regional and community partnerships in order to attract students from underrepresented groups. France began to use 'Connected Campuses', which take advantage of Massive Open Online Courses combined with localised learning support, to attract new students from underserved areas (ET2020 Working Group on Higher Education, 2019). The TEFCE project (Towards a European Framework for Community Engagement in Higher

[5] TEFCE website. Available at: https://www.tefce.eu/project.

Education) is an example of a transnational cooperation project on community engagement (see *Box 40*).

Box 40. The TEFCE project ('Towards a European Framework for Community Engagement in Higher Education')

The TEFCE project aims to develop innovative and usable policy tools at university and European level to support, monitor and assess the community engagement of higher education institutions. The project has already prepared a publication and a policy brief summarising its findings, which define the concept of community engagement in higher education and its role in contemporary debates, and maps international initiatives and projects that have attempted to develop frameworks for monitoring/measuring community engagement. It also identifies the needs, gaps and opportunities for a European framework for community engagement within higher education. The main findings and key messages stemming from the first publication are as follows:

- Community engagement is emerging as a policy priority in higher education.
- Higher education institutions are under pressure to address other priorities such as research excellence and technology transfer, which leaves little incentive to concentrate on community engagement.
- It is difficult to measure and manage community engagement, due to the wide range of activities and stakeholders involved.
- Due to the (re)emergence of community engagement as a policy priority, there is a need to develop a framework for community engagement in higher education to support HEIs and to inform policy makers.

The TEFCE project is still ongoing, and its future publications will include:

- A toolbox for community engagement by higher education institutions
- Piloting the community engagement toolbox at universities and their local communities.
- Assessing the feasibility of developing policy tools for community engagement at the European level.

A specific community partner that ought to be highlighted here are employers. Strengthening collaboration with employers is also important in order to facilitate access and success in higher education and to improve inclusion in recruitment practices. The ET2020 Working Group on Higher Education (2019) emphasised that socioeconomic background continues to determine graduate careers. Even though HEIs and business increasingly look to provide opportunities for students from vulnerable and disadvantaged groups to study and find employment, these efforts are usually implemented separately. Active communication and dialogues, as well as student placements and internships, are expected to improve employment outcomes and make the curriculum better adapted to providing skills needed in the labour force.

Inclusiveness within, and access to, higher education can also be strengthened by better engaging and collaborating with other sectors of education. Collaborative partnerships

between higher education institutions and schools might have a positive impact on the quality of learning and teaching of underrepresented and disadvantaged groups in pre-tertiary education (ET2020 Working Group on Higher Education, 2019). Early interventions and support for disadvantaged and underrepresented school children can improve their achievements and aspirations to continue in education after graduating from school. Banerjee's (2016) review of factors linked to the poor academic performance of disadvantaged students in science and maths in schools suggest that they can be categorised into a lack of positive environment and support at home, neighbourhood and school: 'Students' relationship with teachers, perception of teacher sensitivity and the reasons for attendance are the strongest predictors of scholastic achievements (Banerjee, 2016, p. 6). Banerjee (2016) further explains that students in the lowest socioeconomic quartile would be more prone to missing school due to their teacher's expectations of successful performance and out of fear of humiliation in class. Thus, HEIs that are involved in teacher training for primary and secondary education should familiarise teachers with the widening participation and inclusion agenda (ET2020 Working Group on Higher Education, 2019). Moreover, collaboration between HEIs and schools often focuses on students who are high achievers rather than those who are underrepresented and disadvantaged, which largely determines their educational path. Reaching out to underrepresented and disadvantaged students in school can influence their choices about their education and careers. Mentoring, for example, can be used as a tool to engage and support school students from underrepresented and disadvantaged groups. Higher education students from these groups can act as mentees and share their experiences with students in other levels of education.

Box 41. Students-4-Students campaign in the Netherlands

The Netherlands has launched the Students-4-Students campaign, in which students in higher education paired up as coaches or role models with younger peers in secondary education, vocational education or higher education. Students-4-Students is designed to improve learning progression and prevent dropout before or during higher education. An annual sum of €1 million has been set aside for this purpose.

Students who volunteer as coaches will receive training and may be able to gain credit points for their services. Experience shows that the use of role models with whom learners identify can be effective in reaching target groups at risk of dropping out of their course – especially first-generation students and those with an ethnic-minority background.

Conclusions and recommendations

Key findings

- A shift to SCLT requires changes to institutional policies, as well as rules and regulations on learning and teaching, including those governing the hiring, promotion, remuneration, workload and professional development of academic and teaching staff. It also requires student involvement in institutional governance and quality assurance bodies.
- A shift to SCLT requires the wider use of classroom practices that encourage active learning and deep learning. Thus, student-centred classroom activities encourage students to more actively engage in processes of understanding, reflecting and integrating new information with prior knowledge.
- The implementation of the SCLT approach requires a shift in importance from a one-off, high-stakes summative assessment to a greater number of regular, lower-stakes formative assessments. The use of formative assessment also strengthens the role of feedback, which is provided more frequently, as well as encouraging the use of self-assessment and peer-assessment.
- Flexible learning pathways and the recognition of prior learning are integral parts of the SCLT approach, which allows learners to adapt their learning pathways to suit their interests, abilities and needs in relation to the goals, time, place, content, instructional methods, and modes of delivery. Flexible learning pathways are expected to provide students with choices as to what, how, when and where they learn.
- A shift to SCLT requires the strengthening of learner support services. The introduction of SCLT approaches and techniques can be challenging for some students. In addition, the growing diversity of the student body means that students have very different and individual skills, knowledge and abilities.
- The SCLT approach emphasises effective support for higher education teachers through professional development and training opportunities for both new and experienced teachers, in order ensure that teaching staff are more flexible in using a variety of pedagogical methods, as well as regularly evaluating and adjusting their modes of delivery and changing their role from being the main presenter to being a facilitator of learning.
- A shift to SCLT has an impact on how learning spaces are designed. The design of learning spaces can contribute to active learning. The main feature of an active learning space is its flexibility, which enables the learning environment to transition easily between class components or activities, such as an instructor's presentation, small group work or student-led presentations.
- Implementing the SCLT approach requires the use and adaptation of technologies in student learning through massive open online courses, blended learning, flipped classroom practices, and learning platforms (e.g. Canvas). The use of technology is expected to support and enhance the learning experiences of students. Moreover, technology is increasingly being used for learning analytics, which are expected to improve

institutional and classroom practices with regard to learning and teaching, decision-making and the allocation of resources.

- A shift to SCLT places a greater emphasis on intra-institutional partnerships with research, entrepreneurship and outreach functions with the local community and business actors, as well as with schools and other institutions in the education sector.
- A shift to SCLT has an impact on the way in which quality assurance is implemented in higher education. Higher education institutions will have to adjust their internal quality assurance strategies and processes accordingly, while quality assurance and accreditation agencies will need to adapt their external quality assurance practices. National ministries of education and science also play an important role in steering the process politically and encouraging HEIs and quality assurance agencies to take account of the growing importance of SCLT.
- Student-centred learning and teaching practices can contribute to two main aspects of inclusive higher education: that are able to better attend to diversity in the classroom, and they improve access to (and within) higher education. This can be achieved by applying an inclusive curriculum and pedagogy, flexible learning pathways, technology-enhanced learning, learning and teaching support, inclusive learning spaces and libraries, and community engagement and partnerships.

This report achieves two main objectives. First, it maps notable real-world practices of student-centred learning and teaching – namely, those practices with proven potential to contribute to the quality and inclusiveness of higher education. This mapping has identified a catalogue of best-practice examples of student-centred learning and teaching, the most interesting of which are presented as case studies in the report. We believe that these real-life examples, which have been successfully applied by universities, will allow stakeholders to move beyond abstract theoretical ideas, and to encourage the adoption of SCLT practices by drawing the attention of European universities to the most effective practices of their peers. To ensure relevance in the European context, when mapping the practices, we focused in particular on those applied by the universities that are now part of the European University Alliances – the Commission's policy initiative designed to build networks of European universities working in line with the best practices in higher education. We have also examined best practices in SCLT being applied as part of the Horizon 2020 and Erasmus+ projects.

The second key objective achieved in the report is to put into context the SCLT practices that have been mapped, by reviewing recent, top-level academic research on student-centred learning and teaching. Insights gained from this research have allowed us to explain how and why certain practices work, what benefits they provide, as well as to identify any negative side-effects they may give rise to. Furthermore, these insights have deepened our understanding of the conditions necessary for student-centred learning and teaching to succeed, and the potential bottlenecks in policy and practice that can prevent the successful implementation of SCLT as a learning and teaching approach. Among other sources, the report has drawn substantially on the forthcoming Routledge Handbook on 'Student-Centred Learning and Teaching in Higher Education', co-edited by Sabine Hoidn and Manja Klemenčič. This Handbook gathers together the

latest thinking on student-centred learning and teaching in higher education by renowned scholars and presents case studies from around the world.

To achieve the two objectives mentioned above, the study was guided by three central research questions:

1. What are the core elements and examples of high-impact practices in the student-centred learning and teaching in higher education that ensure transformative learning experience for all students?
2. How can high-impact practices of student-centred learning and teaching ecosystems be implemented by higher education institutions, and how should their impacts be assessed?
3. How can student-centred learning and teaching practices support inclusive and supportive higher education in the sense of removing barriers for *all* students to access, actively participate in, and achieve transformative learning experiences in higher education?

Below, we list and explain the main conclusions of the study. We hope these will guide policy makers at European and national level, as well as higher education institutions and other stakeholders, in making student-centred learning and teaching an everyday reality for learners and teachers all over Europe.

Student-centred learning and teaching is an overarching approach to learning and teaching in higher education that is founded on the concept of student agency. It is based on a framework of 10 mutually reinforcing core elements.

In our view, SCLT is not a concept that simply refers to one or more selected aspects of learning and teaching in higher education. Rather, it is an overarching approach to (and a new paradigm for) learning and teaching in higher education, which is founded on the concept of student agency. SCLT primarily concerns the capability of students to participate in, influence and take responsibility for their own learning environments and pathways, in order to have a transformative learning experience and thus achieve the expected learning outcomes (see also Hoidn and Klemenčič, forthcoming).

There are two key paradigms for learning and teaching in higher education: teacher-centred learning, and student-centred learning. At present, the former paradigm is giving way to the latter. Teacher-centred learning and teaching tends to consider students as passive recipients of information, without considering the need for them to construct their own knowledge and thus actively participate in the educational process. In such an approach, the teacher occupies a privileged position as the student's main source of knowledge. Within student-centred learning and teaching, students are given opportunities to shape their own courses, and to choose distinct learning pathways within a course. Often there is also some built-in flexibility for students to choose particular units within their study programme. Thus, the application of student-centred learning and teaching within higher education institutions requires a shift in focus from what teachers are teaching, to what students are learning.

Previous detailed reviews of the literature have revealed that the majority of student-centred learning and teaching definitions have emphasised a similar list of inherent characteristics. The three elements often used as a foundation for defining student-

centred learning and teaching are: (1) student satisfaction; (2) student engagement; and (3) student agency. The literature review carried out for the present study has convinced us that student satisfaction and student engagement may be also achieved within a teacher-centred paradigm; student agency is the element that is exclusive to and inherent in the student-centred learning and teaching paradigm.

Our analysis reveals that, in order for higher education institutions to fully and successfully implement student-centred learning and teaching ecosystems, such ecosystems must encompass 10 mutually reinforcing core elements, namely:

- Policies, rules and regulations enabling student-centred learning and teaching.
- Student-centred curriculum and pedagogy.
- Student-centred assessment.
- Flexible learning pathways.
- Learner support.
- Teaching support.
- Active learning spaces and academic libraries.
- Learning technologies infrastructure.
- Community learning connections and partnerships.
- Quality assurance supporting student-centred learning and teaching.

By 'mutually reinforcing', we mean that these elements work together as parts of or 'gears' in an ecosystem. The more of these elements are present, the more likely it is for a learning and teaching system to function effectively as a student-centred learning and teaching ecosystem. For example, if a higher education institution begins to use more student-centred classroom activities, it will need to introduce a greater level of teaching and learning support. This will subsequently necessitate the drafting of SCLT-focused institutional policies, rules and regulations, and the adjustment of quality assurance procedures to ensure that they are suitable for the student-centred learning and teaching context. Thus, the specific elements of the learning and teaching systems present in a higher education institution tend to converge towards either a student-centred or a teacher-centred process.

Recommendations:

- Policy makers at European and national level and stakeholders in higher education should acknowledge that student-centred learning and teaching is a unique paradigm for learning and teaching, in opposition to the teacher-centred learning paradigm.
- Policy makers at European and national level and stakeholders in education should acknowledge 'student agency' as the conceptual foundation of the definition of SCLT, i.e. that the key idea behind the student-centred learning and teaching is to enable deep and active learning, where students are the key actors in constructing their own learning and knowledge.
- The report recommends that student-centred learning and teaching should be viewed as a system of mutually reinforcing core elements, all of which must work in tandem in order to create fully functional SCLT ecosystems within European HEIs.

The EU and its higher education sector would benefit from reaching an agreement among EU and national policy makers, stakeholders and higher education institutions on the core elements that constitute a student-centred learning and teaching approach to higher education, as well as how to measure and facilitate their implementation.

As Klemenčič (2017, p. 70) puts it, 'without clarity as to its meaning and specific set of indicators to assess institutional practices, almost anything can be 'sold' as student-centred learning.' She also points out the need to develop an overarching policy framework for student-centred learning and teaching that defines the core elements of student-centred learning and teaching in an institutional environment, as well as the indicators required to measure student-centred learning and teaching presence at institutions, which would guide the implementation and quality assurance. This report can be viewed as a kind of 'white paper' for such a policy framework. It outlines the 10 core elements, discusses their key aspects, and suggests indicators to measure their implementation. However, such a policy framework will require the 'buy-in' of various stakeholders involved in higher education policy and practice – in particular, national policy makers and higher education institutions themselves.

At present, there is a number of different definitions of student-centred learning and teaching used by key EU-level stakeholders working on higher education policy. The definition with the greatest policy relevance is the one established in the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015). However, the European Commission and key stakeholders may consider leading the way in expanding this definition beyond the field of quality assurance and agreeing on its core elements with other stakeholders.

Recommendations:

- The European Commission could draft a policy paper (e.g. a Communication and a Staff Working Document) providing a definition and, most importantly, listing the core elements of a student-centred approach to higher education and its ecosystems. Such a policy paper should also suggest indicators and a methodology for measuring the implementation of these elements within higher education institutions. This would greatly contribute to the quality assurance and implementation of SCLT in HEIs, and would complement the definition provided in the Standards and Guidelines for Quality Assurance in the European Higher Education Area 2015.
- As a next step, policy makers at European and national levels could mainstream the use of the agreed SCLT definition, as well as the measurement of its constitutive elements, throughout policy initiatives and programmes in the area of higher education and in particular the actions of the Erasmus+ programme and the European Universities Initiative.

For the most part, we are still living in a teacher-centred paradigm.

Student-centred learning in higher education has already entered the actual work programmes of the key EU financial instruments. Elements of innovative learning and teaching methodology, equity and inclusion are embedded in the Erasmus+ programme. For example, the inaugural call for proposals within Erasmus+ to establish the European Universities, launched in 2018, requires institutions to offer 'student-centred curricula jointly delivered across an inter-university campus, where a diverse student body can build their own programmes and experience mobility at all study levels.'

Hoidn (2017a, b, 2019a, b) points out that higher education is still centred on teachers and traditional teaching methods such as lectures, seminars and assessment. Even the terminology we use, such as 'going to a lecture', or even describing a class format as 'a lecture', along with lecture-based classroom setup, reinforces a culture of teacher-centred practices. Despite some positive changes, the shift in focus from the teacher-centred to student-centred learning and teaching faces various obstacles. The implementation of student-centred learning and teaching is hindered by deteriorating working conditions in higher education, such as increased teaching workloads and expanding class sizes; recruitment and promotion policies that favour research over teaching; declining investment and job security in tertiary education; an increase in the number of bureaucratic tasks; as well as a strong existing tradition of teacher-centred practices (ESU, 2010; Hoidn, 2016, 2017a; Lea et al, 2003). Moreover, both teachers and students may be reluctant to engage in SCLT due to a lack of knowledge, interest or motivation, or due to prior bad experiences with the methods of student-centred learning and teaching (Hoidn, 2017a). As a result, mature student-centred learning and teaching ecosystems are not widespread across Europe. Instead, numerous but highly fragmented 'pockets' of student-centred learning and teaching practices exist within European higher education.

Recommendations:

- In the call for proposals to build the European University Alliances, the applying universities were requested to offer 'student-centred curricula jointly delivered across an inter-university campus, where a diverse student body can build their own programmes and experience mobility at all study levels.' Monitoring and evaluation should be carried out to determine whether the participating universities are delivering on their promises. By mapping many notable practices carried out by universities participating in the European Universities Alliances, this report can provide a good starting point. Assessment should be carried out to determine if a greater number of high-impact practices exist after the European Universities Initiative has been in operation for several years.
- A platform should be developed via which universities participating in the European Universities Initiative could post details of the high-impact SCLT practices they are applying.
- The European policy makers should look beyond the top universities and should not forget that SCLT is still not a reality in the majority of European universities. The EU and national policy makers should search for ways to engage all European universities and communicate to them the benefits, challenges and implementation modalities of SCLT.

Some elements of student-centred learning and teaching are more widespread than others.

Our review revealed that it is quite common to find instances of at least some of the core elements of student-centred learning and teaching being applied within higher education institutions in Europe. Instructors at many universities tend, at least some of the time, to use student-centred classroom practices or assessment procedures (e.g. formative assessments) that are in line with the student-centred learning and teaching approach. Many other student-centred learning and teaching elements are also common in the discourse of higher education practitioners and university leaders, e.g. flexible learning pathways or learner support (like student-support services), however, many of them are currently not being applied in a way conducive to student-centred learning.

The study also identified elements of the student-centred learning and teaching approach to higher education that currently receive insufficient attention from policy makers and practitioners, despite their importance to the building of effective student-centred learning and teaching ecosystems. Among such elements, we emphasise the need to create active learning spaces and community learning connections – both of which are key to building an effective student-centred learning and teaching infrastructure.

Recommendation:

- Policymakers and higher education stakeholders at European and national level should draw the attention of practitioners to those elements of SCLT which currently receiving less attention, e.g. the need to create active learning spaces and the necessity to foster community learning connections and partnerships.

Student-centred learning and teaching practices can contribute to two main aspects of inclusive higher education: better attention to diversity in the classroom, and improved access to (and within) higher education. These can be achieved through the application of an inclusive curriculum and pedagogy; flexible learning pathways; technology-enhanced learning; learning and teaching support; inclusive learning spaces and libraries and community engagement and partnerships.

Student-centred learning and teaching practices can contribute to more inclusive higher education in two main ways. First, SCLT practices can better attend to the needs of diverse students. SCLT helps to ensure that each student, irrespective of her background, can learn in the way that is most suitable to her, and enjoys the flexibility to choose the most relevant subjects and methods for study. Second, SCLT can contribute to improving access to higher education study programmes for all students, as well as improving their access to the most suitable learning experiences (courses) within higher education study programmes. Access and attention to diversity are two separate aspects of inclusive higher education. The question of access deals with whether and how students can get into the higher education process; attention to diversity deals with the issue of identifying the best way(s) to engage in this process for a diverse community of learners.

Student-centred learning and teaching encourage inclusiveness in higher education through:

- Inclusive curriculum and pedagogy.
- Flexible learning pathways and technology-enhanced learning.
- Learning support.
- Teaching support.
- Inclusive learning spaces and libraries.
- Community engagement and partnerships.

Developing and applying an **inclusive curriculum and pedagogy** is the first step to making higher education more inclusive through student-centred learning and teaching. Inclusive curriculum and pedagogy seek to diversify course materials and teaching strategies to best suit the needs of each learner. It also applies appropriate learning technologies and adjusts assessment practices to ensure that they are sensitive to the needs and life situations of the students.

Flexible learning pathways allow students to choose the most suitable subjects to study, and personalised ways to engage in learning. For example, universities may offer

evening classes, flexible schedules to take classes or meet instructors, the opportunity for students not to start a course from the beginning (in cases where a student has already learnt part of the course content), among many other practices.

Technology-enhanced learning also contributes to more inclusive higher education by enabling distance learning. This allows students to learn without being physically present in the classroom, or at times that best suit their schedules. The opportunities for distance learning that are enabled by technologies may attract people to higher education who could not study without flexible schedules or the possibility of learning individually.

Learning support is crucial to ensure that the students who enrol in higher education also successfully complete their chosen study programme. This means ensuring that students do not drop out of higher education due to personal or learning difficulties encountered during the learning process.

It is not enough for institutional leaders to assume that teachers will know how to make their courses more inclusive if asked to do so. **Teaching support** should be offered to instructors to ensure that they are aware of how to make their courses more inclusive.

Inclusive learning spaces and libraries enable mobility and access to learning resources by a diverse student population, including students with disabilities. Inclusive spaces also need to reflect the diversity of the student population in the artefacts they display and the learning materials they offer.

Community engagement and collaboration between higher education institutions and community partners (such as schools, employers, various societal organisations) can provide an effective way to reach out to regional or local communities, and to address existing issues such as underrepresentation, or the low level of participation or attainment of degrees among specific groups.

Recommendation:

- European higher education institutions wishing to make their education process more inclusive should be made aware of the added value provided in this regard by the SCLT practices: an inclusive curriculum and pedagogy; flexible learning pathways; technology-enhanced learning; learning and teaching support; inclusive learning spaces and libraries; and community engagement and partnerships.

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Annex 1: Key terms on student-centred learning and teaching

General concepts

Active learning is a learning process comprising a variety of instructional approaches and techniques that promulgates the active participation of students in the construction of learning. The benefits of active learning include a focus on the learner and learning, improved information retention, development of communication and thinking skills and improved motivation on the part of students (PDST, 2017). Experiential learning, inquiry-based learning, project-based learning and problem-based learning can all be considered active learning approaches. Sugino (forthcoming, p. 3) provides a well-summarised definition of active learning from the CCE report (CCE, 2012, p. 37), stating that it is 'a general term for learning and teaching methodology that involves learners' active participation in learning, which is different from one-way lecture-style instruction. It intends to cultivate versatile ability, including cognitive, ethical and social ability, knowledge, and experience. It includes heuristic instruction, problem-based learning, experiential learning, and inquiry-based learning. Group discussions, debates, and group work in class are also effective methods for active learning.' According to Bonwell and Eison (1991), for active learning to occur, students must read, write, discuss and be engaged in solving problems and in higher-order thinking tasks such as analysis, synthesis and evaluation.

Active learning spaces are a core element of student-centred learning environments. These spaces include modular furniture that can be easily rearranged and reassembled, movable writing surfaces and integrated technologies that support student involvement by integrating media, peer-to-peer interaction and collaborative learning activities. A key feature of active learning spaces is their flexibility. The design principle of flexibility creates an environment that can transition easily between class components or activities such as an instructor's presentation, small group work or student-led demonstrations. In general, active learning spaces expand options for teaching and support the student-centred learning process.

Competency-based learning refers to systems of instruction, assessment, grading and academic reporting that are based on students demonstrating that they have learned the knowledge and skills they are expected to acquire as they progress through their education. Students can choose from a wide range of learning opportunities and are expected to master competencies that align with the requirements of the programme. In general, learners advance through a learning pathway based on their ability to demonstrate competency.

Community learning connections are intra-institutional partnerships between education, education support, research, entrepreneurship and outreach units that can extend to inter-institutional partnerships with local community actors or partners in national and international contexts (Hoidn and Klemenčič, forthcoming). The concept was developed by J. Lave and E. Wenger who, rather than defining learning as the acquisition of propositional knowledge, situated learning within the realm of social co-participation (Lave and Wenger, 1991). Community learning connections are built around the

concept of learning communities and communities of practice in the advancement of learning and teaching.

Deep learning (or deeper learning or deep understanding or meaningful learning) focuses on active student sense-making and knowledge construction. It involves both knowing and doing through participation (Hoidn, 2017a, p. 30; NRC, 2012). Deeper learning is thus understood as participation in activities or constructive, self-regulated and context-dependent processes that draw on both prior knowledge and distributed knowledge, and which takes place through social interaction and participation in social practices (Hoidn, 2017a). From this theoretical context, deeper learning requires trajectories of understanding that build on the knowledge and skills students bring to the table. Deeper learning depends on the kinds of activity the learner engages in to construct knowledge (e.g., task demands, collective inquiry), as well as on the ways in which students are positioned to participate in interactions (Engle and Conant, 2002).

Discovery learning occurs 'whenever the learner is provided with the target information or conceptual understanding and must find it independently and only with the given materials' (Alfieri et al., 2011). Students can be provided either with intensive or with minimal guidance – both can take many different forms (e.g. manuals, feedback, examples) (Hoidn, 2017a).

Effective learning is generally understood as an active/constructive, cumulative, self-regulated, goal-oriented, situated, collaborative, and individually different process (De Corte, 2003).

Effective teaching means that instructors design and enact learning environments that support deeper student learning – in other words, student 'meaning-making'. Effective teaching mainly depends on the micro-structure of the learning environment; that is, on what instructors do in their courses as experts in the subject matter and cognitive scaffold, as well as the activators of interaction and discourse. (Hoidn, 2019b).

Experiential learning is understood as a learning process whereby knowledge is created through the transformation of experience (Kolb, 1984). In other words, experiential learning consists of activities that engage students in carrying out a task and reflecting afterwards on the experience gathered. Experiential learning consists of four stages:

- Concrete experience (the learner actively experiences an activity such as a lab session or fieldwork).
- Reflective observation (the learner consciously reflects on the experience gathered).
- Abstract conceptualisation (the learner attempts to conceptualise a theory or model of what is observed).
- Active experimentation (the learner tests a model or theory).

Flexible learning pathways is an SCLT approach that enables flexible entry routes to study programmes, as well as flexible modes of delivery through the provision of part-time, distance and e-learning. Flexible learning pathways enable the curriculum to be broadened to include elective, interdisciplinary courses and interdisciplinary study programmes. In other words, learners have

the flexibility to choose from a variety of options in relation to the time, place, instructional methods used, modes of access and other factors relating to their learning processes (Hoidn and Klemenčič, forthcoming).

High-impact classroom practices challenge the idea of students as passive participants who absorb knowledge transmitted by their teachers. It also challenges an idea that the 'act of learning is synonymous with the act of teaching' (Ashwin, forthcoming, p. 3). High-impact classroom practices, as Hoidn and Reusser (forthcoming, p. 19) put it, are 'student activity and engagement in the learning process through class discussion, small group work, debate, posing questions to the class, think-pair-share activities, short written exercises and polling the class.' High-impact classroom practices encourage students to solve problems, answer questions, formulate their own questions, debate, discuss, explain, evaluate, analyse and reflect on their learning. Teachers who apply high-impact classroom practices create opportunities for students to organise new information in meaningful ways and guide them towards higher-order thinking and learning outcomes (Hoidn and Reusser, forthcoming).

Inclusive higher education refers to the ways in which pedagogy, curricula and assessment are designed and delivered to engage students in learning that is meaningful, relevant and accessible to all. It embraces a view of the individual and individual difference as the source of diversity that can enrich the lives and learning of others (Hockings, 2010). The Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG, 2015) stipulate that a student-centred approach to learning and teaching in higher education helps to broaden access to higher education by embracing flexible learning pathways and allowing more flexible entry routes to higher education programmes through the recognition of prior and informal learning. Such an approach removes the barriers that prevent disadvantaged students from actively participating in higher education. Inclusiveness is achieved by implementing practices that facilitate access to and participation in higher education for vulnerable or previously marginalised societal groups (students with disabilities, students with a migrant background, elderly people), as well as students who have entered the labour market and are currently employed part-time or full-time.

Learning infrastructure describes physical and digital infrastructure and services that provide and support learning environments. Examples of learning infrastructure include active learning classrooms, student-centred libraries, laboratories, studios and academic technology support centres.

Learning support comprises resources, strategies and practices that provide physical, social, emotional, and intellectual support to students. Learning support creates equal opportunities for success to university by addressing barriers to, and promoting engagement in, learning and teaching.

Learning technologies refers to 'the use of technologies for the purposes of the direct support and enhancement of the student learning experience, in all of its aspects and wherever it might occur' (IGI Global). Thus, technology can be used to organise whole online courses (massive open online courses), as well as electronic and online activities coupled with face-to-face teaching (blended learning). In addition, learning technologies support student-centred learning by enabling discussions outside the classroom, between students and teachers and among students themselves (Hoidn, 2017a). Learning technology

is also used to alter learning and teaching situations through the use of learning analytics. This refers to the process of collecting, evaluating, analysing and reporting organisational data to improve learning (Wong, 2017).

Lifelong learning is defined as 'all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective' (European Commission, 2001, p. 9). This definition involves formal (three-cycle degree structure), non-formal (e.g. professional up-skilling) and informal (outreach programmes, pre-university courses) learning activities to enable personal fulfilment, active citizenship, social inclusion and cohesion, and preparation for the labour market (Council of the European Union, 2002b). Lifelong learning supports the acquisition of subject-specific as well as transversal competencies and skills over the course of a person's lifetime.

Participatory learning is a learning process that aims to involve students in authoring, solving and evaluating a problem and its solutions. It includes aspects of self-paced learning, self-assessment and peer assessment (Bottomley, 2011). The core idea behind participatory learning is the student's proactive role during the learning cycle (Bieber, 2014).

Quality higher education, according to Harvey and Green (1993), consists of four dimensions: a) quality as 'excellence'; b) quality as 'value for money'; c) quality as 'fitness for purpose'; and d) quality as 'transforming'. The fourth dimension is crucial for student-centred learning and instruction. Quality higher education enables students to change conceptually and to acquire meaningful knowledge which they can apply to real-world problems. In other words, the transformative view of quality is rooted in the notion of 'qualitative change', a change of form. This leads to two notions of transformative quality in educating, enhancing and empowering the learner. The former places the learner at the centre of the learning process and enhances their knowledge, abilities and skills. The latter involves giving power to participants to influence their own transformation. According to Harvey and Green (1993), empowerment should be at the heart of a quality culture in higher education.

Reflective learning (and teaching) is a key element of experiential learning. Reflection is a process of creating and clarifying the meaning of the experience gathered. The main outcome of a reflective learning and teaching approach is a changed conceptual perspective. Reflective learning involves evaluating learning strategies and adjusting them to achieve the expected learning outcomes (Zimmermann 1989). Reflective teaching involves systematically re-evaluating teaching experiences in order to improve future teaching practices (Ashwin et al., 2015).

The SCLT ecosystem consists of 10 core elements: 1) SCLT policies, rules and regulations; 2) High-impact classroom practices; 3) Student-centred assessment practices; 4) Flexible learning pathways; 5) Learner support; 6) Teaching support; 7) Active learning spaces; 8) Learning technologies infrastructure; 9) Community learning connections; and 10) Quality assurance for SCLT.

Self-regulated learning is a self-directed learning process through which learners transform their mental abilities into task-related academic skills. Zimmerman (1989, p. 329) submits that students can be described as self-regulated 'to the degree that they are metacognitively, motivationally, and

behaviourally active participants in their own learning process and direct their own efforts to acquire knowledge and skill rather than relying on teachers, parents, or other agents of instruction'. Three elements are essential for self-regulated learning: students must have developed self-regulated learning strategies; they must have belief in the self-efficacy of their performance skills, and must be committed to their academic goals (Zimmerman 1989). The key aspect of self-regulated learning is the student's personal initiative, perseverance and adaptive skills. In general, a self-regulated learning approach emphasises students personally initiating strategies that are designed to improve his or her learning outcomes.

Student agency is the conceptual foundation of SCLT. It entails the capability of students to intervene in and influence their learning environments and pathways (Klemenčič, forthcoming). The concept is different from both student engagement (a tendency to behave in a particular way) and student satisfaction (a market-like assessment of transactional relationships between students and their universities). Thus, student agency is the capability of students to intervene and participate in, influence, and take responsibility for their learning environments and pathways in order to achieve the expected learning outcomes.

Student-centred learning is characterised by approaches that move from viewing teaching as information transmission (content focus) or an instructional strategy (teacher focus), to focusing on a students' intellectual development (learner focus) (Chism, 2004).

Student-centred learning and teaching (SCLT) represents a learning paradigm that refers to pedagogical concepts wherein students and their learning are placed at the heart of the educational process, with the aim of fostering deeper learning processes and outcomes for students to become self-directed, lifelong learners (Hoidn 2017a, 2019). SCLT has the potential to shape more effective educational practices. More specifically, SCLT consists of several principles (adapted from Hoidn and Klemenčič forthcoming):

- There is a partnership based on interdependence and mutual trust between teachers and students in the teaching-learning processes.
- Students have increased responsibilities in the learning process and develop stronger learner autonomy.
- The role of teachers is to provide students with access to knowledge and enable students to actively participate in the construction of knowledge.
- Both students and teachers strive towards self-regulation, which includes purposeful reflection on and adjustment of their learning and teaching strategies.
- Assessment is divided into multiple assessments that include formative assessment with timely feedback, self-assessment and peer-to-peer assessment.
- SCLT teaching-learning processes are adjusted to the knowledge area and the expected learning outcomes in this knowledge area.

Student-centred learning environments share common constructivist foundations on learning. Students are at the heart of the learning process, during which sense-making and active knowledge construction are emphasised.

The focus of student-centred learning environments is on deeper learning processes and outcomes in terms of what the students are/will be able to do (Hoidn, 2017a, b).

Student-centred teaching differs from traditional teacher-centred teaching. Learning is cooperative, collaborative and community oriented. Students are encouraged to direct their own learning and to work with other students on research projects and assignments that are both culturally and socially relevant to them. Thus, students become self-confident, self-directed and proactive.

Surface learning is a process of learning that relies on surface-level features, with information being stored in the working memory and soon forgotten, due to a lack of integration of new information into existing knowledge structures (Hoidn, 2017a). Students who intend to memorise information to complete a task engage in surface learning that involves activities of an inappropriately low cognitive level, with fragmented outcomes that do not convey the meaning of the encounter (Hoidn, 2017a).

Teaching support includes professional faculty development opportunities and mentorship to teaching staff, as well as training for graduate students and undergraduate teaching assistants (Hoidn and Klemenčič, forthcoming).

Transformative/transformational learning is a theory of learning that uses disorientating dilemmas to challenge students' thinking. Students are then encouraged to use critical thinking and questioning to consider if their underlying assumptions and beliefs about the world are accurate. The concept was developed by Jack Mezirow, according to whom transformative learning is 'learning that transforms problematic frames of reference to make them more inclusive, discriminating, reflective, open, and emotionally able to change' (Taylor, 2017). In other words, transformational learning occurs when the frames of references are revised due to reflection on attained experience.

Student-centred learning and teaching approaches

Blended learning is an instructional approach that combines face-to-face classroom teaching practices with the use of information and communications technology. Blended learning is associated with the redesigning of the educational environment and learning experience, thus contributing to the creation of a 'community of inquiry' (Gaebel et al., 2014).

Collaborative learning is an instructional approach that prompts students to work in pairs or groups on an assignment or project that leads to a final product, whereby each student is held individually accountable for doing their share of the work. In other words, collaborative learning refers to instructional methods via which students work together in small groups toward a common goal. The core element of collaborative learning is the emphasis on student interactions (PDST, 2017).

Collaborative online international learning (COIL) is an online learning approach in an international setting, with the interactive involvement of students and faculties from different international and intercultural backgrounds both in and outside the classroom. COIL functions in line with the non-commercial, cooperative dimension of international higher education and

with the internationalisation of the curriculum and joint and double degrees (de Wit, 2018).

Community-based learning is an SCLT approach that encompasses several educational practices including student volunteerism, experiential learning, service-learning, and community-engaged coursework for academic credit. Community-based learning models have also incorporated problem-based service-learning, direct service-learning, and community-based research (Nicholson, Richard and Winterbottom, forthcoming). At the same time, the concept refers to a wide variety of instructional methods and programmes that educators use to connect what is being taught in schools with their surrounding communities, including local institutions, history, literature, cultural heritage, and natural environments. Community-based learning leads students to a broader understanding of their role in the community.

Design-based learning is the integration of design projects into the classroom to foster creative problem-solving skills and to support students with the learning of curricular content through engagement in real-world, cross-curricular challenges (Wang and Hannafin, 2005). Design-based learning fosters students' creativity, critical thinking, collaboration and communication, and contributes to deeper learning.

Differentiated instruction is an instructional approach aimed at maximising learning outcomes, taking into account students' academic differences, as well as differences in their readiness and learning profiles (Gheyssens, Griful-Freixenet and Struyven, forthcoming). This practice refers to the proactive adjustments of the curriculum, teaching methods, resources and learning activities. In this way, every student is provided with equal learning opportunities (Tomlinson et al., 2003). Differentiated instruction encourages teachers to focus on instructional and assessment tools that are fair, flexible, challenging and which engage students in the curriculum.

E-learning refers to a concept that embraces all learning activities that involve the use of information and communication technologies to support both learning and teaching in different contexts. The term includes face-to-face settings and distance learning (Gaebel et al., 2014).

Inquiry-based learning (IBL) is an instructional approach in which relevant problems are introduced at the beginning of the instruction cycle and are used to provide the context and motivation for the learning that follows. It is an active and usually (but not necessarily) collaborative or cooperative learning approach. IBL requires significant amounts of self-directed learning on the part of the students (PDST, 2017). At the same time, inquiry-based learning requires the student to take an active role in the knowledge construction process and provokes student agency through questioning, considering alternatives and discussing ideas with other peers.

Inverted learning or the 'flipped classroom' is an SCLT instructional approach and a type of blended learning that reverses the traditional learning environment by delivering content, often online, outside of the classroom. At the same time, inverted learning moves activities, including those that may have traditionally been considered homework, into the classroom (European Parliamentary Research Services, 2014).

Learning communities present a radical departure from the traditional view of schooling insofar as they aim to instil a culture of learning in which everyone is involved in a collective effort of understanding, with students and instructors engaging in new modes of inquiry (Bielaczyc and Collins, 1999; Bielaczyc et al., 2013). In other words, learning communities enable students to tackle complex problems, communicate with and work together with people from diverse backgrounds and share their knowledge with others (Hoidn, 2017a).

Massive open online courses are online courses that can be accessed via an Internet connection. These courses are led by subject experts from higher education or industry and hosted by learning management systems or massive open online course platforms (JRC, 2016).

Modular learning is an instructional approach that is partly or entirely based on modules. Modular learning emphasises individual student learning by considering each individual's unique abilities, aspirations and influencing experiences. Modular learning also provides quality education as the teacher must personalise and individualise the instructional programme. Moreover, teachers usually engage in personal discussion with students and provide them with individual help. In a modular programme, the assessment methods used are in accordance with the learning outcomes of the module, and foster a deeper approach to learning.

Online learning is a form of educational delivery in which learning takes place primarily via the Internet. Online learning mostly facilitates access to education for those who are geographically distant and cannot easily reach traditional classrooms (Gaebel et al., 2014).

Peer-to-peer learning is a broad descriptor for an instructional approach that involves opportunities for learners to both support and learn from one another. Peer-to-peer learning practices include peer mentoring, peer feedback, and collaborative assignments. The approach creates opportunities for students to share complementary knowledge and experiences and to negotiate multiple perspectives (Mazur, 1997).

Personalised learning refers to an instructional approach via which the pace of learning and the instructional approach are tailored to meet the needs of each learner. Learning objectives, instructional approaches, and instructional content vary according to the learner's needs. In addition, learning activities are made meaningful and relevant to learners because they are driven by students' own interests and are self-initiated. Technology can aid the scaling of personalised learning (Hoidn and Reusser, forthcoming).

Problem-based learning is a student-centred approach in which students learn about a subject through the experience of solving an open-ended problem. In a classical definition stemming from medical education, problem-based learning 'is the learning that results from the process of working towards the understanding of a resolution of a problem [...] encountered first in the learning process' (Barrows and Tamblyn, 1980). The problem-based learning process focuses on problem-solving with a defined solution, and develops student's knowledge acquisition, group collaboration and communication skills. Moreover, problem-based learning is based on the student's self-directed learning (Hoidn and Kärkkäinen 2014).

Project-based learning is a student-driven, teacher-facilitated approach to learning. Students develop a question and are guided through research under the teacher's supervision. Discoveries are illustrated by creating a project to share with a selected audience. Organisers support the systematisation of processes that will be implemented throughout the phases of problem-based learning. Student choice is a key element of this approach. Teachers oversee each step of the process and approve each choice before the student embarks in a particular direction (Bell, 2010).

SCLT approach refers to a 'broader' definition of SCLT practices. SCLT approaches include collaborative learning, inquiry-based or research-based learning, peer-to-peer learning, project-based learning, self-regulated learning or technology-supported learning.

Technology-supported learning is understood as 'the use of technologies for the purposes of the direct support and enhancement of the student learning experience, in all of its aspects and wherever it might occur' (IGI Global). Thus, technology can be used to organise entire online courses (massive open online courses), as well as some electronic and online activities coupled with face-to-face teaching (blended learning).

Student-centred learning and teaching techniques

Brainstorming is a strategy for teaching in which students participate in classroom activities by responding to or presenting views on various topics. Brainstorming provides a relaxed, informal approach to problem-solving that enhances critical thinking. It encourages students to generate innovative ideas.

Buzz group is an SCLT strategy that encourages students to think in pairs and discuss their ideas with each other. The buzz group allows students to reveal their thinking in a safe forum before presenting their ideas in public. In the group, learning happens via talking between students, who work in pairs, with the exploratory talk occurring in the context of a symmetrical (and teacher-free) dialogue (Hoidn, 2017a).

Case study is a research method involving an up-close, in-depth and detailed examination of a subject. In a classroom, case studies are prepared by a student with the objective of analysing complex issues by applying critical thinking skills.

Demonstration is a method used to communicate an idea with the aid of visual tools such as flip charts, posters and PowerPoint presentations.

Discussion is the consideration of a question in an open and usually informal debate. One student acts as a moderator and provides a framework for peer debate. It is expected that additional information required for a discussion will be gathered on the student's initiative.

Experiment is an SCLT technique that is used to introduce new ideas and clarify complex aspects of topics students typically struggle with. The technique is a part of an active learning environment and is built on an inquiry-based learning SCLT approach. In addition, tasks assigned after the experiment can

encourage students to design a follow-up experiment or to extend the concept to another application.

Index cards are a learner-centred instructional method. Teachers usually assign learners with the task of creating an activity and preparing its guidelines using index cards.

Jigsaw is an SCLT technique that divides students into groups, assigning an individual task to each group member. After completing their assignments, students must present their findings to the other group members. Using the jigsaw teaching strategy is one way to help students understand and retain information while they develop their collaboration skills.

Laboratory in a classroom is a part of an active learning student-centred approach that enables students to apply theoretical knowledge in practice.

Learning by competition is an SCLT strategy aimed at enhancing student engagement. The learner participates in local or international competitions and has an opportunity to engage with peers from other higher education institutions.

Learning centre is a classroom that has been divided into segments, each responsible for carrying out a different task. During practice, students rotate through the segments and are assigned a variety of tasks to complete.

Learning journals is an SCLT strategy that requires students to reflect on what they have learnt during a course. Students reflect on how their thinking has changed and what these adjustments entail for their future studies.

Mental model is an explanation of a thought process about the surrounding world, the relationships between its various parts, and a person's intuitive perception about his or her own acts and their consequences.

A **panel** is a discussion technique that enables students to present different perspectives relating to a topic.

Presentation is a teaching method that enables students to present their completed assignments to peers and tutor, afterwards engaging in a question and answer session. Presentations can be prepared either individually or in groups.

Question and answer sessions enable learners to test other students' comprehension of learning material.

Quizzes are a type of questioning used by an instructor to promote student explanation and reflection on different ideas and topics.

Roleplay is an SCLT method that enables experimental learning. For example, students at Harvard University used role-playing during a case study to demonstrate narrative leadership and improvise how they would handle a difficult situation if it arose in the workplace.

Simulation is a form of experiential learning. Simulations promote concept attainment through practice. The technique helps students to develop a

thorough understanding of the given assignment. As a result, students are more engaged in simulations as they provide first-hand experience.

Small group work is an SCLT technique applied by teachers to highlight students' key characteristics. Usually, the tutor divides students into small groups and assigns a project to each group. The students then choose the specific roles they will take to implement the task.

Social media provides students with the ability to obtain information, to connect with peers and other learning groups and to find educational systems that make education convenient. Social media is used as a student-centred method to effectively share a message and provide feedback.

The **workshop** is a learner-centred method used in a classroom. It is designed to teach or introduce students to practical skills, techniques and ideas. Students can create and conduct the workshop together with fellow peers.

Annex 2: A list of notable student-centred learning and teaching practices

Name of the SCLT practice	Source	Short description of the SCLT practice	Where the practice was implemented
SCLT policies, rules and regulations			
Innovative student engagement tools	PPMI study on 'The progress on quality assurance systems in the area of higher education in the Member States and on cooperation activities at European level'.	Erasmus University College Brussels employed focus group discussions, social media and student counselling services as innovative engagement tools to enhance student engagement. The university's quality assurance office works to enter into a dialogue with all major stakeholders, especially students. Its goal is to achieve a more equal relationship between staff and students and ensure a continuous dialogue (rather than merely focusing on student satisfaction surveys). Moreover, Erasmus University College Brussels seeks to immerse students in a context of diversity and encourage openness towards diversity and the values of solidarity, inclusiveness and emancipation among students. To achieve these objectives, the university involves students in the development and evaluation of policy. They participate in focus groups and co-creation initiatives. Face-to-face communication with students adds to the quality of interaction, triggering improvements in programmes from within, as well as improving the university's reputation.	Erasmus University College Brussels, Belgium
Students participating in decision-making processes	ESU study: 'Overview on Student-Centred Learning in Higher Education in Europe'.	The Rector of NOVA University in Lisbon, a professor, regularly meets with student representatives from each faculty, along with assistants from social services. These meetings help student representatives to feel more comfortable and open when sharing their concerns and suggestions relating to the quality of the study programme.	University NOVA, Portugal
Discursive approach to introducing student-centred learning practice	University website.	Liverpool John Moores University highlights the importance of discussion between university staff and students. The goal of the university is to introduce inclusiveness as an all-embracing, student-centred practice. The university focuses on discursive approaches between students and staff to explore the possibilities of inclusive learning and teaching. This has created a non-threatening and supportive environment in which staff and students can share their perspectives and ideas for change. More specifically, the project team in the faculty of health and applied social sciences aims to raise awareness of inclusion and diversity issues. The goal of the team is to encourage a shift in attitudes and responses to meet the needs of an increasingly diverse student body. The project centred on a planned programme of awareness-raising activities such as workshops, focus groups with students and discussions with programme teams.	John Moores University, United Kingdom.

Student-centred learning and instructional curriculum	University website	The University of Hong Kong redesigned its undergraduate curriculum in 2012. In doing so, the university revisited and critically reflected on the curriculum to reaffirm its goal of providing a student-centred learning and instructional experience, and to renew its commitment to a university education distinguished by its global relevance and international outreach. In addition, the university campus provides a 21st-century learning environment to support the development of innovative pedagogies, especially those incorporating the use of a technology-supported student-centred learning approach.	University of Hong Kong
'InMotion'	Erasmus +project	The aim of the Erasmus+ initiative 'InMotion' is to foster higher education reform in the field of engineering in Malaysia and the Russian Federation. More specifically, the objective of the project is to improve the quality of education and teaching according to the priorities established in the Bucharest and Yerevan Communiqués, and to meet the principles of Strategic Framework for European Cooperation in Education and Training (ET 2020). It is expected that after the project has been implemented, the resulting student-centred learning approach will increase flexibility in the educational process. In addition, consortium universities are creating adaptive learning environments that will integrate, harmonise and aggregate various types of quality-controlled eLearning components derived from internationally operated learning and research facilities. The project also introduced an Open Modelling and Simulation Environment (OMSE) to create conditions for the exchange of courses, tests and assignments, and materials for blended learning.	Universities of Malaysia and the Russian Federation
Student engagement at the Department of Philosophy	Academic literature (Struthers and Van Arsdale, forthcoming)	The Department of Philosophy at University College London worked with its students to identify, discuss, and find solutions to existing issues within the department, especially in the areas of assessment and feedback. This initiative was started due to the department receiving low scores in the National Student Survey. A student facilitator was employed to facilitate smooth discussion and partnership between staff and students. As a result, the department's scores in the National Student Survey improved significantly, with overall satisfaction rising from 70 % to 89 % and assessment and feedback score improving from a low 44 % to a much higher 77 %.	University College London, United Kingdom
'Engaged Learning: Teaching, Learning and Assessment Strategy' at the University of Limerick	University website	In 2014, the University of Limerick launched a teaching, learning and assessment strategy underpinned by a deep commitment to the principle that students should be actively and deeply involved in their own education. The strategy consciously emphasises the concept of engagement, which is associated with educationally purposive activities, academic achievement and broader student success. The broad framework for engagement was created to capture the most pertinent characteristics of an engaged approach to teaching, learning and assessment. The main aspects of engaged learning are: ▪ Academic rigour: e disciplined and rigorous approach to learning challenges students by setting high expectations for their academic performance that match their	University of Limerick, Ireland

		potential and ability. Equally, a rigorous approach to programme design and continual curriculum development is characterised by an ethos of research-led teaching and learning. ▪ Enriched educational experiences: enriched learning opportunities, both inside and outside the formal class setting, cultivate the development of desirable attributes in graduates. Learning opportunities include co-curricular and extra-curricular activities and practices. ▪ Supportive Campus Environment: a supportive campus promotes student success and positive social and working relationships between students. ▪ Active collaborative learning: intensive and active involvement in their education enhances students' learning. Different forms of teaching and assessment (including self-directed and long-term exercises) better prepare students for the uncertainty they face during and after university. ▪ Meaningful Student/Staff Interaction: academics act as mentors and role models for students through their interactions with them, both inside and outside the classroom. These interactions deepen students' learning by allowing them to witness at close quarters how experts deal with complex problems and difficult material.	
Teaching Hero Awards by the National Forum for the Enhancement of Teaching and Learning in Higher Education	Organisation website	In 2014, the National Forum for the Enhancement of Teaching and Learning in Higher Education launched its National Teaching Hero Award initiative. This enables students from across the higher education sector in Ireland to recognise those teachers who have made a strong and lasting impact on their learning and lives. The awards aim to enhance and motivate outstanding teaching across all higher education institutions in Ireland. The awards are organised by the National Forum, in collaboration with the Union of Students in Ireland. The National Forum for the Enhancement of Teaching and Learning in Higher Education holds the Awards nationally. Each institution's Students Union promotes the awards on campus using posters, information stands, social media, email and class representatives. Individual students then nominate their Teaching Hero using an online nomination form. The form asks students to write a short personal text explaining why this person is their Teaching Hero. This nomination form is managed by the National Forum. Once nominations close, the National Forum returns an anonymised list of nominations to the corresponding institute. The institute scores each nomination according to an agreed qualitative framework and returns the scored nominations to the National Forum. The National Forum then calculates the final score for each nominated Teaching Hero and returns the complete data set to each institution. The data received includes the top Teaching Heroes and all other nominated heroes from the respective institution. Lastly, the National Forum announces the top two Teaching Heroes in each institution and invites them to a National Awards ceremony.	Ireland

SPARQS (student partnerships in quality Scotland) agency	Organisation website	SPARQS (student partnerships in quality Scotland) is an agency funded by the Scottish Funding Council to advance education by promoting an environment in which students are able to make a positive and rewarding difference to their own and others' educational experiences. SPARQS aims to: ▪ Recognise the expertise that students can bring to enhancement activities, and the significant contributions students have made and continue to make. ▪ Explore the nature of partnerships between students and their institutions and support developments that help to utilise this for positive change. ▪ Ensure the diversity of student voices is heard and the educational experience is enhanced with their needs in mind. ▪ Champion and encourage innovation that meets the needs of individual institutions, continuing to secure Scotland's place as a centre of excellence. SPARQS supports students, institutions and the education sector as a whole. It supports students by: (a) providing skills and knowledge to 4,000 course representatives each year; (b) training faculty representatives, senior student officers and student reviewers; (c) providing training materials for online/distance learning and international students, apprentices and students in supported education; (d) develops students to become trainers; (e) emphasises working in partnership with staff. SPARQS helps universities and colleges develop structures and cultures for student engagement by: (a) providing resources and guidance (e.g. Student Partnership Agreements and accreditation/reward); (b) helping to involve students in reviews; (c) providing professional development resources and networking events for staff; (d) supporting the engagement of students in curriculum design; (e) providing support to develop the representation of diverse student groups; (f) providing support to help develop and sustain strong and effective students' associations. SPARQS develops student engagement at a national level by: (a) supporting student representatives who sit on national committees; (b) influencing developments around key learning and teaching issues (e.g. supporting student engagement in the Enhancement Themes); (c) responding to consultations and contributing to the development of national quality guidelines and resources; (d) ensuring students are able to respond to sector priorities, e.g. widening access, articulation and Developing the Young Workforce; (e) working closely with all sector agencies.	Scotland
National Forum for the Enhancement of Teaching and Learning in Higher Education funding	Organisation website	The National Forum for the Enhancement of Teaching and Learning in Higher Education provides a variety of funding opportunities to support teaching and learning enhancement across the Irish higher education sector. The Teaching and Learning Enhancement Fund enables strong cross-sectoral collaboration, as well as partnerships with other education providers and external stakeholders, all with a view to institutional enhancement for maximum national impact. Projects financed by this Fund reflect collaborative innovation across Irish higher education. Calls for applications to the Fund align with the current national strategic priorities (e.g. the quality of the student	Ireland

		experience, quality of teaching, scholarship and external engagement, internationalisation, engagement). The National Seminar Series provides opportunities for those working in higher education to connect with colleagues and to focus on shared interests in both the research and practice of teaching and learning enhancement. The series also creates opportunities to hear from national and international experts in different areas of teaching and learning. These events cover various topics, including student engagement, formative assessment, feedback, promoting inclusivity through Universal Design for Learning, digital technology and professional development. The National Forum also offers funding to support conferences that underpin the enhancement of teaching and learning in Irish higher education. Conference organisers can apply for funding if their event aligns with one or more of the National Forum's key strategic priorities (e.g. professional development, teaching and learning in a digital world, student success), if it will have a positive impact on student engagement/learning, and if it will have significant reach across the higher education community.	
European Award for Excellence in Teaching in the Social Sciences and Humanities organised by Central European University	Organisation website	Central European University organises the annual European Award for Excellence in Teaching in the Social Sciences and Humanities. This pioneering award, first announced in 2011 on the occasion of the 20th anniversary of the university's founding, honours academics in social sciences and humanities who teach at higher education institutions within the European Higher Education Area. Its goal is to promote excellence in teaching. The award is accompanied by the Diener Prize of EUR 5,000. All candidates must have an outstanding overall teaching record. In addition, candidates must show exemplary experience in one or more of the following practices: ▪ applying innovative teaching methods ▪ combining theory and practice, relevance and scholarly excellence ▪ using research elements to achieve excellence in teaching ▪ applying problem-based/problem-oriented teaching ▪ achievements in the encouragement of critical thinking ▪ sustained commitment to teaching excellence, rather than one-off achievements. Applications from candidates working with less affluent students or students from disadvantaged social backgrounds are particularly welcome. The selection process is coordinated by the CEU Center for Teaching and Learning. The selection committee comprises distinguished international faculty and higher education leaders.	Central European University, Hungary

Student-centred curriculum and pedagogy			
Problem-based learning and international classroom	University website	Maastricht University has implemented problem-based learning into its international classroom. The aim of the international classroom is to create as much diversity as possible within each small groups so that all students can benefit from different perspectives. Problem-based learning brings together students and instructors with diverse backgrounds into small groups. In this environment, students are expected to develop the necessary knowledge and related skills, as well as contributing to their open-mindedness. Problem-based learning in the international classroom is also expected to prepare students for the rapidly globalising labour market.	University of Maastricht, Netherlands *Maastricht University is a member of the EUI alliance 'Young Universities for the Future of Europe'.*
Medical ultrasound programme	University website	City University London applies the flipped classroom model in its medical ultrasound programme. Students work mostly through online lectures at home. Lecture time is used to demonstrate cases linked to online lectures and report writing. In addition, the University uses games and simulations to increase student engagement. Personal response systems (classroom 'clickers') are also used within the sessions. The aim of these clickers is to determine the level of understanding within a group of students, allowing the development of greater personalisation within a session. Each student has their own 'clicker', and these can help teachers to assess whether specific students need more support. When the clickers indicate a limited understanding of an issue or topic, the lecturer can focus on this in greater detail and provide additional explanations. Results from these sessions can be saved, and. In general, the flipped model allows students to consolidate their learning and apply gathered knowledge in practice. At the same time, the flipped classroom develops students' communication, team working and critical thinking skills. In addition, the flipped classroom model at City University London enables students with learning difficulties such as dyslexia, or those who are unable to attend a session, to review lectures as often as required.	City University of London, United Kingdom
Peer instruction methodology: 'ConceptTests'	University website	Eric Mazur, a professor at Harvard University, has generated a specific methodology for peer instruction, which refers to the process by which students learn from each other. 'ConcepTests' (essential questions) are incorporated into lectures. The purpose of the 'ConcepTests' is to illustrate the difficulties faced in trying to understand the learning material. Students are given two minutes to think about a given question and formulate an answer. They are then are given two to three minutes to discuss the answer in small groups of three to four students, and decide upon the correct answer. The process enables students to think through their argumentation and enhances their reasoning skills.	Harvard University, United States
Toolkit to re-evaluate curricula	University website	At the University of Hertfordshire, a toolkit has been developed to provide a common framework for re-evaluating curricula in terms of learning, teaching, assessment approaches	University of Hertfordshire, United Kingdom

		and the environments in which they are provided. The framework is based on good practice in higher education and focuses on: ▪ Assessment for learning ▪ Research-informed teaching ▪ Inclusive teaching ▪ International engagement ▪ Sustainability ▪ Students employability ▪ Enterprise orientated education The re-evaluated curricula implement a student-centred learning and instructional approach.	
Project-based learning	University website	Project-based learning has been implemented at the University of Leicester. Students can choose a project from a range of options Each project involves a consultant from industry or the public sector and an academic tutor. During the course of each initiative, students write a project report and provide a poster presentation. The external consultant is involved in evaluating students' achievements. The academic supervisor and the project team then provide an individual assessment. The project-based learning initiative benefits students by providing access to research infrastructures such as a radiation laboratory.	University of Leicester, United Kingdom
Inverted learning	University website	The Schools of Social and Computer Science at the University of Manchester have experimented with the application of the inverted classroom model. Video lectures were provided before classes and the lecture time was used for small group work including problem-based learning activities.	University of Manchester, United Kingdom
Flipped-learning approach in practice	University website	The University of Queensland has successfully implemented the flipped learning approach on a large scale, to over 1,000 students. The University is now leading a global partnership of higher education institutions with the aim of understanding how engineering education can be redesigned using the flipped learning model, and how the spread and adoption of best practices in flipped learning can be accelerated.	University of Queensland, Australia
Research-Oriented Teaching (FoL)	University website	The Research-Orientated Teaching (FoL) programme at the Free University of Berlin enables Master's students to observe up-to-date research at close range and develop and edit their own research questions. The aim of the programme is to intensify and secure the link between research and coursework at the university. Throughout the programme, students gain insight into the work of large third party-funded projects, such as collaborative research centres or focus areas. More specifically, students are integrated into the sub-projects through research internships, by attending colloquia and workgroup meetings and learning how collaborative research works, what current research questions are, and how they are generated. In order to support the systematisation of the FoL initiatives at the Free University of Berlin, the university has developed an interdisciplinary competence model based on the logic of the	Free University of Berlin, Germany *The Free University of Berlin is a member of the EUI alliance 'UNA Europa'.*

		research process. The model differentiates between the four dimensions of research: methodology, reflection, communication and technical knowledge. Overall, a generic competency model consisting of research skills and content knowledge that transcends the cultures of individual disciplines supports the link between research and teaching, defines the goals of research-oriented teaching, and forms the basis for the evaluation of these goals. Alongside the targeted inclusion of junior scholars and scientists, research alliances and research institutions not affiliated with academia are also included into the research-oriented teaching programme. The programme is currently in its pilot phase, during which a range of experiences is being logged as research-oriented teaching is implemented. During this process, researchers receive support in the form of training, skills building and advice regarding options.	
'Lab baths' for students	University website	The Catholic University of Leuven organises lab baths, a type of intensive laboratory session during which students apply theoretical knowledge in practice. The university organises 'lab baths' in different disciplines on several campuses. These are attended by students from various study programmes and faculties. Other learning activities, such as preparation for the laboratory sessions or study of the subject matter, are completed via online learning modules. Overall, 'lab baths' allow students to plan their learning process in a more flexible way.	Catholic University of Leuven (KU Leuven), Belgium *The Catholic University of Leuven is a member of the EUI alliance 'UNA Europa'.*
European Students, Sustainability Auditing (ESSA) Project	University website	The University of Edinburgh is involved in a European student sustainability auditing project that aims to create a more flexible approach to student learning, assessment and certification practices across the European Higher Education Area. The project contributes to the wider process of developing alternative models of curriculum development and renewal. The new curriculum is expected to centre on experiential non-formal learning in a real-world setting, advancing co-created transformative learning that will contribute to enhancing students' employability. During the project, 60 students will be trained as social responsibility auditors in a student-centred, action-reflection learning-based programme, delivered in blended mode. This will culminate in four audits of different European higher education institutions. The output of the project will be an innovative open education resource.	The University of Edinburgh, Scotland *The University of Edinburgh is a member of the EUI alliance 'UNA Europa'.*
Academic Partnership for Innovation in Teaching and Learning (API)	University website	The Academic Partnership for Innovation in Teaching and Learning (API) is one of 30 projects that received funding from the Polish National Agency for Academic Exchange (NAWA). The University of Warsaw will work together with three other 4EU Alliance universities (Charles University, Sorbonne University and Heidelberg University) to achieve the following: ▪ Develop state-of-the-art educational materials, tools and techniques to support innovative student-centred learning and teaching environment at the partner universities. ▪ Develop specialised and creative exchange programmes for students and academic and administrative staff. ▪ Provide graduates with the competences and critical skills necessary to function in a complex, mobile, heterogeneous, multicultural, multilingual and digitalised world.	EUI alliance '4EU+ Alliance' members: University of Warsaw, Poland, Charles University, the Czech Republic, Heidelberg University, Germany and Sorbonne University, France.

Problem-based learning	University website	At Aalborg University (AAU) all programmes are based on a problem-based learning approach. Students work in groups and apply problem-orientated methods in preparing projects. The learning model provides AAU students with the opportunity to: ▪ Acquire knowledge and skills independently and at a high academic level. ▪ Work analytically and according to the problem using result-oriented methods. ▪ Cooperate with the business community. The university established a problem-based learning Academy with the aim of supporting the continuous development of its problem-based learning model across different departments and faculties. The Academy organises problem-based learning activities, supports research networks and raises issues relating to problem-based learning, both inside and outside the university.	Aalborg University, Denmark *Aalborg University is a member of the EUI alliance 'ECIU University'.*
Research-Oriented Teaching	University website	To stimulate students into participating in research activities at an early stage of their studies and, thus, to lay the foundation for a future career in academia, Ludwig Maximilian University of Munich (LMU) emphasises close links between research and teaching. The diversity of its programmes enables students to specialise in specific disciplines and, at the same time, to choose an interdisciplinary focus. LMU offers research-oriented Master's programmes, which are financially supported by external funding institutions such as the Bavarian Elite Network and the Volkswagen Foundation. More specifically, the university supports and enables students to participate in research projects that enable students to gain an insight into scientific practice at an early stage.	Ludwig Maximilian University of Munich, Germany *The Ludwig Maximilian University of Munich is a member of the EUI alliance 'European University Alliance for Global Health'.*
Flipped Classroom and Flipped Learning	University website	The University of Eastern Finland has implemented student-centred learning and instructional methods in developing its learning environments. The university concentrates on the use of flipped classroom and flipped learning methods. Team Ameba, a flexible and adaptable group of researchers that specialise in various aspects of learning and teaching in higher education, as well as the use of information and communications technology in education and learning environments, is researching the use and experiences of flipped classroom teaching. The results will be used to further develop learning environments, teaching and learning in higher education.	University of Eastern Finland, Finland *The University of Eastern Finland is a member of the EUI alliance 'Young Universities for the Future of Europe'.*
Student-centred assessment practices			
Online postgraduate formative assessment	University website	Formative assessment in the form of tests is carried out during the postgraduate module 'Advanced Seminar in Artefact Studies' at Newcastle University in order to provide supplementary feedback on student progress and learning. A teacher created a series of weekly online tests on ancient artefacts (especially coins) to augment day-to-day teaching. Each test required students to engage with a resource (this might be an online database, article or a reference work relating to the artefacts). The students then took a weekly test, which assessed the knowledge and skills they had gained from their independent study. As	Newcastle University, United Kingdom.

		an example, the test might assess students' ability to identify the mintmarks on a Roman coin based on the resources they had studied. The practice was adopted to provide more frequent formative feedback before the main practical summative assessment at the end of the module, as well as to encourage deeper engagement with the study material. According to the teacher, the practice has proved beneficial; all students taking the module attempted the tests and many repeatedly retried assessments until they scored 100 %. This resulted in better outcomes in the summative assessment. The adoption of such a practice mainly requires effort at the initial stage when learning materials and tests are being created on the online platform, which teachers run themselves.	
Ongoing feedback in the Jazz Improvisation and Compositions in Theory and Practice module	University website.	A teacher of the Jazz Improvisation and Compositions in Theory and Practice module at Newcastle University provided ongoing feedback to students throughout the module to help students improve their communication and reflective skills. The teacher filmed the student practising their performance pieces and subsequently watched to the footage, noting down questions based on the students' performances and other issues that the teacher wanted students to reflect on. The videos were then uploaded to YouTube. The teacher sent the students a link to the video, together with a list questions. If a student had a particularly personal response, they could respond to the teacher directly, but often they shared their responses with the group. The teacher also encouraged the students to ask further questions of themselves and each other in order to encourage their communication and reflective skills. The practice was developed with the objective of moving away from a more traditional approach to feedback, in which the lecturer provides feedback at the end of the assessment and the students act upon it for their next assessment. The teacher not only aimed to provide continuous feedback, but for students to challenge the feedback and come back with more questions, as well as providing feedback to their peers and reflecting themselves. The main benefit noted by the teacher was the way in which students communicated with each other during rehearsals. Improvements were apparent in the way students worked together and in their ability to reflect. In recognition of this practice, the teacher won an award for 'Outstanding Contribution to Feedback' at the Teaching Excellence Awards.	Newcastle University, United Kingdom
Transforming the Experience of Students through Assessment (TESTA)	Project website	TESTA was a joint National Teaching Fellowship Project involving four partner universities of similar character: Bath Spa, Chichester, Winchester and Worcester. It was funded by the Higher Education Academy for three years (2009-2012). The main aim of the project was to improve the quality of student learning by addressing programme-level assessment. TESTA originally conducted research on eight programmes in four partner universities to map assessment environments, develop interventions and evaluate them. It provided a rich picture of assessment – the quantity of assessment, balance of formative and summative, variety, distribution of assessment and its impact on student effort, feedback practices, the clarity of goals and standards, and the relationship between these factors and students' overall perception of their degree. Using these baseline data, programme teams devised targeted interventions to address specific programme-level assessment issues. Simultaneously, the project deepened understanding of the relationship between quality	United Kingdom

		assurance frameworks, and programme assessment changes through high-level strategic engagement with senior managers in each of the four institutions. The TESTA approach has been used with more than 100 programmes in over 40 UK universities, and in Australia, India and the USA. TESTA works with academics, students and managers - and for students, academics and managers – to identify study behaviour, generate assessment patterns to foster deeper learning across whole programmes, and debunk regulatory myths that prevent assessment for learning.	
Integrated Programme Assessment at Brunel University London (IPA)	University website	The move to modular programmes and the introduction of a credit accumulation and transfer system (CATS) in the 1990s/early 2000s were intended to increase flexibility and student mobility within and between institutions. However, it resulted in some unintended consequences, including over-assessment, restrictive assessment practices, a compartmentalised approach to learning by students, and a failure to promote deep learning. As a result, Brunel University London decided to: ▪ eliminate the compartmentalised approach to learning experienced by students on modular programmes ▪ reduce the assessment load for staff and students ▪ improve employability skills and discourage their silo and strategic approach to assessment and learning Thus, the organisation started to use Integrated Programme Assessment (IPA). Integrated Programme Assessment focuses at the programme level with a holistic and overarching learning and teaching strategy underpinned by authentic and synoptic assessments. Thus, study and assessment were separated, with topics being explored in lectures, seminars and laboratory sessions, while students' knowledge and understanding are probed through a range of formative activities that support fewer summative assessment tasks, which are progressively complex, and: ▪ are authentic, challenging and relevant, encouraging reflection, integration and the application of information. ▪ test subject knowledge; data analysis and interpretation skills; presentation and communication of scientific material; and ▪ allow staff time to produce better-quality feedback. The impact of IPA is seen in improved KPI metrics between 2013 (pre-change) and 2015 (all graduating students followed new assessment structures): ▪ NSS scores for Assessment and Feedback and Personal Development increased from 73 % to 79 % and from 82 % to 87 %, respectively. ▪ Students achieving good degrees increased by 15 %. ▪ Graduate-level employment increased by 18 %. ▪ Students feel better prepared for employment.	Brunel University London, United Kingdom

Programme Assessment Strategies (PASS) project	University website.	The Programme Assessment Strategies (PASS) project was an initiative of the National Teaching Fellowship Scheme project strand, funded by the Higher Education Funding Council for England (HEFCE) and managed by the Higher Education Academy, which ran from 2009 and 2012. It was set up to directly confront issues that concern every course/programme leader in HE: how to design and deliver an effective, efficient and sustainable assessment strategy that ensures the main course/programme outcomes are satisfied. Focusing on programme-level assessment, the project sought to redress the current imbalance, under which assessment issues are primarily investigated and discussed at module/unit level by providing evidence-based guidance and exemplars/examples to help programme leaders develop and implement effective programme focused assessment strategies. The achievements of the project include: ▪ Guidance and case studies on programme assessment across a range of subject disciplines from the UK and overseas. ▪ A tried-and-tested workshop format that programme teams can use to review/revise their assessment strategies. ▪ A tested methodology to evaluate the impact of programme assessment strategies. ▪ Since then, the project leads at the University of Bradford have continued to offer PASS workshops and take forward its programme-focused assessment.	United Kingdom
Flexible learning pathways			
The Centre for Environment and Development Studies (CEMUS)	ESU study: Overview on Student-Centred Learning in Higher Education in Europe	The Centre for Environment and Development Studies (CEMUS) is a student-initiated transdisciplinary centre at Uppsala University and the Swedish University of Agricultural Sciences. The mission of CEMUS is to contribute to a more just and sustainable world. The three main pillars of the centre are: ▪ Student-led education; ▪ Collaboration and partnership; and ▪ Transdisciplinary research. CEMUS provides students with the opportunity to study a wide range of courses within the fields of the environment, development and sustainability. Its transdisciplinary courses complement other subjects at Uppsala University and the Swedish University of Agricultural Sciences. The courses are built on close collaboration between students, course coordinators, teachers, researchers, university administrators and societal actors.	Uppsala University and the Swedish University of Agricultural Sciences
Part-time ordinary degree	University website	The curriculum at the Dublin Institute of Technology focuses on the existing skills and attributes of part-time students. For example, the Bachelor of Technology in Electrical Services Engineering programme is populated almost exclusively by mature students (mainly electricians) who complete this degree part-time over four-years while studying. The	Dublin Institute of Technology, Ireland

		programme has promoted success by adopting a student-centred approach, in which recognition is given to students' experiential and prior learning experience. Overall, adjustments to the curriculum have resulted in a reduced drop-out rate and improved the grades of part-time students.	
Personal Learning Environments	Canvas.net website	The personalised learning environments network (PLENK) enables students to use a wide array of social media to enhance the quality of their learning. In doing so, participants form a meaningful network of learners and developed a learning material containing a diversity of opinions. PLENK fosters learning without assessment, and participants in PLENK courses learn without the incentive of accreditation.	-
Flex - massive open online course programmes	Academic literature (Phill and Admiraal, 2016)	Some massive open online courses (MOOCs) allow students to create learning pathways that align with their strengths, needs and preferences by selecting modules. The content provided in these modules often allow learners to control the sequence and timeline of content presentation. Learners are also often allowed to some extent to select learning objectives, content, assignments and modes of assessment. Students also have the flexibility to arrange the time and level of assignments and assessment. The flexibility permitted in individual programmes varies between MOOCs, and can include the various elements mentioned above. For example, the University of Barcelona permits some flexibility in its MOOC programmes.	-
Collaborative online international learning	University website	The University of Albany is using collaborative online international learning (COIL), a virtual exchange platform, as a method to internationalise learning and teaching. COIL is a cost-effective and accessible technology that fosters global learning, intercultural skills and cross-border collaboration between students. In addition, it is a way to ensure that the curriculum prepares students to become globally engaged citizens.	University Albany, United States
Online course 'PreScriptum'	University website	At Utrecht University, an online course called 'PreScriptum' enables students to create individual learning pathways. Students can determine their own learning route by working non-linearly in an online learning environment. The course is designed for PhD and Master's students, and focuses on formulating research problems. 'PreScriptum' offers customised education in which the lecturer guides groups of students from different faculties at the same time. 'PreScriptum' has managed to combine freedom of choice with strict didactic structure through the use of a common start and closing meeting and by setting fixed deadlines for the submission of weekly assignments.	Utrecht University, Netherlands *Utrecht University is a member of the EUI alliance 'CHARM European University (Challenge-driven, Accessible, Research-based, Mobile)'.*
Learner Engagement Activity Portal (LEAP)	University website	The University of Essex has designed a student-centred personalised engagement tool, the Learner Engagement Activity Portal (LEAP). This provides a holistic view of studying experience, giving students the opportunity to take control of their learning. The LEAP algorithm combines student engagement with university resources and activities to produce	University of Essex, United Kingdom *The University of Essex is a member of the EUI alliance*

		an overall engagement indicator. Five indicators of engagement level (high, good, partial, low and very low) help students to map and better understand their engagement over time. Students can use LEAP to: ▪ Reflect on their overall engagement, and on their engagement with specific activities (e.g. logins to university computers, activities on Moodle such as accessing their reading list, accessing specific pages within the reading material, listening to recordings) to make informed decisions about their academic studies. ▪ Check their attendance and ensure the information is correct. Tutors and other university staff can use the information in LEAP to: ▪ Suggest ways in which students could achieve better outcomes. ▪ Check that all is well and offer information, advice and guidance. ▪ Help students in areas of their studies in which they are experiencing challenges.	*'Young Universities for the Future of Europe'.*
Open University	University website	The Open University is a public research university, and the largest university in the UK for undergraduate education. Most of its students study off-campus, which means that it is accessible to a diverse student body (e.g. mature people, people with disabilities, international students). It has taught two million students in more than 157 countries, of whom more than 24,000 have disabilities, which is more than the total number of students in many universities. Moreover, no previous qualifications are needed to study the majority of the Open University's courses, thus removing barriers to higher education.	Open University, United Kingdom.
Learning support			
'HowULearn'	PPMI study on 'The progress on quality assurance systems in the area of higher education in the Member States and on cooperation activities at European level'	'HowULearn' is a research-based survey applied at the University of Helsinki. The online tool allows students to receive individual suggestions as to how they can enhance their learning process. The tool is a mechanism for collecting feedback- and providing advice used to support SCLT. More specifically, student answers can be aggregated to any level to see what adjustments can be made at the level of the individual course, study programme or the entire institution. The current system provides incentives for students to participate by allowing them to fill out their self-assessment questionnaire across six dimensions, and to gain feedback and advice on how their performance could be improved. This advice includes practical tips on managing their time and learning process more effectively, as well as in-depth analysis of their performance compared to their peers in any of the areas evaluated. This gives students a better understanding of which areas require improvement.	University of Helsinki, Finland
Tele-messaging service (FLO) at the University of Staffordshire	University website	The University of Staffordshire uses a type of automated text-messaging technology called 'Flo' to contact first-year student nurses from the commencement of their training programme to the end of their clinical experience taster week. These messages aim to be welcome, encourage and support as well as providing information regarding support services,	Staffordshire University, United Kingdom

		assessment dates and student events. Depending upon a student's responses, the co-ordinator receives an alert which allows them to follow up on the student's response, contact the student and, where appropriate, provide individualised support for the student. The aim of this practice is to improve student retention, transition, learning and teaching experience, participation and their sense of belonging to the university community. The initiative enhances the relationship between the university and the student while increasing the student's sense of belonging. Overall, the use of Flo has revealed the importance of personal tutoring and the effects of student support to mitigate student drop-out.	
Open University UK	University website	The Open University awards degrees and other qualifications through distance learning. Students can study any course at the university remotely. Study materials and writing assignments are provided online. The university provides support throughout a student's studies. In addition, students can connect with a designated tutor, faculty members and the Open University student community.	Open University, United Kingdom
The Student-Centred Portal	University website	The University of Edinburgh has implemented a student-centred portal initiative that is designed to create a single, personalised point of access to all relevant information throughout the study period. The goal of the project is to investigate and identify the difficulties each student experiences while using the university information system. During the initiative, a series of live testing sessions were held with eight students. The objective of these sessions was to investigate user experience issues and record the process and narratives as the students were asked to perform four specific tasks, including: ▪ Accessing course information online ▪ Finding learning materials for a course they are already taking ▪ Submitting an assessment for a course in which they are already enrolled ▪ Viewing the results of their assessment and any associated feedback Overall, the exercise has allowed the project team to identify issues concerning user experience and provided insights on how to tackle them in the future.	The University of Edinburgh, Scotland. *The University of Edinburgh is a member of the EUI alliance 'UNA Europa'*
UGR Mentor Programme	University website	The University of Granada (UGR) has created inclusive learning environments through its mentor programme. The UGR Mentor Programme is a student-centred initiative designed to foster the cultural, academic and social integration of the international community at the university. Before joining the programme, mentors (local students) must complete a 10-hour preparatory course on intercultural skills provided by the university. The Mentor Programme seeks to enhance the academic and personal experience of incoming international students, enabling them to form close bonds with local students. Mentors help foreign students to overcome the language barrier and assist with initial administrative procedures. At the same time, local students are provided with an opportunity to gain insights into new cultures and lifestyles, practise their language skills, and build up their international contacts and networks.	University of Granada, Spain. *The University of Granada is a member of the EUI alliance 'ARQUS European University Alliance'.*

		In addition to the Mentor Programme, UGR has recently launched a 'buddy abroad' programme, which aims to connect UGR students who intend to undertake a mobility period abroad with students from the same foreign university at which they will study. In other words, international students participating in the mentor programme will, in turn, become the mentors of UGR students. The programme ensures a reciprocal process that facilitates the academic, social and cultural integration of the UGR community abroad at other universities.	
Flexible learning centre	University website	The University of South Australia has set up a Flexible Learning Centre as a service unit of comprising around 90 staff members. The main objectives of the centre are: ▪ The professional development of academic staff. ▪ The development and delivery of learning and teaching resources. ▪ The provision of student support services. All services at the Flexible Learning Centre are coordinated in accordance with the university's strategic direction, either directly or through service contracts with its academic divisions.	University of South Australia, Australia
Student support at UC Leuven-Limburg	University website	UC Leuven-Limburg provides academic coaching, as a student support service. This helps students with their approach to study, in terms of study method, tools for studying and concentration techniques. There are several contact points for students who require academic assistance: ▪ Lecturers at UC LEUVEN-Limburg are expected to provide help in processing the study materials systematically and giving specific tips based on assignment and interactions in class. ▪ Academic counsellors act as a designated contact person within their study option. This individual monitors the student's study progress, discusses it with the student and provides advice on how to reflect on study performance. ▪ Study coaching staff help students to study more efficiently.	UC Leuven-Limburg, Belgium
Teaching support			
Centre for Teaching and Learning (CTL)	ESU study: 'Overview on Student-Centred Learning in Higher Education in Europe'.	The Centre for Teaching and Learning (CTL) At the University of Vienna supports the instructors of curricula, working groups on curricula and teachers with the resources they require to improve their tutoring. The main objectives of the initiative are to: • Enhance the execution and quality of subjects taught; • Improve teachers' competencies. For instance, some programmes offered by the Centre focus on didactics in higher education.	University of Vienna, Austria

Bologna Professors' Gala	ESU study: 'Overview on Student-Centred Learning in Higher Education in Europe.'	The Bologna Professors' Gala is an initiative of the National Alliance of Student Organisations in Romania (ANOSR). The project enables Romanian students to award the best performing teachers annually. The professors are proposed by their students, their classes are subsequently observed and the teachers interviewed about their scientific and didactic activities by a commission made up of students from other cities. Thus, this initiative enables students to acknowledge professors' contributions to the development and implementation of quality education in Romanian universities.	National Alliance of Student Organisations in Romania
Development of student-centred learning, teaching and assessment within Bologna Learning Network (LOAF)	Erasmus + funded initiative	The Lithuanian Ministry of Education, Science and Sport, together with the Education Exchanges Support Foundation (the Erasmus+ National Agency of Lithuania) has implemented Erasmus+ (KA3 – Support to policy reform) projects over recent years that underpin mobility, internationalisation and develop institutional capacities for student-centred learning. The most recently completed Erasmus+-funded initiative, 'Development of student-centred learning, teaching and assessment within Bologna Learning Network (LOAF)' (2016-2018) created recommendations for teachers and students on aligning student-centred learning, teaching and assessment at the level of study programmes, subjects and modules.	Lithuania
Student-centred teaching methods programme	Academic literature (Cunningham, 2015)	The department of education at Wake Forest University designed a programme that advocates student-centred teaching methods. For instance, in the technology in education course, emphasis is placed on appropriate integration and instruction that is customised to address the needs of candidates in all grade levels and content areas. Teacher candidates in education programmes at Wake Forest University are being prepared to use technology to support a student-centred instructional methodology, in order to appropriately communicate with the educational community. The department and the university support a collaborative approach to programme development. These efforts prepare graduates from the department of education to meet the challenges of 21st-century classrooms and apply innovative instructional methodology.	Wake Forest University, United States
University pedagogical support platform (UNIPS)	JRC Innovating Professional Development in Higher Education: An Analysis of Practices	A digital solution for developing academics' pedagogical competencies, the University Pedagogical Support Platform (UNIPS), has been implemented at the University of Turku. It consists of small modules that are used to develop the teaching competencies of academics and doctoral students. UNIPS modules include self-study materials (e.g. audiovisual materials, short videos, journal articles, glossaries, quizzes). UNIPS has proved to be effective in changing conceptions of teaching among novice staff. The results of the platform reveal that the participants' interpretations of the teaching situations have moved towards a more student-centred approach. Overall, feedback on the modules has been positive and academics report that they have gained new ideas for their teaching and have found the content highly motivating.	University of Turku, Finland

Teaching for Learning conference	University website	The University of Tartu organises a Teaching for Learning Conference dedicated to the development of innovative learning and teaching practices. The event is open to members of the higher education community from Estonia and abroad (teachers, graduate students, trainers of teachers, educational developers, administrators of the HEI). The goal of the conference is to promote a learning-centred instructional approach. The dissemination of good SCLT practices takes place at the conference, enabling the academic community to use them as inspirations in their work.	University of Tartu, Estonia
Leadership development through active learning – the Empower Online Learning Leadership Academy (EOLLA)	JRC Innovating Professional Development in Higher Education: An Analysis of Practices	The Empower Online Learning Leadership Academy (EOLLA) is an initiative of European Association of Distance Teaching Universities that targets the decision-makers responsible for introducing a variety of open, online and flexible learning opportunities at higher education institutions. The academy aims to inform key actors about the most recent trends and problems they need to address in order to successfully transform their universities' current educational models. The main aspects of innovation in EOLLA's work are its mode of delivery, which focuses on the principles of active learning and, more specifically, on engagement with real-life scenarios that present challenges relevant to current changes in the higher education area. The innovative digital teaching models are student-centred, attractive and easily accessible. They are designed to improve students' learning experiences and learning outcomes.	European Association of Distance Teaching Universities (EADTU)
'Mission Possible 19'	Initiative website	In Latvia, an alternative pathway to the teaching profession is proposed by the non-governmental organisation 'Mission Possible19', which offers an innovative and inclusive one-year initial teachers' education programme followed by regular professional development sessions. Mission Possible 19 targets successful college or university graduates from other fields and focuses on a student-centred approach to teaching. The overall aim of Mission Possible19 is to ensure that every professional teacher is prepared to work with diversity in the classroom.	Latvia
Assessment tools for new learning environments in higher education institutions	Erasmus+ project.	The ASSET project aims to develop the skills of universities in Israel and Georgia in planning, preparing, producing and integrating course assessment tools (CATs) into their curricula. The project finances training workshops for professional development and for individuals to disseminate CATs within their institution. The implementation of CATs allows HEIs to evaluate lifelong learning (LLL), non-traditional learning and other non-formal educational opportunities. The project raises the quality and relevance of the learning and teaching experience, and is aligned with the student-centred approach.	Universities in Israel and Georgia
'Bridge the gap'	Academic literature (Hubbard, 2017).	The course 'Bridge the gap', taught at the University of Cambridge, aims to provide university administrators and students with a thorough knowledge of student needs and instructional approaches. The project was implemented in four phases: ▪ Understanding the problem.	University of Cambridge, United Kingdom.

		▪ Redesigning the pedagogy. ▪ Creating resources. ▪ Quality control, deployment and dissemination. The project provides academics with an up-to-date insight into student needs, and gives them new resources for use in teaching. Students who enrol on the course gain new materials to structure their preparation for practical classes. Overall, the model of partnership is a mechanism for creating high-quality resources to address student needs in a way that students find engaging.	
Centre for Teaching Excellence	University website	The Centre for Teaching Excellence (CTE) at Heidelberg University has implemented a student-centred approach across the entire curriculum by providing teaching consultations, group programmes and technology workshops for faculty members. More specifically, CTE meets with individual faculty members and generates ideas to improve courses, gather student feedback more effectively and set up teaching observations.	Heidelberg University, Germany *Heidelberg University is a member of the EUI alliance 'The 4EU+ Alliance'.*
Teachers for learners (T4L)	University website.	Teachers for learners (T4L) is a development plan for teaching skills and e-learning for lecturers at the University of Padua . After completing a T4L course, teachers will be able to experiment with new ways to encourage students to participate more actively in the learning process. The specific objectives of the course are to: ▪ Encourage awareness of the assumptions and values underpinning learning and teaching. ▪ Create an environment in which learning and teaching issues can be freely discussed ▪ Promote new methods, techniques and technologies that encourage student participation and involvement. ▪ Create an opportunity for peer observation in the classroom and constructive feedback. ▪ Learn coaching and mentoring practices that will help colleagues to develop better ways of generating learning. In addition, the university organises workshops in innovative teaching and new technologies. A digital badge to certify the skills acquired is awarded to teachers who have participated in at least five workshops. Examples of the workshops organised include 'Learner-centred teaching', 'Building a learning community' and 'Effective feedback for promoting learning'.	University of Padua, Italy *The University of Padua is a member of the EUI alliance 'ARQUS European University Alliance'*
Pamphlet on 'The role of creativity in enhancing student learning in STEM subjects'	University website	Trinity College Dublin has prepared a pamphlet entitled 'The role of creativity in enhancing student learning in STEM subjects', which aims to help academics to incorporate more creative approaches to learning and teaching when designing modules for STEM subjects. This resource outlines the fundamental aspects of creativity, how to include these aspects in module design and delivery, and how to appropriately assess creativity in the classroom. The expected outcome of the resource is creative course design and assessment procedures. At	Trinity College Dublin, Ireland *Trinity College Dublin is a member of the EUI alliance 'CHARM European University (Challenge-driven, Accessible, Research-based, Mobile)'*

		the same time, it is expected to provide students with the attributes, knowledge base and confidence relevant to the 21st century.	
Open Networked Learning	University website	The Centre for the Advancement of University Teaching (CeUL) at Stockholm University provides Open Networked Learning (ONL), a course on pedagogy in higher education equivalent to two weeks of full-time studies. The course is aimed at teachers, educational developers, learning technologists and course designers aiming to enhance teaching through the use of digital tools and learning environments. The course provides an opportunity to explore and try out collaborative learning in an open online learning environment with lecturers from other universities, disciplines and cultures. Participants who complete the course receive a certificate.	Stockholm University, Sweden *Stockholm University is a member of the EUI alliance 'CIVIS - a European civic university alliance'.*
Online teaching evaluation	University website	At the Free University of Brussels, teaching evaluations are an online process, organised twice a year, at the end of each semester. Assessments is carried out by students to ensure regular and precise feedback on teaching activities. Each student is invited to fill in a questionnaire about the courses in their programme. The questions are adapted to the type of course activities and cover course organisation, course sessions and learning assessment. A fourth section of the questionnaire concerns the individual performance of members of the pedagogical team. Teaching evaluations help to detect perceived problems in some courses. At the same time, evaluations are also a source of positive feedback for instructors. They encourage instructors to maintain a reflexive approach to their teaching activity.	Free University of Brussels, Belgium *The Free University of Brussels is a member of the EUI alliance 'CIVIS - a European civic university alliance'.*
Postgraduate Certificate in Higher Education at London School of Economics and Political Science	University website	The Postgraduate Certificate in Higher Education is a practice-based programme aimed at early-career academics, including assistant professors, assistant professorial lecturers and other colleagues who have substantive responsibilities for student learning. The course combines scholarly and practical approaches with disciplinary teaching, learning and assessment. Its aim is to: ▪ Enable participants to enhance their skills, insight and understanding of teaching and learning in higher education within their disciplinary contexts. ▪ Combine personal experience with educational theory and the practice of others. ▪ Encourage participants to question, evaluate, challenge and experiment with their ways of working and the practice of others; and ▪ Stimulate critical engagement with educational research. The programme is delivered primarily via workshops in which participants share practice and experiences with colleagues across the School. The programme explores the following topics: (a) teaching in our disciplines; (b) course design; (c) student learning; (d) assessment and feedback; (e) contemporary issues in higher education; (f) independent enquiry into pedagogical practice.	London School of Economics and Political Science, United Kingdom

Active learning spaces			
The active learning environment	University website	The University of Arizona has established a dynamic and integrative environment connecting technology, programme content, campus and services. The environment was created for the university's libraries information commons centre. The centre's mission is to create an inviting out-of-classroom environment for active learning, growth and enrichment, while providing student-centred research assistance. At the same time, the centre seeks to reach out to all students and provide innovative instructional services that enable students to design their own learning pathways. The environment created for the information commons centre serves as a physical space for student collaboration. In addition, it also offers several virtual courses and online learning resources.	University of Arizona, United States
An Alternative Model of Learning: Implications of Learning Sciences Research for the Creation of Effective Technology-Enhanced Learning Environments	Horizon 2020 project	The research project 'An Alternative Model of Learning: Implications of Learning Sciences Research for the Creation of Effective Technology-Enhanced Learning Environments' analyses how faculty supports learning by creating effective technology-enhanced learning environments. The specific objectives of the initiative are: ▪ To conduct an interdisciplinary literature review and outlining a sensitising framework. ▪ To prepare an explorative case study on technology-enhanced learning environments. Three selected courses at the Harvard Graduate School of Education will be investigated. ▪ To define the characteristics of effective technology-enhanced learning environments and prepare guidelines for the development of a new learning model. A questionnaire will be designed to survey students regarding the characteristics of the model developed. ▪ To transfer and implement good practices for the curriculum from the American to the European Higher Education Area.	-
Redesigning of large classroom	Academic literature (Finkelstein and Winer, forthcoming).	McGill University redesigned its 70-seat classroom to include movable tables, chairs, patterned guides on the classroom floor and signage on the door to indicate standard lecture and collaborative layouts, which reduces the cognitive load required to shift layouts. Moreover, it has writable walls and multiple projectors, which can be used by both instructor and students.	-
Redesigning of dual-purpose facility	Academic literature (Finkelstein and Winer, forthcoming).	McGill University has redesigned a dual-purpose facility that serves as an active learning classroom and as a dry lab for geology. Like the previous example, it has movable chairs, writable surfaces and multiple projection screens. It Includes counter height tables, which allow students to better interact with a teacher who can stand and talk with student groups without having to bend. Students can use stools or stand during their work. A height=adjustable also accommodates students with mobility issues.	-

Cabot Science Library at Harvard University	Academic literature (Vedantham, forthcoming) and university website	Cabot Science Library at Harvard University reopened in 2017 after a significant renovation. Prior to its renovation, the library was cloistered away behind a wall and many students were unaware of its existence. The renovation included the inclusion of more flexible spaces and updated media resources. The library now has a variety of innovative spaces that can be reserved by Harvard faculty, staff and students — from chat booths and group study spaces to media studios. These spaces include: ▪ A video conferencing room featuring two large screens and a video camera, which support live interaction with remote locations. ▪ Media studios, which provide high-quality audio and video recordings with only minimal training. ▪ Group study rooms. ▪ AR/VR studio, which can be used to explore different worlds and universes with the HTC Vive Headset. ▪ An instruction room with long tables and movable chairs, which converts for large group meetings and presentations. The library also has open spaces filled with various seating options enabling users to take a break or get work done.	Harvard University, United States
Learning technologies and infrastructure			
Implementation of SCLT and information and communications technology	Academic literature (Kassim and Ali, 2007).	The University of Pahang in Malaysia (UMP) seeks to ensure students responsibility for their learning process. Thus, UMP emphasises the utilization of its digital infrastructure in the learning and teaching process. Lecturers at UMP are also encouraged to implement and apply student-centred learning and instructional approaches in their teaching. Several learning and teaching courses are offered to lecturers to ensure that not only they understand the concept of SCLT but also apply it in their classes. For instance, lecturers are constantly reminded and monitored (through mock teaching) on the benefits of preparing engineering students through SCL approach. Overall, UMP encourages the implementation of both information and communications technology and SCLT.	University of Pahang, Malaysia.
The use of massive open online courses	University website.	The University of Barcelona uses massive open online courses (MOOCs) to implement innovative and student-centred teaching. This new teaching model aims to address students that are connected to technology and have a shorter attention span. Thus, the university aims to improve the quality of teaching and optimise students' learning experiences. The university decided to use MOOCs in response to the rising expectations and demands of its students.	University of Barcelona, Spain.

REC: all - recording and augmenting lectures for learning	Horizon 2020 project	The partnership 'REC: all' brings together experts from the United Kingdom, Belgium, Netherlands and France in an effort to explore innovative ways to enhance pedagogy by recording and augmenting lectures. The experts investigate a variety of pedagogical, technical, quality, cross-cultural and legal issues. The data gathered is analysed and used to create learning designs for flexible and off-campus delivery, review technical, pedagogical and legal issues, and to produce practical guidelines to help teachers. The project also develops an active community of practitioners.	United Kingdom, Belgium, Netherlands and France
Blended learning	University website	The University of Western Sydney has adopted a blended learning approach. By offering its students flexible times and modes of learning, the university has integrated face-to-face and online interactions for each discipline. In addition, to promote innovative and flexible curricula, the university uses technology-supported learning methods. Discipline-based blended learning advisors, together with designers across the university and the blended learning team in the learning and teaching unit, have formed the BLADE network, which provides learning resources and tools to enhance curriculum development.	Western Sydney University, Australia
TOX-OER (Learning Toxicology Through Open Educational Resources)	University website	The University of Bologna is participating in a joint project, 'Learning Toxicology Through Open Educational Resources' (TOX-OER). The initiative aims to enhance digital integration in learning, teaching, training and youth work at various levels by developing scientific, pedagogical, informative and formative information and communications technology-based materials in toxicology. The project involves the design of an international MOOC on toxicology that will be translated into the languages of all partner-countries (Spanish, Portuguese, Italian, Romanian, Czech, Bulgarian and Finnish). Information will be available through open educational resources, which are a useful way to reach audiences from disadvantaged backgrounds. Due to the lack of previous European MOOCs in toxicology, the open education resources and MOOCs resulting from this project will be fundamental to improving access to education, active learning and virtual mobility.	University of Bologna, Italy *The University of Bologna is a member of the EUI alliance 'UNA Europa'.*
Flexible Blended Mode Environment	University website	The Faculty of Sciences at Lund University has developed online courses to enhance physical and virtual exchange and promote the joint delivery of courses with partner universities. The purpose of this initiative is to increase the flexibility of studies within joint programmes. As part of the development of a blended learning course, Lund university has included an online research tool, 'Global Research Gateway'.	Lund University, Sweden *Lund University is a member of the EUI alliance 'European University Alliance for Global Health'.*
Community learning connections			
Students as Learners and Teachers (SaLT)	University website	The Students as Learners and Teachers (SaLT) initiative has been piloted in 2006 at Bryn Mawr College in the United States. During the project, student pairs seek to make the faculty members' classrooms inclusive and open to a diversity of students. One-on-one, semester-	Bryn Mawr College, United States

		long collaborations are the basis of the SaLT partnerships model. Currently, the initiative is one of the longest-standing pedagogical partnership programmes in the world. Most partnerships are formed between students and faculty, but other members of the community, such as librarians, have also engaged with students to explore and refine approaches to learning and teaching. The main emphasis of the project is on bringing together different perspectives. Overall, the partnership fosters a sense of belonging and enhances student engagement.	
Quality assurance for student-centred learning and instruction			
Student-Centred Quality Mechanisms	University website	Several SCL quality assurance mechanisms have been implemented at Dublin City University. One is the Student Survey of Teaching (SSOT), which collects feedback from students via Loop Moodle infrastructure. This survey looks specifically at students' learning experience within modules and helps coordinators and lecturers to improve the design of the courses. Another type of student-centred and instruction quality assurance mechanism implemented at the Dublin City University is quality review student surveys. Students are asked to complete a survey, take part in a focus group discussion or attend a meeting with a course review panel. The purpose of this feedback is to understand the quality of the learning experience within the faculty or school and to draft recommendations on how students' learning experiences can be further enhanced.	Dublin City University, Ireland *Dublin City University is a member of the EUI alliance 'ECIU University'.*

Annex 3: A self-assessment tool for higher education institutions and national policy makers to assess the existence and effectiveness of student-centred learning and teaching elements in their education processes: considerations and indicators

This annex presents relevant considerations and indicators to assess the existence and effectiveness of the elements of a student-centred learning and teaching ecosystem, based on the forthcoming Routledge Handbook on 'Student-Centred Learning and Teaching in Higher Education', co-edited by Sabine Hoidn and Manja Klemenčič.

SCLT policies, rules and regulations

National and institutional policies on SCLT

Relevant considerations for national and institutional policies on SCLT:

- A student-centred approach to learning and teaching is seen as a prerequisite for quality in learning and teaching.
- There is a commitment to implement all the elements of the SCLT ecosystems: student-centred curriculum and pedagogy; student-centred assessment practices; flexible learning pathways; learner support; teaching support; active learning spaces; learning technologies infrastructure; community learning connections; and quality assurance.
- There is a commitment to organisational learning – to being an organisation that learns – through support for data collection and research into its own functioning (in particular, in the context of its educational mission, learning and teaching, but also within other institutional missions); to periodically reflecting on and revising structures and procedures to be more person-centred and learning-oriented, and adapting to new trends and developments such as the adoption of learning technologies; and to support professional development of the organisation's own personnel.
- Practice evidence-based policy making by enabling data collection and analysis to assist policy decisions.
- Policies are coordinated and integrated horizontally with other public or institutional policies, and vertically across all levels of governance, for a concerted effort to achieve the desired policy outcomes.
- A strategy document that includes benchmarks from the best-performing countries or institutions, objectives aligned with the overall vision, instruments and responsible authorities and individuals to achieve the objectives, a timeline and concrete indicators to evaluate policy implementation.

Box 42. Relevant indicators for national and institutional policies on SCLT

Policy documents:

- Is there an institution-wide/departmental/system-wide higher education policy (self-standing or part of broader policy documents) with explicit commitment to SCLT as one of the priority objectives? Does the policy contain an implementation strategy?

Evidence for policy making:

- What data (evidence) on SCLT is referred to in policies and gathered to support policy development and monitoring implementation?

Policy coordination/integration:

- Are policies and strategies on SCLT integrated horizontally with other higher education (or other) policies, and aligned vertically with policies at different levels of higher education governance?

SCLT programmes/initiatives:

- Do specific institutional programmes or initiatives exist on the advancement of SCLT?

Rules and regulations concerning teaching staff in SCLT

Relevant considerations for **rules and regulations concerning teaching staff in SCLT:**

- Rules and regulations on hiring, promotion, remuneration, workload and professional development of academic teaching staff include SCLT criteria, such as the submission of teaching portfolios encompassing complete course design (syllabi); assessment guides and rubrics checking for evidence of SCLT approaches; a teaching statement expressing understanding of, and commitment to, SCLT; and (if applicable) certification from professional development programmes in SCLT in higher education); etc.
- Attention to reasonable teaching workloads (possibly supported by graduate student fellows and or undergraduate teaching assistants).
- Teaching-track career pathways are considered alongside traditional academic (professorial) tracks for academic staff whose primary engagement is in teaching and in advancing learning and teaching while also conducting research into learning and teaching and or in their disciplines.
- Institutional evaluations and measures of teaching effectiveness are considered in hiring and promotion decisions, and are matched with teaching support.
- Funding is available for the professional development of teachers and innovation in learning and teaching.
- Rules and regulations on hiring, remuneration, workload and professional development of graduate teaching fellows, undergraduate teaching assistants and

teaching support staff (e.g. instructional designers, learning technology experts, librarians) include SCLT criteria such as familiarity with SCLT approaches in classroom instruction, ideas about using learning technologies to further SCLT practice, etc.

- To ease the workload on academic staff, HEIs should seek to offer opportunities for teaching fellowships to graduate students and teaching assistantships to undergraduate students.
- To strengthen support services for SCLT and at the same time offer educationally-purposeful work or extracurricular volunteer opportunities to students, HEIs should offer paid and volunteer opportunities to (both undergraduate and graduate) students to serve in learning and teaching support roles such as peer tutors, interns in learning and teaching units, interns in quality assurance units, professional employees in libraries, in learning technology units, etc.

Box 43. Relevant indicators for rules and regulations concerning teaching staff in SCLT

- Do rules and regulations on the hiring, promotion, remuneration, workload and professional development of academic teaching staff and graduate teaching fellows, undergraduate teaching assistants and teaching support staff (e.g. instructional designers, learning technology experts, librarians) include SCLT criteria, such as submission of teaching portfolios encompassing complete course design (syllabi); assessment guides and rubrics checking for evidence of SCLT approaches; teaching statement expressing understanding of, and commitment to, SCLT; and (if applicable) certification from professional development programmes in SCLT in higher education); etc.?
- Are there opportunities/incentives for paid and volunteer service work for students in administration, quality and support of SCLT (e.g. as peer tutors, librarians, interns in teaching support units, etc.)?

Rules and regulation concerning students in SCLT

Relevant considerations for **rules and regulations concerning students in SCLT**:

- Guidelines on student conduct (e.g. student handbooks) must set expectations for students to take responsibility for learning and develop as self-regulated and autonomous learners.
- These guidelines have to clearly communicate student rights and complaint procedures, which must be transparent, fair and objective and must ensure that students do not face retaliation in the event that they make a complaint.
- There also ought to exist clear guidelines stating expectations of students' academic integrity and ethical behaviour in education processes, and offering resources to help students understand and meet this regulation.
- Provisions should exist for student engagement in learning and teaching by generating research on SCLT, acting as consultants for SCLT and serving in learning and teaching support toles such as, for example, course teaching assistants (and graduate teaching fellows), course research assistants, peer

advisers or learning technology support staff, or as interns in teaching and learning centres, etc.

Box 44. Relevant indicators for rules and regulations concerning students in SCLT

- Do guidelines for student conduct (e.g. student handbooks) set expectations for students to take responsibility for learning and develop as self-regulated and autonomous learners?
- Are there clear guidelines regarding the expectations of students' rights and responsibilities, including those concerning academic integrity and ethical behaviour in education processes?
- Are there clear guidelines on students' complaint procedures and measure to ensure non-retaliation in case of complaints?
- Do opportunities exist for students to conduct research, serve as consultants or/and in-service roles related to SCLT?

Funding of SCLT

Relevant considerations in **funding of SCLT** include:

- Providing human (teaching staff and learning and teaching support staff) and material (technology infrastructures, learning spaces, libraries) resources to implement SCL across HEIs and HESs.
- Including the implementation of SCLT and SCLT-relevant student outcomes among the criteria for performance-based funding; paying attention to teaching staff workload, remuneration for teaching, advising and mentoring; financial (or time-based) incentives for educational innovation; grants for professional development and mobility for professional development.
- Offering competitive project funding for the advancement of SCLT practices (e.g. for professional development training in SCLT and other policy learning/networking/multiplier events; prizes for excellence in student-centred teaching and course development; purchase of educational technologies supporting SCLT and academic learning spaces remodelling for active learning, etc.
- Offering competitive research funding for basic and applied research as well as knowledge exchange in learning and teaching.

Box 45. Relevant indicators for the funding of SCLT

Performance-based funding:

- Is implementation of SCLT approaches in study programmes included as a performance indicator in performance-based funding?

Project funding:

- Is project funding available for the advancement of SCLT practices (e.g. for professional development training in SCLT and other policy learning/networking/multiplier events; prizes for excellence in student-centred teaching and course development; purchase of educational technologies supporting SCLT and academic learning spaces remodelling for active learning, etc.?

Research funding:

- Is research funding available for basic and applied research into SCLT and educational innovation?

Governance and strategic leadership of SCLT

Relevant considerations on **governance and strategic leadership of SCLT**:

- The central decision-making body responsible for education mission involves students and other stakeholders.
- Governance of education mission/SCLT is coordinated horizontally with other governance structures responsible for other higher education missions (i.e., research and service) and vertically along the different levels of institutional governance (from central authority to the departments).
- It is paramount that the administrative/managerial bodies responsible for the implementation of SCLT policies and strategies have sufficient and competent human resources to guide, support and monitor the implementation of SCLT policies, and that these professionals have direct access to strategic leadership.
- Strategic leadership and administration supports and enables institutional learning through opportunities for the professional development for staff (e.g. training, professional exchanges), the exchange of best practices with peers, professional communities and researchers (e.g. conference attendance) and research into organisational functioning and operations (e.g. support for educational innovation within their own institutions regarding the use of education technologies, digitalisation, etc.).
- There is a body responsible for grievance procedures concerning the education mission, including questions of academic integrity, ethical conduct, discrimination and sexual harassment or sexual assault in higher education (e.g. an ombudsman's office and or student complains office).
- Institutional leadership (e.g. university presidents or rectors, provosts, deans and departmental chairs), government officials, politicians responsible for higher

education (e.g. in relevant parliamentary committees) explicitly express their commitment to strengthening the teaching mission and recognising SCLT approaches as synonymous with excellence in teaching and learning.

- Representatives of teachers (e.g. faculty councils, teacher trade unions) and students (e.g. student councils) explicitly express their commitment to strengthening the teaching mission and recognising SCLT approaches as synonymous with excellence in teaching and learning.

Box 46. Relevant indicators for governance and strategic leadership of SCLT

Governance - Institutional level:

- Which decision-making bodies within institutional governance are specifically responsible for the education mission? Which stakeholders (e.g. students) are represented in these bodies? How are these bodies coordinated along the different levels of institutional governance (from central authority to the departments)?
- Which internal administrative processes and structures are responsible for the implementation of learning and teaching policies (i.e. execution of the educational mission)? Do these administrative processes and structures have sufficient and competent human resources to guide, support and monitor the implementation of SCLT policies, and do these professionals have direct access to the strategic leadership?
- Does the strategic leadership and administration support and enable institutional learning through opportunities for professional development for staff (e.g. training, professional exchanges), exchange of best practices with peers, professional communities and researchers (e.g. conference attendance) and research into organisational functioning and operations (e.g. support for educational innovation within their own institutions regarding the use of education technologies, digitalisation, etc.)?
- Is there a body responsible for academic integrity and ethical conduct and for students' rights (ombudsman)?

Governance - System level:

- How is the governance of the higher education mission (learning and teaching in higher education) organised at system level? Which are the central authority units (political level)? Which are the central administrative units (technical level)? Who is represented in the system-level decision-making bodies responsible for learning and teaching? Do these decision-making bodies involve stakeholder representatives including students?
- How is governance of the education mission coordinated horizontally with other higher education (or other) governance structures and vertically with governance structures at different levels of higher education governance?
- Do administrative processes and structures have sufficient and competent human resources to guide, support and monitor the implementation of SCLT policies on the system level? Do they have direct access to the political leadership and are they supported by political leadership?

- Do the government officials responsible for learning and teaching (education mission) have opportunities for professional development, research and exchange of best practices with peers from other countries, stakeholder representatives and researchers within policy communities on learning and teaching in higher education?
- Is there a system-level body for grievance procedures in higher education, including questions of academic integrity, ethical conduct, discrimination and sexual harassment or sexual assault in higher education (e.g. an ombudsman's office and or student complaints office)?

Strategic/political leadership - Institutional/system level:

- Do the institutional leadership (e.g. university presidents or rectors, provosts, deans and departmental chairs), government officials, politicians responsible for higher education (e.g. in relevant parliamentary committees) explicitly express their commitment to strengthening the teaching mission and recognising SCLT approaches as synonymous with excellence in teaching and learning?
- Do representatives of teachers (e.g. faculty councils, teacher trade unions) and students (e.g. student councils) explicitly express their commitment to strengthening the teaching mission and recognising SCLT approaches as synonymous with excellence in teaching and learning?

Student-centred curriculum and pedagogy

Relevant considerations on **SCLT curriculum and pedagogy**:

- Curriculum design involves collective processes for the academic staff to determine what the knowledge in a particular discipline and or a specific study programme is, what the expected learning outcomes are, and how this knowledge and the expected learning outcomes can be achieved through pedagogy and assessment.
- Course design involves processes for the responsible teachers to determine what learning outcomes are expected in the course, how these align with and contribute to the overall study programme objectives and (diversity) of the course offer, and how these learning outcomes can be achieved through pedagogy and assessment.
- Clarity and transparency of expected learning outcomes, assessments and SCLT methods are applied in the required courses in a study programme (e.g., categorisation of courses according to type: foundational/research-oriented, research-based and research-tutored, engaged scholarship, project-based, collaborative, peer-to-peer, self-regulated, technology-supported learning, etc. and description of assessment and pedagogical approaches for each course).
- Courses in the study programme should apply SCLT methods and techniques as appropriate to the specific contents/level of the course and appropriate to the student's academic development and background.
- Provide scaffolding learning support based on student need and gradually remove support, moving towards learner autonomy; help develop student learning skills,

set expectations of students' responsibility for learning and create safe, supportive, inclusive and achievement-oriented learning environments. Teachers signal partnership in learning and teaching processes.

- Built-in flexibility in the study programme curriculum (flexible learning pathways), such as course choice (elective courses), capstone project or thesis choice, internships or service-work opportunities, research or entrepreneurship opportunities, differentiated instruction.
- Critical engagement of student representatives as partners in curriculum design and student feedback on curriculum through surveys, focus groups or townhall meetings. Student-feedback on teaching and learning: mid-term course evaluations; student involvement in course planning and in post-course reflection and evaluation (students as consultants advise on future course (re)design); minute papers or reaction cards or PoolEverywhere on a particular classroom activity to receive instant feedback on an activity; entry quizzes and personal profile surveys. Teachers respond to student feedback. Students have an active role in gathering and interpreting student mid-term evaluations.
- Create supportive and inclusive dynamics in the classroom recognising students' identities as valuable and productive, listen intently to what students have to say, invite student self-revision, and distribute authority in the classroom.
- Self-regulation, self-directed learning helps students to define their personal learning goals, plan their learning strategies and reflect on meeting these goals and possible needs to adjust their strategies. Self-regulation is reinforced through course exercises in meta-cognition: reflection prompts, reflective journaling, reflection on group work or on experiential learning activity; entry-point assessment for prior knowledge and gaps in knowledge; low-stakes assessment and self-quizzing.

Box 47. Relevant indicators for SCLT curriculum and pedagogy

Curriculum - Study programmes/courses:

- Do the learning outcomes aim at 'decoding' the disciplinary/subject-specific knowledge, model knowledge expert practices of inquiry and scaffold student adoption of these practices?
- Do learning outcomes enable students to connect lived experiences to disciplinary knowledge by solving discipline-specific or real-world problems?
- Do the learning outcomes reflect gradual progression towards the upper level of the Bloom's taxonomy of learning objectives (i.e. apply, analyse, evaluate, create)?
- Does the sequence of courses scaffold students from more directed instruction in foundational courses towards more independent learning and independent knowledge construction?

Pedagogy - Study programmes/courses:

- Across courses in a given study programme, is there a mix of high-impact student-centred classroom practices (enquiry-based, project-based, collaborative, peer, technology-enhanced, differentiated, self-regulated learning and teaching)[i] and techniques[ii] to enable multiple methods of student engagement in generating knowledge, including active, experiential and reflective learning? Which high-impact student-centred classroom practices and techniques are applied in the given course?
- What approaches are taken to foster a safe, inclusive and supportive study programme/course environment?
- How are the different elements of teaching and learning support utilised in this study programme/course e.g. library support, peer tutoring)?
- What is the level of students' learning autonomy in this programme (e.g. course choice, possibilities for research, project-based work)? How much choice/flexibility do students have in this programme/course (e.g. choice of individual/group projects, choice of assessment or assignments)? What scaffolding is applied to help students progress from basic to deeper understanding and greater learner autonomy?
- What possibilities do students have to inform and co-design study program/course? How is student feedback on study programme/course canvassed? How is student feedback used in decisions?

Student-centred assessment

Box 48. Relevant indicators of student-centred assessment

Assessment - Study programmes/courses:

- Does assessment reflect the expected progression from the lower towards the upper level of Bloom's taxonomy of learning objectives (i.e. apply, analyse, evaluate, create)? Does assessment encourage students to make connections to other fields or topics (think outside the box of disciplinary knowledge or apply knowledge to real-world situations)?
- Does assessment reflect expected learning outcomes and is it geared towards learning (rather than merely grading)?
- Are assessment criteria and standards fair, objective and unambiguous?
- Are assessment policies (criteria and standards) clearly communicated and consistently applied (among teaching staff, if there is more than one instructor, and for all students equally)?
- How frequently are students assessed during the course and how? For each course, are there multiple assessments, including low-stakes assessments (testing), peer-to-peer assessment, self-assessment (self-quizzing)? Are there placement tests or course entry tests? Are there synoptic assessments to assess student outcomes every year or at the programme level?

- Is there flexibility in assessment practices and policies; is there the possibility to revise work or repeat assessment to learn from mistakes?
- Is formative feedback offered to students on academic progression, professional/career projections and personal growth? Is timely formative feedback offered to students on their academic progress throughout the duration of the course?

Flexible learning pathways

Relevant considerations regarding **flexible learning pathways**:

- Flexible learning pathways can be created through, for example: (a) interdisciplinary or self-designed study programmes; (b) elective and interdisciplinary courses; (c) flexible entry routes to the study programmes; or (d) flexible delivery modes through part-time, open and blended learning provisions.
- Recognition of prior learning or out-of-class learning enables non-traditional learners to gain academic credit and thus shorten their study time and add motivation for study. Institutions ought to consider recognizing certificates, badges, nanodegrees and other forms of credentials obtained in alternative (possibly non-academic) programmes (Klemenčič, 2020).
- Evening classes or flexible schedules to take classes or meet instructors are other practices that support and enable learners who combine study with work and or familial responsibilities.
- Administrative barriers to transferring between study programmes are diminished by information about the procedures, possibly modularisation of programmes and recognition of credit for comparable courses.
- Flexibility in delivery modes includes variable schedules, online and blended education
- The necessary condition for enabling flexible learning pathways is also academic advising and academic support.
- Permeability of study programmes in the sense of recognising academic credit from comparable courses obtained elsewhere is also an important aspect of flexible learning pathways.

Box 49. Relevant indicators of flexible learning pathways

Flexible learning pathways - Institutional/system level

- Which flexible learning pathways exist within the institution or the higher education system:
  - (a) interdisciplinary or self-designed study programmes, (b) elective and interdisciplinary courses, (c) flexible entry routes to the study programmes, or (d) flexible delivery modes through part-time, open and blended learning provisions?
- Are there provisions for the recognition of prior learning and out-of-class learning and acquired competences?
- Are there provisions for transfer between study programmes and recognition of credit for comparable courses/course work?
- Are study programmes modularised to enable mobility across programmes?
- Are there evening classes, flexible schedules to take classes or meet instructors are other practices that support and enable learners who combine study with work and/or familial responsibilities?
- Is academic guidance and academic support available? Are there specific provisions for returning students or those at risk of drop out?
- Are policies in place that enable flexible and permeable higher education and training systems, and is support available to higher education institutions to design flexible learning pathways between institutions and or study programmes?

Learning support

Relevant consideration for **learning support**:

- Provide a coherent institutional offer of student services, i.e. **learner support**, to cater to an increasingly diversified student body (e.g. counselling and tutoring provisions, curricular orientations, extracurricular courses, writing centres, libraries, career service) to widen access, improve student retention, prepare students for employment and support their entry into the labour market (e.g. study path choices).

Box 50. Relevant indicators of learning support

- What student academic/learning support services exist at the institution? Are students offered opportunities to learn about self-regulated learning?
- How accessible are these services to students and are students aware of their existence?
- How are learning support services linked to study programmes/courses?
- How is the effectiveness of these services monitored/measured at an institution? How is usage and satisfaction with academic/learning support monitored? What share of all students have used learning support services?

Teaching support

Relevant consideration for **teaching support**:

- Provide more systematic teacher support and professional development opportunities to teaching staff, as well training for graduate students and undergraduate teaching assistants. In this way, teachers can expand their knowledge and pedagogical skills and are able to apply and reflect upon innovative teaching methods and practices conducive to SCLT.
- Continuous professional development requires adequate working conditions, teaching workloads and an institutional culture that values innovation in learning and teaching, and experimentation.
- *Recognise teaching excellence* by rewarding and publishing exemplary teaching scholarship and practice including efforts of instructors who steer the SCL approach forward and give awardees opportunities to share good classroom examples and innovative learning practices in order to stimulate the adoption of innovative and good practices in curriculum design and instruction.

Box 51. Relevant indicators of teaching support

- Is there a unit offering support to teachers at the institution? If yes, how is it resourced and what activities does it conduct? If not, who is responsible for teaching and learning quality and support to teachers, and what SCLT initiatives or activities are promoted? In sum, what support is available to teachers for teaching and learning activities institution-wide and within the individual study programmes?
- Does teacher support focus on SCLT practices?
- Does teacher support include any of the following?
  - conducting professional development workshops for teaching staff on SCLT.
  - involving graduate teaching fellows and undergraduate teaching assistants in teaching support and offer professional development training in SCLT to these students.
  - offering mentorship programmes in SCLT.
  - collecting and sharing research and other resources on SCLT.
  - generating new research or offer incentives/support for research into SCLT.
- Is there a mandatory teaching preparation programme for new faculty or a teaching certification programme? If yes, does it ground its methodology on SCLT?
- How is the effectiveness of teacher support services monitored/measured at the institution? What share of all teaching staff have participated in professional development in teaching and learning?
- How is participation in/usage of teaching support incentivised at the institution?

Active learning spaces and academic libraries

Relevant considerations for active learning spaces and academic libraries:

- Build active learning spaces (e.g. flexible learning spaces with movable furniture, writing surfaces and integrated information technologies, acoustics and lighting, air quality, temperature and ventilation) designed to encourage cognitively active learning. These spaces allow instructors and students to transition seamlessly between different social forms such as small group activities, lectures or student presentations. The flexible layout enables greater circulation around the room and thus allows for better interactions and collaboration between teacher and students.
- Redesign library spaces as active learning spaces, both in the physical environment and online.

Box 52. Relevant indicators of active learning spaces and academic libraries

Active learning spaces:

- What is the allocation of resources across departments/schools for refurbishing spaces into active learning spaces? How are these spaces maintained? What features do active learning classrooms entail?
- How is refurbishment of the learning spaces coordinated? Is it guided by expert interior designers?
- Is there central oversight of the availability for use of active learning spaces across the institution?
- What share of all available classroom space are active learning classrooms? What is the number of laboratories or studios per number of enrolled students in the relevant study programmes that utilise laboratory/studio work?
- How is the use of/effectiveness of this use of active learning spaces monitored and evaluated?

Academic libraries:

- What types of services does the library offer to students (e.g. online chats, research appointments, group instructions, etc.)?
- How well resourced are libraries with latest print and online resources?
- Have there been renovations of library spaces to repurpose space from stacks to hold books to also include active learning spaces and other student-centred features or programmes?
- Have students been involved in the redesign of libraries?
- Is there a direct library link between individual courses/study programmes and library support?
- What are the shared services between libraries and other areas of teaching and learning support?
- Is data collected on library use (both footprint and online) and data on satisfaction with library use by various stakeholders? How is this data used in decisions?

Learning technologies infrastructure

Box 53. Relevant indicators of Learning Technologies Infrastructures – institutional level

- How many study programmes or courses within study programmes offer online or blended education? What SCLT practices do these programmes or courses entail? What are the student enrolments and success rates in these programmes?
- What (academic technology) support is available to students to be able to navigate and fully use these education opportunities?
- What technology support is available to all courses/study programmes (e.g. course management platforms)?
- What training is available for teaching staff to use technology for SCLT?
- What incentives for developing technology enhanced SCLT are available at the institution?

Community learning connections

Box 54. Relevant indicators of Community Learning Connections – institutional and system levels

- What types of community connections or explicit partnerships to enhance teaching and learning (and advance SCLT) exist at institutional level, for example: (a) intra-institutional partnerships with research units, (b) entrepreneurship centres, (c) innovation labs, (d) service-learning educational partnerships with local community actors, and (e) institutional programmes and initiatives for practitioners to spend time at the institution as visiting scholars and engage in research and teaching?
- What types of system-wide partnerships between higher education institutions, independent research centres, industry and non-profit sectors exist within the higher education system?
- Are there inter-institutional domestic and/or international partnerships in teaching and learning (through bilateral partnerships or university alliances) at institutional level, and support for these at system level, for example: (a) joint degree programmes, (b) student and staff exchanges, (c) joint projects related to the advancement of teaching and learning, (SCLT) practice and policy, (d) sharing of teaching and learning support or resources (e.g. joint online learning platforms, joint library resources)?

Quality assurance for student-centred learning and teaching

Box 55. Relevant indicators of quality assurance of SCLT – institutional and system levels

Quality assurance - Institutional level:

- Is there a unit responsible for monitoring and measuring institutional performance in teaching and learning? Is such a unit explicitly committed to SCLT? If yes, how is the unit supported/assisted/guided in data collection and analysis? If not, who is responsible for quality of learning and teaching?
- Are students and other stakeholders involved in the design and application of internal quality, i.e. also as consultants and researchers or in interpretation of data?
- Which teaching and learning data is collected from:
  - *Students:* (a) Student enrolment, retention and graduation rates; related entry and exit tests; graduate career tracking (employability, job retention and salaries), etc. (b) Is such data filtered for trends in gender, age, socioeconomic status, ethnicity, language, disability, student high school achievement/standardised tests, student high school background and other characteristics relevant to the institutional or system context? (c) Are course evaluations and student engagement surveys conducted?
  - *Teachers:* (a) Are teachers required to submit a detailed *course learning and teaching methodology* as part of each course design (syllabus) including assessment guides and rubrics to be checked for evidence of SCLT approaches? (b) Are these course design plans (syllabi) publicly available in an open institutional repository? (c) Are teachers required to prepare teaching statements (that would indicate understanding of and commitment to SCLT) (d) Are classes observed or recorded for evaluation?
- What other basic or applied institutional research/educational assessment is performed institution-wide or within a study programmes (e.g. exploring reasons for drop-out or transfer from a study programme)?
- To whom is data on learning and teaching and SCLT reported, and how is it used in decision-making?

Quality assurance - System level:

- Is there an independent quality assurance and accreditation body that covers all types of higher education institutions and study programmes across the HES?
- Do standards and guidelines for quality in higher education include commitment to SCLT?
- Do standards and guidelines for quality in higher education refer to all components of the SCEs framework, and take into consideration input and output factors as well as education processes?
- Is institutional data on the quality of learning and teaching in individual institutions and study programmes made publicly available to inform student choice?
- Are students and other stakeholders involved in the design and administration of external quality in higher education?

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