



**Bremner, N. (2021) 'The multiple meanings of 'student-centred' or 'learner-centred' education, and the case for a more flexible approach to defining it', *Comparative Education*, 57 (2), pp. 159-186.**

This is an Accepted Manuscript of an article published by Taylor & Francis Group in *Comparative Education* on 1/9/20 available online: <https://doi.org/10.1080/03050068.2020.1805863>

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# The multiple meanings of ‘student-centred’ or ‘learner-centred’ education, and the case for a more flexible approach to defining it

## Abstract

What does ‘student-centred’ or ‘learner-centred’ education (SCE/LCE) mean? This study answers that question through a meta-analysis of 326 journal articles. An initial 10-aspect framework emerged from an inductive analysis of 10 key texts. This framework was subsequently condensed into 6 aspects: ‘Active participation’, ‘Adapting to needs’, ‘Autonomy’, ‘Relevant skills’, ‘Power sharing’ and ‘Formative assessment’. The definitions used in each of the 326 texts were then coded deductively. The findings indicated that SCE/LCE has been defined inconsistently in the literature. ‘Active participation’ was the most mentioned aspect, whereas ‘Power sharing’ and ‘Formative assessment’ were the least mentioned. The author argues that a flexible 10 or 6-aspect framework for defining SCE/LCE is useful for teachers, teacher educators, researchers and policy makers. Key limitations of the study are recognised, in particular the inherent subjectivity of the coding and categorisation process.

*Keywords:* student-centred learning, student-centered learning, student-centred education, student-centered education, learner-centred education, learner-centered education.

## Introduction

### *The difficulty of comparing 'student-' or 'learner-centred' practices*

'Student-centred' or 'learner-centred' education (SCE/LCE) has become a buzzword in education. Numerous education systems around the world have introduced SCE/LCE into their curricula, for example in China (Wang, 2011), India (Brinkmann, 2019), Sub-Saharan Africa (Lattimer, 2015) the United States (Dunn & Rakes, 2010) and Europe (Sin, 2015). SCE/LCE is not subject-specific, and has been mentioned in a wide range of disciplines, for example in Maths (Eronen & Kärnä, 2017), Science (Tal & Tsaushu, 2018), Nursing (Oyelana et al., 2018), Languages (Kassem, 2019) and the Creative Arts (Costes-Onishi & Caleon, 2016). Schweisfurth (2013) suggests that there may be three overlapping 'justificatory narratives' for introducing SCE/LCE: 'cognition' – the idea that SCE/LCE approaches are more likely to help students learn effectively; 'emancipation' – the idea that SCE/LCE may lead to positive social change; and 'preparation' – the idea that SCE/LCE is necessary in order to prepare learners for the skills they are likely to need in a rapidly changing world.

Most of us will have heard of SCE/LCE, but what does the term actually mean? If we were to give a very brief definition, we might say something like '*an increased focus on the learner*', '*making learners the priority*', '*placing learners at the centre of the learning process*', and so on. These phrases, whilst fantastic soundbites, do little to explain what SCE/LCE actually is. Unsurprisingly, then, many definitions in the literature are broader, and include aspects such as active participation, a focus on real-life skills, adapting to learner needs, increased learner choice and control, learner autonomy, and formative assessment, among others. These broader conceptualisations of SCE/LCE are more useful than short phrases, but their wide-ranging nature can also be problematic. For example, a teacher might:

- Give students the opportunity to participate in class, but teach a fixed curriculum, with limited room for student choice and control;
- Allow students the autonomy to work by themselves out of class, but teach in a very passive, transmission-based style in class;
- Focus on real-life skills that the students can use outside of the classroom, but assess students in a traditional, summative fashion.

In the cases above, to what extent might we define these teachers as ‘student-centred’ or ‘learner-centred’? I experienced this problem during my doctoral research, which examined Mexican teachers’ perceptions of how student-centred their beliefs and practices were at different points in time (Bremner, 2017). A key challenge in the research was that each teacher conceptualised SCE/LCE differently. Some focused mainly on active participation, others on autonomy, others on adapting to needs, whilst others used a mixture of several different aspects. What this meant was that it was extremely difficult to compare teachers with each other, as they all referred to a combination of different characteristics when interpreting SCE/LCE. One might argue that the same thing is happening all over the world, as teachers, teacher trainers, researchers and policy makers are unable to reliably compare teachers, teaching practices and syllabuses which make reference to ‘student-’ or ‘learner-centredness’.

### *‘Disagreement and confusion’ in the literature*

Nunan (2015) states that ‘The concept of learner-centredness is not difficult to understand’ (p.18), but this is not reflected by the vast majority of the literature. Indeed, in 1991, Farrington stated that there was ‘considerable disagreement and confusion about what student-centred learning actually is’ (p.16), and these views seem to be just as valid now as they were back then. For example, Schweisfurth (2013) has called SCE/LCE a ‘shape shifting concept that

defies easy definition' (p.136), Neumann (2013) states that it is a 'complicated and messy idea' (p.1), whilst Starkey (2017) indicates that SCE/LCE is 'under theorised and ambiguous' (p.1).

Some authors have criticised the term for being too narrow. For example, Tangney (2014) highlights that most texts have focused on cognitive interpretations of SCE/LCE (in particular the focus on the theory of constructivist learning), and argues for a more holistic and humanistic view, encompassing not only learners' cognitive needs but also their emotional needs. Conversely, some have criticised SCE/LCE for being too broad. For example, Schweisfurth (2015) argues that 'The terms learner-centredness and associated labels are often used loosely and they embrace a very wide range of concepts and practices, to the extent that actors might call *anything* learner-centred to explain policy or practice' (p. 262; emphasis mine). Schweisfurth gives the example of Harber and Davies (1997), who call SCE/LCE a 'hooray term'; that is to say, a phrase that may sound promising at a theoretical (or political) level, but mean relatively little in practice.

The literature is full of inconsistencies and, at times, contradictions, when it comes to defining SCE/LCE. For example, in my field of language teaching, one of the most famous proponents of SCE/LCE is Nunan (2013), whose interpretation is based around the idea that students must have increased control of decisions in the learning process. However, Jones (2007), in his widely-cited work *The student-centred classroom*, states that 'A student-centered classroom *isn't* a place where the students decide what they want to learn and what they want to do', but rather 'a place where we consider the needs of the students, as a group and as individuals, and encourage them to participate in the learning process all the time' (p.12; emphasis mine).

Another example of inconsistency is the work of Schweisfurth (2013). In her influential book, Schweisfurth dedicates an entire chapter to defining SCE/LCE, using a series of continua to

explore some of the different ways in which the term might be interpreted. Specifically, she suggests SCE/LCE implies changes in:

- *Technique* – A continuum from ‘frontal, “chalk and talk”, “transmission”’ to ‘independent or group inquiry’;
- *Relationships* – A continuum from ‘authoritarian’ to ‘democratic’ classroom relationships;
- *Motivation* – A continuum from ‘extrinsic’ to ‘intrinsic’ learner motivation;
- *Epistemology* – A continuum from seeing ‘knowledge as fixed’ to seeing ‘knowledge as fluid’.

(Summarised from Schweisfurth, 2013: 11-13)

However, later in the chapter, Schweisfurth also provides a ‘working definition’ of SCE/LCE, stating that it is a ‘*pedagogical approach which gives learners, and demands from them, a relatively high level of active control over the content and process of learning. What is learnt, and how, are therefore shaped by learners’ needs, capacities and interests*’ (p.20; italics in original). Although Schweisfurth does stress the limitations of a short working definition, this focus is still surprisingly narrow, given her discussions earlier in the chapter.

Moreover, later in the book, Schweisfurth proposes a set of ‘minimum standards’ (p.146) for SCE/LCE, namely:

1. Engaging, motivating lessons;
2. Mutual respect between teachers and students;
3. Building on learners' existing knowledge;
4. Dialogue, not just transmission;
5. Content relevant to learners' lives;
6. Skills and attitude outcomes as well as content outcomes; and
7. Assessment consistent with the aforementioned principles.

(Summarised from Schweisfurth, 2013: 146)

Whilst these suggestions make sense, and the notion of 'minimum standards' is useful, these aspects seem to go considerably beyond the conceptualisations she explores in her earlier chapters. This lack of clarity and consistency is unhelpful, both for teacher educators and educational researchers. For example, as a language teacher trainer wanting to discuss SCE/LCE with my students, which interpretation should I take, Nunan's or Jones's? And as a researcher examining SCE/LCE in practice, should I take Schweisfurth's wide-ranging definition, or her shorter one, or refer to her 'minimum standards'? An increasing number of authors have expressed similar frustrations. Neumann, for example, summed it up well when he stated:

how can teachers and scholars really know if we are discussing, teaching, advocating, or criticizing the same idea if we only share a broad and uncertain language? When we critique or praise 'student-centered learning,' just what are we critiquing or praising? When we try to create 'student-centered' contexts in our schools and classrooms, just what types of contexts are we creating? And when we teach our teacher-education students about 'student-centered learning,' be it in advocacy or in criticism, just what are we teaching them?

(Neumann, 2013: 162)

In response to this lack of clarity, Neumann proposes a 3-contoured framework for conceptualising SCE/LCE, which focuses ‘in’, ‘on’ or ‘with’ the students. However, a key criticism of Neumann’s framework is that it only focuses on SCE/LCE in the sense of adapting to learner needs and learner choice and control. Again, the focus is narrow, and fails to include many of the ways in which SCE/LCE has been interpreted.

A more encompassing conceptualisation of SCE/LCE was offered by Starkey (2017), who proposed three ‘dimensions’ to SCE/LCE: the ‘cognitive’ dimension (focusing on the student learning process), the ‘agentic’ dimension (focusing on empowering students) and the ‘humanist’ dimension (focusing on the students as individuals). In order to test her framework, Starkey carried out a study with a sample of school principals in New Zealand, and found that the participants interpreted SCE/LCE in a variety of different ways and included elements from all three dimensions.

The present study further develops the ideas of authors like Neumann and Starkey. However, it considerably extends their work by conducting a meta-analysis of 326 definitions in the literature. Based on the findings of the meta-analysis, I propose two flexible frameworks for defining SCE/LCE, and suggest that different stakeholders might adopt a flexible approach to defining it based on the aspects that are most appropriate to their contexts. These frameworks offer a clear theoretical contribution to the literature, with practical implications for teachers, teacher educators, researchers and policy makers.

Before continuing, it is important to stress that this paper focuses on SCE/LCE as a *concept*, and does not address the larger issue of whether SCE/LCE should be considered good or even appropriate practice. These debates are important, and are already being discussed elsewhere

(Bremner, 2019; Brinkmann, 2019; Msonde & Msonde, 2019; Schweisfurth, 2013, among others). However, the position of this paper is that research on the implementation of SCE/LCE will be limited unless a greater degree of understanding is reached regarding its definition. Indeed, those comparing educational systems, practices, beliefs and so on will not be able to do so effectively until there is an effective framework for defining it.

### *A note on the distinction between 'definition' and 'conceptualisation'/ 'theorisation'*

Throughout this article, the terms 'definition' and 'conceptualisation' have been used interchangeably, mainly for stylistic reasons. However, one might argue that they are different. *Conceptualisation* (or 'theorisation', in terms of theorising about a concept) implies detailed, abstract thinking about what a term means and the underlying processes involved, whereas *definition* implies how this meaning is written down (or spoken), usually in order to help people reach a shared understanding. Definitions are often more concise and practical, and may not always reflect the deep level of conceptualisation or theorisation that may have happened under the surface.

Unfortunately, when definitions simplify, they do not always a clear picture of what a term actually means; indeed, there are many short, unclear definitions of SCE/LCE that do little to explain the multiple components that may be involved in 'student-' or 'learner-centredness'. Schweisfurth's (2013) 'working definition' is an example of this. After conducting a fairly extensive theorisation of the concept of SCE/LCE, Schweisfurth is understandably reluctant to give a simple definition, but decides to do so because she feels practitioners will 'crave' a working definition (p.20). However, the definition she provides misses so many potential aspects of SCE/LCE that anyone who is even loosely familiar with SCE/LCE is likely to be

unsatisfied with its lack of coverage. In this paper, I argue that a more extensive, yet flexible, definition, involving theorisation but informed by the texts in the meta-analysis, is necessary in order to reduce the ambiguity created by the multiple short, contradictory definitions.

## Methods

### *Aim and research questions*

The aim of this study was to explore how SCE/LCE had been interpreted in the educational literature. The study aimed to answer the following four research questions:

RQ1. How broad or narrow are the definitions of SCE/LCE?

RQ2. Which aspects of SCE/LCE are mentioned more and less often?

RQ3. Does cultural region make a difference?

RQ4. Does subject area make a difference?

In order to answer the questions above, a systematic review or ‘meta-analysis’ of literature (Gough et al., 2012) was conducted with a sample of 326 journal articles published between January 2010 and July 2019.

### *Choosing the initial 10 categories*

The first stage of the research was to establish the different aspects of SCE/LCE that would be used in order to code each article. In order to do this, I began with a small-scale review of a selection of 10 widely-cited texts addressing SCE/LCE as a concept (see Table 1). Having studied these texts extensively during my doctoral research, I was aware that they a) were well-

cited in educational circles, and b) included an extended discussion on SCE/LCE as a concept, not just its implementation. Finally, in terms of convenience, all of these texts were available at my university library.

*Table 1. The 10 texts used to inform the initial 10 categories of SCE/LCE*

<b>Author and Title</b>	<b>Brief description</b>
American Psychological Association (1997). <i>Learner-centered psychological principles: A framework for school reform and redesign.</i>	In 1990, the American Psychological Association (APA) appointed a Task Force on Psychology in Education, who agreed upon 12 key principles of learner-centred education. These principles were subsequently updated to 14 principles in 1997, and are regularly cited in reference to SCE/LCE.
Weimer (2013). <i>Learner-centered teaching: Five key changes to practice (2<sup>nd</sup> edition)</i>	The 2 <sup>nd</sup> edition of Weimer's widely cited book about SCE/LCE, with particular focus on college teaching in the United States.
Schweisfurth (2013) <i>Learner-centred education in international perspective: Whose pedagogy for whose development?</i>	Another comprehensive book about SCE/LCE, with a distinct focus on the implementation of learner-centred education in developing countries.
Jones (2007). <i>The student-centred classroom.</i>	A short book on SCE/LCE for English Language Teachers, published by Cambridge University Press.
Nunan (2013). <i>Learner-centered English language education: The selected works of David Nunan.</i>	A collection of prominent works by David Nunan on SCE/LCE for English language education. Makes several references to his earlier work, for example his 1988 book <i>The learner-centred curriculum.</i>
Tudor (1996). <i>Learner-centredness as language education.</i>	With the exception of Jones and Nunan, one of the few authors to have written a book specifically on SCE/LCE for English language teaching.
O'Sullivan (2004). <i>The reconceptualisation of learner-centred approaches: A Namibian case study.</i>	Published in the <i>International Journal of Educational Development</i> . Critically examines the concept of learner-centred education and proposes the idea of 'learning-centred' education.
Neumann (2013). <i>Developing a new framework for conceptualizing 'student-centered learning'.<sup>1</sup></i>	Published in <i>The Educational Forum</i> . One of few articles to explicitly call for a clearer framework for conceptualising SCE/LCE. Proposes a 3-countoured framework focusing 'in', 'on' or 'with' students.
Tangney (2014). <i>Student-centred learning: A humanist perspective.</i>	Published in <i>Teaching in Higher Education</i> . Argues for future definitions of SCE/LCE to embrace humanistic principles.
Starkey (2017). <i>Three dimensions of student-centred education: A framework for policy and practice.</i>	Published in <i>Critical Studies in Education</i> . Proposes a three-dimensional framework for conceptualising SCE/LCE, focusing on 'cognitive', 'agentic' and 'humanist' aspects.

<sup>1</sup> It is worth noting that the Neumann, Starkey and Tangney texts also formed part of the meta-analysis, as they fulfilled the criteria for selection.

The coding process at this stage involved *inductive*, ‘open’ coding (Oliver & Sutcliffe, 2012), as I allowed different interpretations of SCE/LCE to emerge naturally from the readings. When a new theme emerged (e.g. ‘Adapting to needs’), I added it to a provisional list; however, this list went through multiple iterations as I added, merged and separated certain aspects over time. This was by no means a straightforward task, as categories were not clear-cut, and there were many instances of possible overlap between them. However, I strived to be as clear as possible, given that if my categories were unambiguous, it would affect my ability to code each of the texts consistently in the next stage (Oliver & Sutcliffe, 2012). I also made sure when combining similar terms into one category (such as ‘learning by doing’ and ‘hands-on learning’ into ‘Active participation’) to record these examples so I could refer to them during the coding process (see the ‘Related terms and additional comments’ column in Table 2). After several weeks of deliberating, categorising, re-categorisation, and consultation with colleagues, I eventually decided upon the 10 aspects shown in Table 2. At this stage, I felt I had reached a ‘saturation point’; that is, when very few, if any, new ideas were emerging (Saunders et al., 2018).

Table 2. The 10 aspects of SCE/LCE derived from initial reading

Aspect of SCE/LCE	Explanation	Related terms and additional comments
1. Active participation	The teacher <sup>2</sup> organises learning so that there are opportunities for the students to participate.	Related terms included 'active learning', 'hands-on learning', 'learning by doing', 'project-based learning', 'problem-based learning', among others.
2. Interaction	The teacher organises learning so that there are opportunities for students to interact with others.	Related terms included 'pair and group work', 'dialogic' teaching, 'team-based' learning, 'group assessment' among others. References to constructivism in terms of social interaction (e.g. Vygotskian social constructivism, social interactionism) were also included in this category.
3. Real-life skills	The teacher not only teaches theoretical knowledge, but also real-life skills that the students can apply outside of the classroom.	This included any reference to using practical skills that would be of use outside the classroom.
4. Higher order skills	The teacher organises learning so that there are opportunities for students to develop higher order skills such as critical thinking and creativity.	This included general references to 'higher order skills', but also references to specific higher order skills, such as critical thinking and creativity.
5. Adapting to needs	The teacher bases learning around the students' prior knowledge, skills and experiences, and adapts learning based on students' needs and interests.	Related terms included 'flexible learning' and 'personalised learning', among others. Moreover, 'adapting to needs' was considered to be the essential characteristic of constructivism as a learning theory; therefore all references to constructivism in the sense of basing learning around students' prior knowledge, skills and experiences were included in this category.
6. Power sharing	The teacher provides opportunities for the students to be more involved in decision-making regarding what they learn, how they learn, and how they are assessed.	This included any reference to 'learner choice', 'learner control', a more 'democratic' relationship, 'emancipation', 'reduction of power distances', as well as epistemological considerations - viewing knowledge as less of a fixed entity and more open to interpretation.
7. Autonomy	The teacher organises learning so that there are opportunities for students to work independently, both in and out of the classroom	Related terms included 'self-regulated learning', students taking 'responsibility' for their own learning, becoming less 'dependent' on the teacher, among others.
8. Metacognition	The teacher not only teaches content, but also provides opportunities for students to reflect about how they learn.	Related terms included 'learning strategies', 'learning to learn' and 'lifelong learning', among others.
9. Formative assessment	The teacher provides formative assessment as well as summative assessment.	Related terms included viewing learning as a 'process' rather than just a 'product', 'peer' and 'self-' assessment, 'alternative assessment', among others.
10. Humanistic role	The teacher takes a 'whole person' approach towards the students and their learning, focusing not only on their cognitive needs but also their needs as human beings.	Related terms included focusing on learner 'affect' or 'affective' factors, 'emotions', 'wellbeing' and viewing 'students as individuals', among others.

<sup>2</sup> Each explanation in Table 2 begins with the phrase 'The teacher...'. This might seem counter-intuitive, given that the focus of SCE/LCE is supposed to be on the learner. However, an assumption of this study was that SCE/LCE does not imply 'teacherless' learning; indeed, regardless of how much activity, autonomy and power is allocated to students, the teacher has a key role in providing the conditions for student-/learner-centred learning.

Having synthesised the ideas of 10 extensive texts on SCE/LCE, it was clear that many wider ‘meta-categories’ would be apparent within, and across, the 10 aspects I had decided upon. For example, with reference to Schweisfurth’s (2013) continua, some aspects related to *technique* (e.g. ‘active participation’, ‘interaction’), some were linked to *relationships* (e.g. ‘adapting to needs’, ‘power sharing’) and some related to *epistemology* (e.g. ‘higher order skills’, ‘power sharing’). In Table 3 below, I have attempted to map some of the possible relationships between the 10 emerging aspects and the four meta-categories suggested by Schweisfurth. Particularly strong links are indicated in black (‘**X**’), whereas less obvious links are suggested in grey (‘**X**’).

*Table 3. Table showing possible links between the initial 10 aspects of SCE/LCE and the four meta-categories discussed by Schweisfurth (2013: 11-13)*

<i>Aspects emerging from initial inductive analysis</i>	<i>Possible links to Schweisfurth’s four meta-categories</i>			
	<b>Technique</b> Continuum from ‘frontal, “chalk and talk” “transmission”’ to ‘Independent or group enquiry’	<b>Relationships</b> Continuum from ‘authoritarian’ to ‘democratic’ classroom relationships	<b>Motivation</b> Continuum from ‘extrinsic’ to ‘intrinsic’ learner motivation	<b>Epistemology</b> Continuum from seeing ‘knowledge as fixed’ to seeing ‘knowledge as fluid’
1. Active participation	<b>X</b>			
2. Interaction	<b>X</b>	<b>X</b>		<b>X</b>
3. Real-life skills				
4. Higher order skills	<b>X</b>	<b>X</b>		<b>X</b>
5. Adapting to needs		<b>X</b>		
6. Power sharing		<b>X</b>		<b>X</b>
7. Autonomy	<b>X</b>			
8. Metacognition	<b>X</b>			<b>X</b>
9. Formative assessment	<b>X</b>	<b>X</b>		<b>X</b>
10. Humanistic role		<b>X</b>		

Table 3 indicates that the initial 10 aspects were broadly mappable on to Schweisfurth's four meta-categories, with the exception of 'Motivation'. Indeed, although Schweisfurth argues that 'In order for learners to work independently or in groups [...], and in order for them to abide by democratic principles [...], they need to be intrinsically motivated, and believed to be so by their teachers' (p. 12), I can personally think of many examples of 'student-' or 'learner-centred' teaching and learning, in which learner motivation was primarily extrinsic. Intrinsic motivation is of course important, but there does not seem to be a clear rationale as to why intrinsic motivation should be limited to SCE/LCE and not simply desirable in all classrooms.

Another aspect emerging from the initial analysis which did not map neatly onto Schweisfurth's meta-categories was that of 'Real-life skills'. However, this aspect does relate to one of Schweisfurth's 'justificatory narratives': that of 'preparation' - the argument that SCE/LCE better prepares learners for the real-life skills they will need out of the classroom. To develop this point further, in Table 4 below, I have again mapped each of the initial 10 aspects onto their corresponding 'justificatory narrative', with a black 'X' suggesting a particularly strong link and a grey 'X' indicating a weaker link:

Table 4. Table showing possible links between the initial 10 aspects of SCE/LCE and the three 'justificatory narratives' discussed by Schweisfurth (2013: 21-36)

Aspects emerging from initial inductive analysis	Possible links with Schweisfurth's 'justificatory narratives'		
	Cognition SCE/LCE as a way of enhancing students' learning	Emancipation SCE/LCE as a way of contributing towards positive social change	Preparation SCE/LCE to best prepare learners for the skills they are likely to need in order to be successful in the future
1. Active participation	X		
2. Interaction	X	X	
3. Real-life skills			X
4. Higher order skills		X	X
5. Adapting to needs	X	X	X
6. Power sharing		X	
7. Autonomy	X		X
8. Metacognition	X		X
9. Formative assessment	X	X	
10. Humanistic role	X	X	

Table 4 shows that the 10 initial aspects certainly 'covered' all three justificatory narratives, and further emphasises the idea that SCE/LCE may relate not only to *what the teacher does* in the classroom but also the *possible outcomes* of education. As with Table 3, the absence of a cross in a particular box does not necessarily mean that no relationships are possible; indeed, some might argue that further links may be drawn, or that some links are 'stronger' than others. What is perhaps most important to note at this stage was, firstly, that there may be gaps and inconsistencies in Schweisfurth's conceptions, again suggesting the need for more conceptual clarity; and secondly, that the 10 aspects appear *more complete and inclusive than the definitions found in each of the 10 individual texts*. Even at a relatively early stage of the

research, this reinforced my belief that a more comprehensive framework would be useful in order to define SCE/LCE practices more effectively.

### Searching and retrieving the literature

The next stage of the data collection process was to select the texts that would be included in the meta-analysis. From this point onwards, the study can be characterised as an ‘aggregative’ review (Gough & Thomas, 2012), as it summarised definitions based on pre-established categories, using texts that fulfilled the same selection criteria. The texts were searched for using the EBSCO host function provided my university library. The specific database used was the Education Resource Information Center (ERIC), a well-recognised database that links to several other databases such as ScienceDirect, Springer, Sage, and Taylor & Francis.

As an aggregative review, the study lent itself to an ‘exhaustive’ approach to text selection (G. Brunton et al., 2012). In other words, after the selection criteria were established, *all* texts fulfilling these criteria were included. Texts needed to:

- Include the words ‘student-centred’, ‘student-centered’, ‘learner-centred’ or ‘learner-centered’ *in the title*;
- Have been published in peer-reviewed *academic journals* (books and book chapters were not included, mainly for convenience, as these tend to be more difficult to access than journal articles);
- Have been published *in the 10 years* prior to data collection (January 2010 to July 2019);
- Be from the *field of education* (a small proportion were from computer engineering – here, ‘learner-centred’ referred to how easy new technologies were for new users to learn);

- Be *downloadable* (it was not possible to access around 10% of the articles due to access restrictions).

Articles with repeated authors were permitted, as long as the first author was different. Technically, this may have slightly skewed the results, but for practical reasons the potential advantages were outweighed by the time it would take to check for every repeated author. There may have been an argument for including repeated first authors, given that academics' ideas often develop over time. However, what I was keen to avoid was a few prolific academics dominating the sample.

A final point to mention was that all texts were written in English, which was mainly for convenience purposes. It is beyond the scope of this paper to explore the implications of a sole focus on English language articles; however, a comparative study including multiple languages would certainly be an interesting extension to this study.

The number of articles that met the aforementioned criteria was 326. It was interesting to note that, out of these 326 articles, 222 (68%) used the term 'student-centred' (or the American usage 'student-centered') in the title, whilst 104 (32%) used the term 'learner-centred' (or the American usage 'learner-centered') in the title. The terms 'child-centred/centered' were not included, mainly due to their more specific focus on early years and primary education, but also because relatively fewer articles (47) used these terms compared to the more general 'student-centred/centered' or 'learner-centred/centered' (326).

### Conducting the meta-analysis

Brunton and Thomas (2012) highlight the importance of information management in systematic reviews, stressing the need to have ‘clearly defined processes and tools to assist with the management of that information’ (p. 106). In light of this, I downloaded each of the 326 articles into one folder and named them using the following format: ‘[first author’s surname][year]’, e.g. ‘smith2015’. An Excel spreadsheet was then created to analyse each document (see Fig. 1). I read each article separately, scanning for an explicit definition, or at least a strongly implied interpretation of SCE/LCE. Two computer screens were helpful when carrying out the analysis. I used one screen to show the text and to highlight specific sections that referred to different aspects. On the other screen, I kept the Excel spreadsheet open, and I inserted a ‘1’ into the corresponding box if I felt that an interpretation of SCE/LCE had been explicitly defined or clearly implied in a particular text. For example, if a text included a phrase such as ‘increased student involvement in practical activities’ I gave a ‘1’ for ‘Active participation’, and if a text mentioned ‘self-regulated learning’ I categorised this as ‘Autonomy’. A screenshot of the Excel spreadsheet, demonstrating the initial coding process, is shown in Fig. 1 below:

Fig. 1. Screenshot of the initial coding process

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Name of file	defined?	SC	Active part	Interaction	Real-life sk.	Higher order sk.	Adapting to needs	Power sharing	Autonomy	Metacognition	F. assessment	Humanistic
2		1	LC					1					
3		1	SC	1	1	1	1	1		1	1		1
4		1	LC	1	1								
5		1	LC	1				1					
6		1	SC	1	1		1	1	1	1	1		
7		1	SC	1		1		1		1			1
8		1	LC	1	1	1	1			1			
9		1	SC	1	1	1	1	1	1		1		
10		1	LC	1	1	1	1	1	1	1	1	1	1
11		1	SC	1	1		1	1	1	1		1	1
12		1	SC	1	1	1	1	1	1	1		1	1
13		1	LC					1		1			
14		1	SC	1	1		1			1	1		
15		1	SC	1	1	1	1	1		1	1		
16		1	SC	1				1		1			1
17		1	LC	1	1	1	1	1	1	1	1		1
18		1	SC	1	1		1	1	1	1	1		
19		1	LC	1	1		1		1	1	1	1	1
20		1	SC	1	1	1	1	1	1	1	1		
21		1	SC	1	1	1	1	1		1			1
22		1	LC					1					
23		1	LC			1	1	1	1	1	1	1	
24		1	SC	1	1		1		1				
25		1	SC	1				1					
26		1	SC	1	1	1	1	1		1			
27		0	LC										
28		1	LC	1	1	1	1	1	1	1	1	1	
29		1	SC	1	1		1			1			
30		0	LC										
31		1	SC	1	1	1	1	1	1	1	1		
32		1	SC	1	1								
33		1	SC		1		1						
34		1	LC	1	1					1	1		
35		1	SC	1			1						
36		1	SC	1	1			1	1	1			
37		1	SC	1	1	1			1				
38		1	SC					1			1		

The process of coding was now deductive, ‘categorical’ coding (Oliver & Sutcliffe, 2012), as I used pre-established categories and did not create any new ones. The vast majority of interpretations could be coded into one of the 10 categories I had created. There were only a very small number of ‘new’ ideas. In these cases, I either integrated them into an existing category (for example, I considered ‘encouraging curiosity’ sufficiently similar to ‘higher order skills’) or disregarded them (for example, I considered ‘learning is motivating’ and ‘use of technology’ not to be exclusive to SCE/LCE and therefore did not create new categories for them).

Clearly, this method of categorising each article was not an ‘exact science’, as it relied on my personal interpretations of the definitions found or implied within each text. The entire process of retrieving, reading and coding each of the 326 texts took five full working days. This

inevitably brought with it a certain degree of researcher fatigue, although it could be argued that working continuously on the same task helped me to code each text more consistently. Furthermore, at certain points throughout the process, I sought to increase reliability by randomly picking a text and ‘re-rating’ it to see how consistent I was being. I noticed very few irregularities; however, it is clear that having additional researchers carry out the same procedure would have significantly enhanced the reliability of the study (Oliver et al., 2012).

### *Condensing the categories – from 10 aspects to 6*

As I was conducting the meta-analysis, it soon became clear that there was a considerable degree of overlap between certain aspects. For example, I noted that:

- The majority of texts (96%) that mentioned ‘Interaction’ had also mentioned ‘Active participation’;
- Most texts (79%) that mentioned ‘Humanistic role’ had also mentioned ‘Adapting to needs’;
- Most texts (85%) that had mentioned ‘Metacognition’ had also mentioned ‘Autonomy’;
- Many texts (60%) that mentioned ‘Real-life skills’ had also mentioned ‘Higher order skills’ and vice-versa (63%).

With this in mind, I decided to reduce the initial 10 categories into 6 new ones, as shown in Table 5 below:

Table 5. The condensed 6 categories for defining SCE/LCE

New category	Combination of previous categories
1. Active participation (including interaction)	1. 'Active participation' 2. 'Interaction'
2. Adapting to needs (including human needs)	5. 'Adapting to needs' 10. 'Humanistic role'
3. Autonomy (including metacognition)	7. 'Autonomy' 8. 'Metacognition'
4. Relevant skills	3. 'Real-life skills' 4. 'Higher order skills'
5. Power sharing	6. 'Power sharing' (no change)
6. Formative assessment	9. 'Formative assessment' (no change)

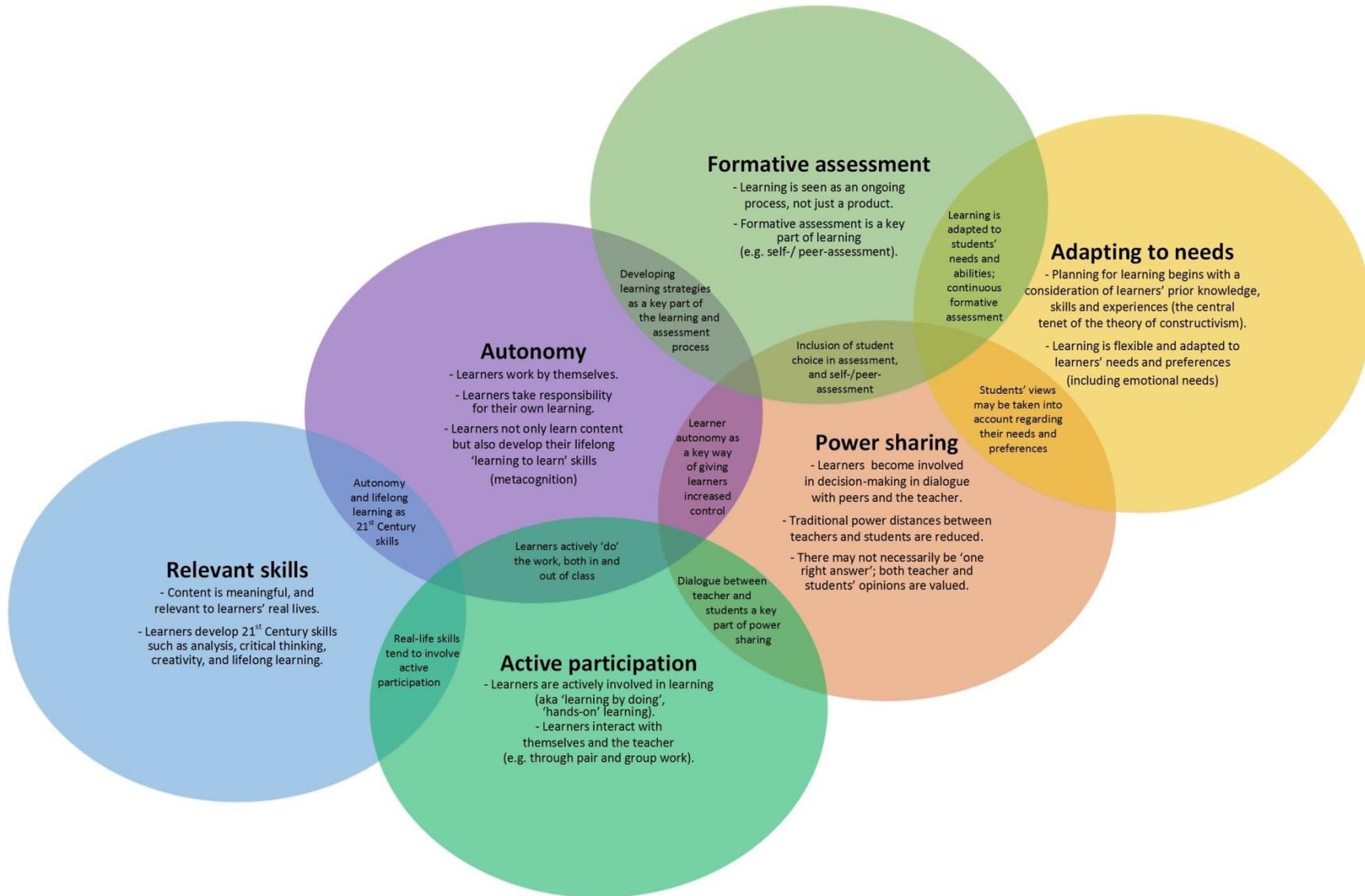
The creation of these new 6 categories was again not an 'exact science', and relied on a certain degree of subjectivity on my part. The decision-making process when deciding upon these new categories was based on both the meta-analysis data and my own thinking. For example, in the case of new category 1 ('Active participation (including interaction)'), the meta-analysis data showed that 96% of texts coded for 'Interaction' had also been coded for 'Active participation', and there was also a logical link between the two, given that when students interact, one would expect them to be actively participating (although the opposite is not necessarily true; one can actively participate without interaction). For new category 4 ('Relevant skills'), there was less of a data-driven link between 'Real-life skills' and 'Higher order skills', but I judged there to be a logical link between the two, given that higher order skills were often cited as those skills that were increasingly sought after in real-life.

When creating and condensing the categories, I experienced ongoing tensions between manageability and over-simplification. For example, I spent several days contemplating and discussing with colleagues whether 'Autonomy' and 'Metacognition' should be included in the same category. In the end, I judged that whilst they were not synonyms, they shared enough key characteristics to be combined together. It could be argued that further simplifications

could have been included. For example, I spent considerable time reflecting whether 'Formative assessment' might also imply 'Adapting to needs' or 'Power sharing'. In the end, it was impossible to satisfy every one of my doubts, but I felt that the 6 categories were sufficiently different to one another whilst at the same time not being too all-encompassing.

In Fig. 2 on the next page, I have provided a visual illustration of the new 6 categories, including some examples of potential overlap between them:

Fig. 2. A visual depiction of the new 6 categories, with explanations of potential overlap between them



### Analysing the data

After completing the meta-analysis, I carried out a number of procedures to analyse the data. For RQ1 ('How broad or narrow are the definitions?') I used the original 10-category framework, and used a count function to calculate how many of the 10 aspects had been mentioned within each text (i.e. 0 to 10). I then produced graphs to show the relative amounts of 'coverage' over the 326 texts.

For RQ2 ('Which aspects of SCE/LCE are mentioned more and less often?') I used both the original 10-category framework and the new 6-category framework. I calculated the percentages of texts that had made reference to each aspect, and produced graphs to illustrate the relative weightings.

For RQ3 ('Does cultural region make a difference?'), the data were analysed to see if the definitions varied depending on cultural region. As with the creation and condensing of aspects of SCE/LCE, categorising texts by cultural region was not a simple task, and inevitably created a certain degree of generalisation. After careful consideration, I made minor adaptations to the geographical and cultural 'macro-regions' proposed by Anděl et al. (2018). I also divided these regions into two main groups: 'Western' and 'non-Western'. For the purposes of the analysis, The 'Western' group was made up of Australia & New Zealand, Europe, and the United States & Canada, whilst the 'non-Western' group included East Asia, Latin America & the Caribbean, North-Africa & South-West Asia, Pacific Islands, South Asia, South-East Asia, Sub-Saharan Africa, and Russia & 'Neighbours'.

For RQ4 ('Does subject area make a difference?'), the data were analysed to see if the definitions varied depending on subject area. For this research question, I adapted the principal

subject groups found on the UK Higher Education Statistics Agency website (UK HESA, 2012). Similar to the ‘Western’ and ‘non-Western’ comparison in RQ3, I also decided to divide subject areas into two main groups: ‘Hard Science’ and ‘Social Science’. The ‘Hard Science’ group included Science & Engineering, Mathematics, Medicine, Business & Administration, and Computer Science, whereas the ‘Social Science’ group included Languages, Education, Creative Arts, and Misc. Humanities & Social Sciences.

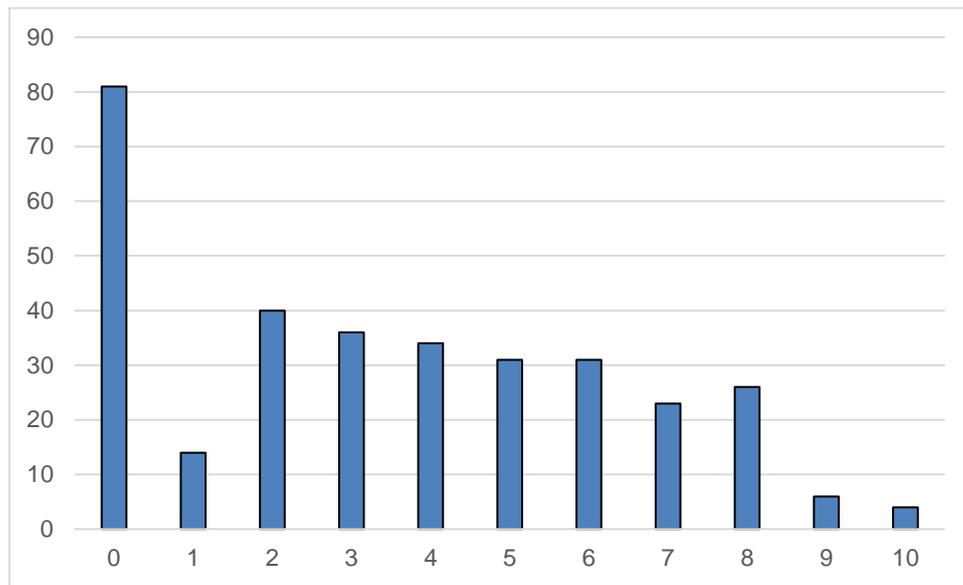
For both RQs 3 and 4, I carried out the same procedure as in RQ2, but produced graphs to illustrate the relative weightings of each category in different regions and subject areas. For these two research questions, only the condensed 6-aspect framework was used, as it was more practical to have 6 aspects on each graph than 10.

## Findings

### *RQ1. How broad or narrow are the definitions of SCE/LCE?*

Fig. 3 shows the ‘coverage’ of the definitions; i.e. how broad or narrow they were. Here, a ‘0’ indicates that none of the 10 aspects were mentioned, whilst a ‘10’ signifies that all 10 aspects were mentioned.

*Fig. 3. Graph showing 'coverage' (broadness and narrowness) of definitions*



The immediate point to highlight here is that 81 (25%) of the texts did not provide any kind of definition of SCE/LCE. In fact, 11 texts included the words 'student-centred' or 'learner-centred' in the title, but never mentioned them again, whilst an additional 11 texts mentioned SCE/LCE in the abstract, introduction or conclusion, but not in the main body of the text.

Where SCE/LCE was defined, the graph shows a broad range of 'coverage' of definition. Very few texts only mentioned 1 of the 10 aspects, and very few were very all-encompassing (i.e. mentioning 9 or 10 aspects). The remainder of the texts mentioned between 2 and 8 aspects, with a slight tendency towards brief or specific definitions as opposed to broad or general definitions. Overall, the graph demonstrates significant variability across the texts, confirming the notion that SCE/LCE has been defined inconsistently in the literature.

RQ2. Which aspects of SCE/LCE are mentioned more and less often?

This research question focused on which aspects of SCE/LCE were mentioned the most and least. Fig. 4 shows the overall findings for the 245 texts in which SCE/LCE was clearly defined:

*Fig. 4. Graph showing relative weightings for the 10 aspects of SCE/LCE*

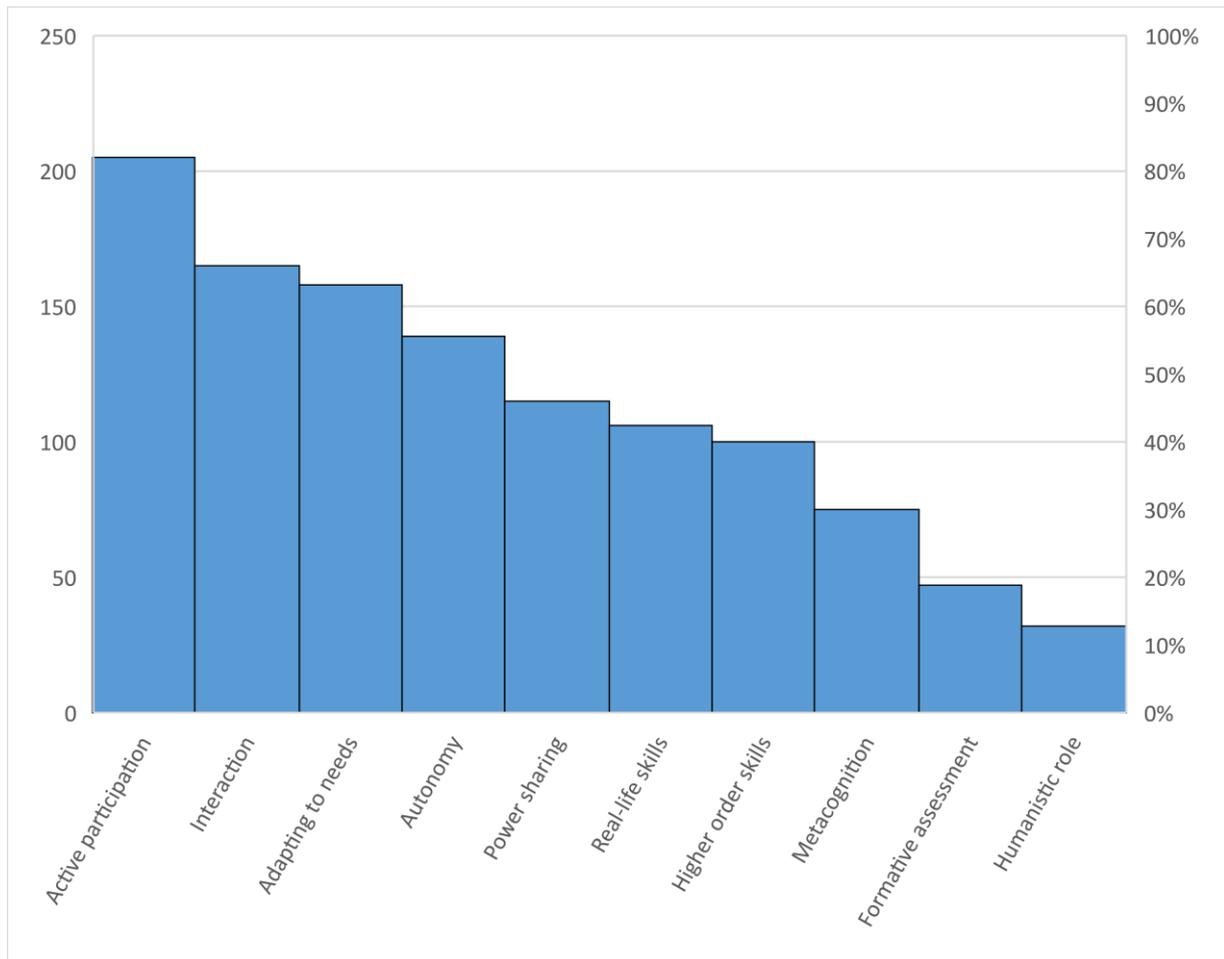
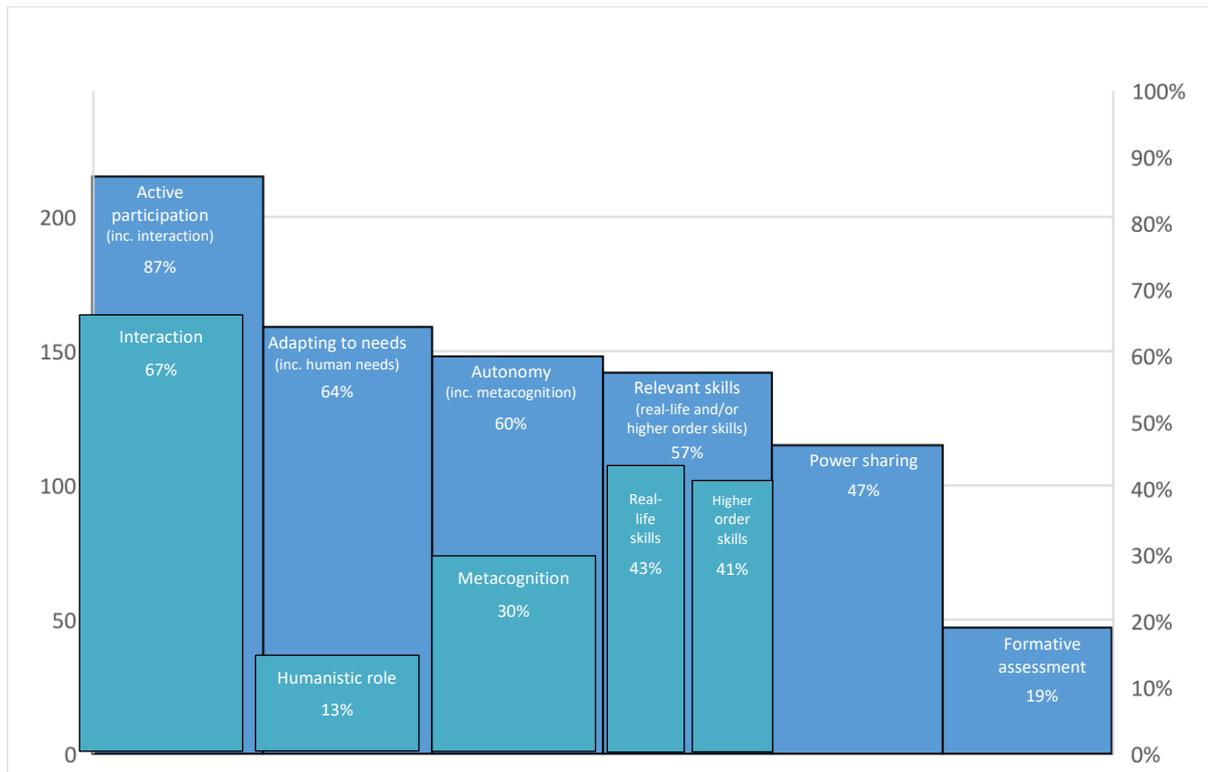


Fig. 4 shows that ‘Active participation’ (83%) was the most mentioned aspect of SCE/LCE. ‘Interaction’ (67%) came in second place, followed by ‘Adapting to needs’ (64%) and ‘Autonomy’ (57%). Next was ‘Power sharing’ (47%), followed by ‘Real-life skills’ (43%), ‘Higher order skills’ (41%) and ‘Metacognition’ (30%). The two least mentioned aspects were ‘Formative assessment’ (19%) and ‘Humanistic role’ (13%).

Whereas Fig. 4 utilised the original 10-category framework, Fig. 5 presents the findings based on the condensed 6-category framework. The categories that were subsumed into new categories (i.e. ‘Interaction’, ‘Humanistic role’, ‘Metacognition’, ‘Real-life skills’ and ‘Higher order skills’) have been included on Fig. 5 for reference.

*Fig. 5. Graph showing relative weightings for the new 6 combined aspects of SCE/LCE*



The graph shows that ‘Active participation (including interaction)’ remained by some distance the most frequently mentioned aspect with 87%. The next four aspects were fairly close together, with ‘Adapting to needs (including human needs)’ at 64%, ‘Autonomy (including metacognition)’ at 60% and ‘Relevant skills (real-life and/or higher order)’ at 57%. Perhaps suffering from not absorbing (or being absorbed into) additional categories were ‘Power sharing’ (47%) and ‘Formative assessment’ (19%).

*RQ3. Does cultural region make a difference?*

For this research question, the data were analysed to see if the relative weightings of the new 6 aspects varied by cultural region. Table 6 shows the number of texts from each cultural-macro region:

*Table 6. Number of texts in each cultural macro-region*

<b>Cultural macro-region</b>	<b>Number of texts</b>
United States & Canada	108
Europe	35
South-East Asia	26
North-Africa & South-West Asia	23
Sub-Saharan Africa	17
Australia & New Zealand	16
East Asia	15
Latin America & Caribbean	3
South Asia	2
Russia & 'Neighbours'	0
Pacific Islands	0

From Table 6, it is clear that there were considerably more texts from the United States & Canada than in all other regions. A focus on SCE/LCE from English-speaking North America may reflect the notion of SCE/LCE as a 'Western' concept, but this may also be explained by the general dominance of peer-reviewed journal articles in English native-speaking countries. Europe, South-East Asia, North-Africa & South-West Asia, Sub-Saharan Africa, Australia & New Zealand, and East Asia were reasonably well-represented in the meta-analysis, although the number of texts is still quite low, meaning that all conclusions drawn from the data would be necessarily tentative. Latin-America & the Caribbean, South Asia, Russia & 'Neighbours' and the Pacific Islands were underrepresented. As there were so few texts in these regions (3, 2, 0 and 0 respectively), they have not been included in the cross-region analysis shown on Fig. 6.

*Fig. 6. Graph showing relative weightings of the 6 aspects of SCE/LCE by cultural macro-region*

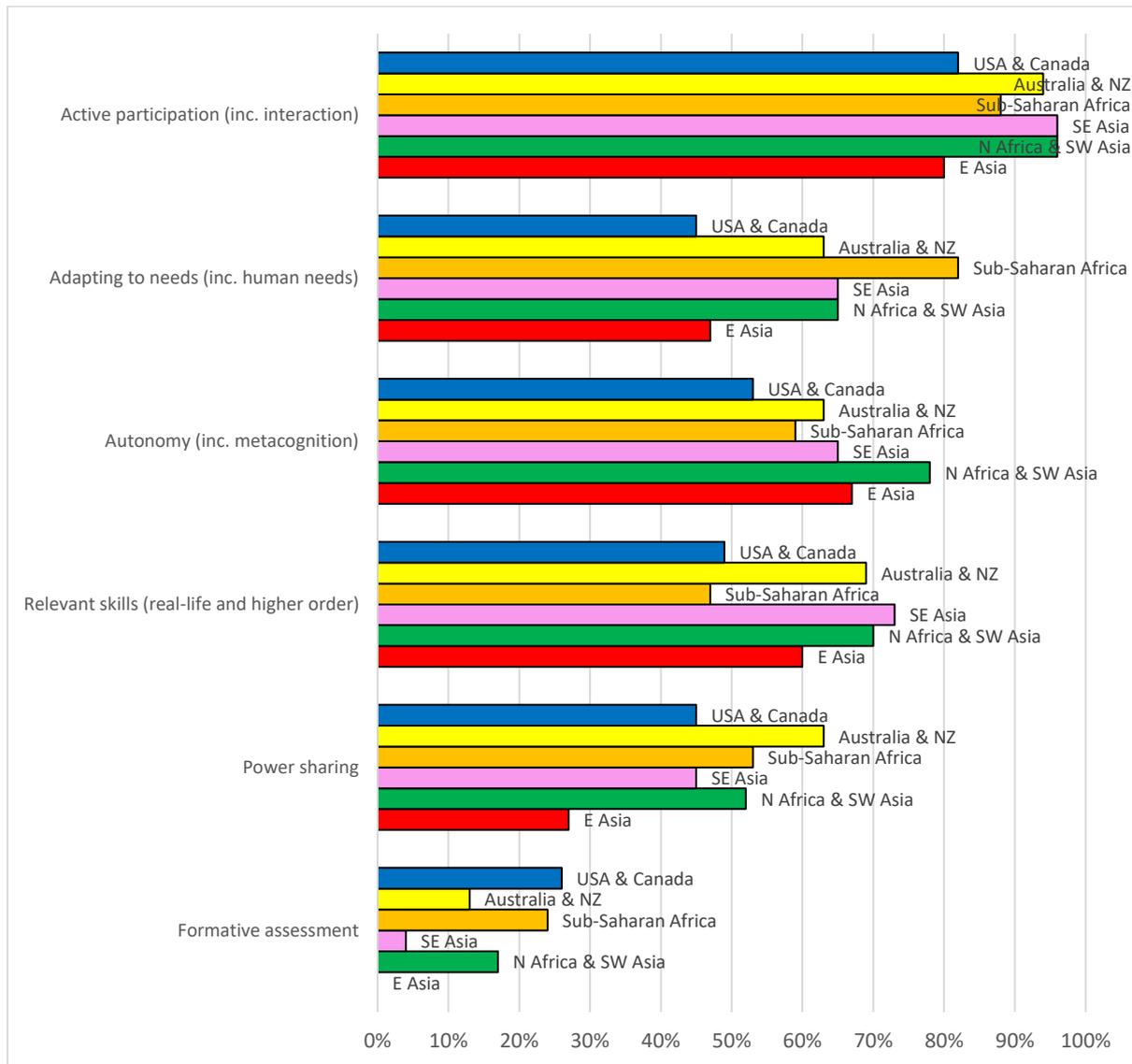


Fig. 6 above shows that overall tendencies were broadly similar across macro-regions. For example, ‘Active participation (including interaction)’ was the most mentioned aspect across all regions, and ‘Formative assessment’ was the least mentioned aspect across all regions. However, there were some interesting examples of variability. For example, texts from East Asia focused significantly less on ‘Power sharing’, and there were no texts that made reference to ‘Formative assessment’. Without wanting to generalise, this might be seen to fit the East Asian cultural stereotype as having largely fixed curricula and tending to assess students solely through summative examinations. If SCE/LCE is introduced in such contexts, it would seem

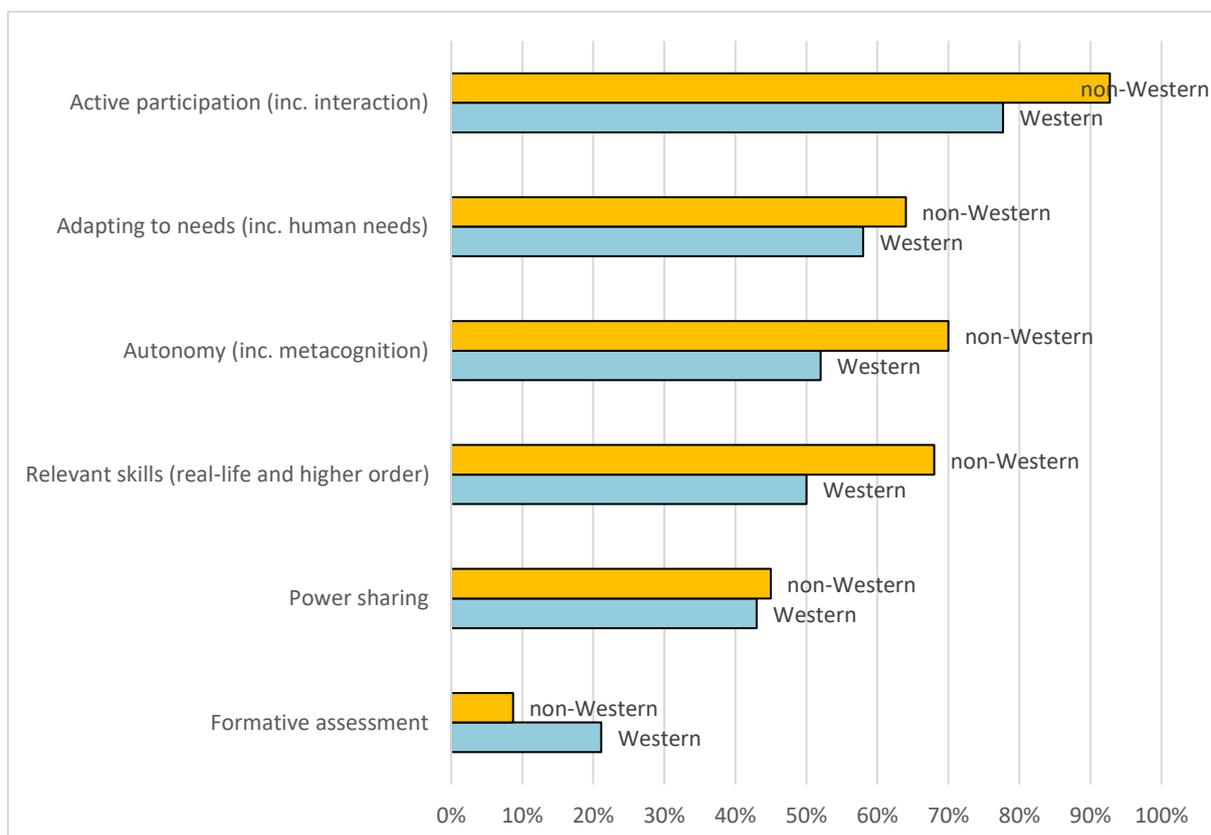
more likely to focus on changing teaching ‘technique’ and less on changing classroom ‘relationships’ or ‘epistemology’ (Schweisfurth, 2013).

As mentioned previously, the problem with drawing conclusions from the regional data is that the number of cases per region is often quite low (with the exception of the United States & Canada and Europe). With this in mind, and given that SCE/LCE has often been branded a ‘Western’ concept, what if we grouped macro-regions into those typically considered ‘Western’ and ‘non-Western’? The relative numbers of texts in ‘Western’ and ‘non-Western’ regions are shown Table 7, and the relative scores for the 6 aspects are shown on Fig. 7.

*Table 7. Numbers of texts in ‘Western’ and ‘non-Western’ cultural macro-regions*

‘Western’ or ‘non-Western’	Number of texts
‘Western’ regions	159
‘Non-Western’ regions	86

*Fig 7. Graph showing relative weightings of the 6 aspects of SCE/LCE in ‘Western’ and ‘non-Western’ cultural macro-regions*



Given that the non-Western bars are consistently higher than the Western bars (with the exception of ‘Formative assessment’), this indicates that the non-Western texts generally provided more wide-ranging definitions than Western texts. The differences are most noticeable in ‘Active participation’, ‘Autonomy’ and ‘Relevant skills’, with relatively little difference for ‘Adapting to needs’ and ‘Power sharing’. This suggests that a higher proportion of the non-Western texts focused on more practical characteristics (perhaps those related to ‘technique’ as conceptualised by Schweisfurth) as opposed to those aspects that might necessitate diverging from a largely fixed curriculum (as in Schweisfurth’s meta-categories of ‘relationships’ and ‘epistemology’). Nevertheless, on the whole, it must be recognised that the overall tendencies between ‘Western’ and ‘non-Western’ countries follow largely similar patterns.

*RQ4. Does subject area make a difference?*

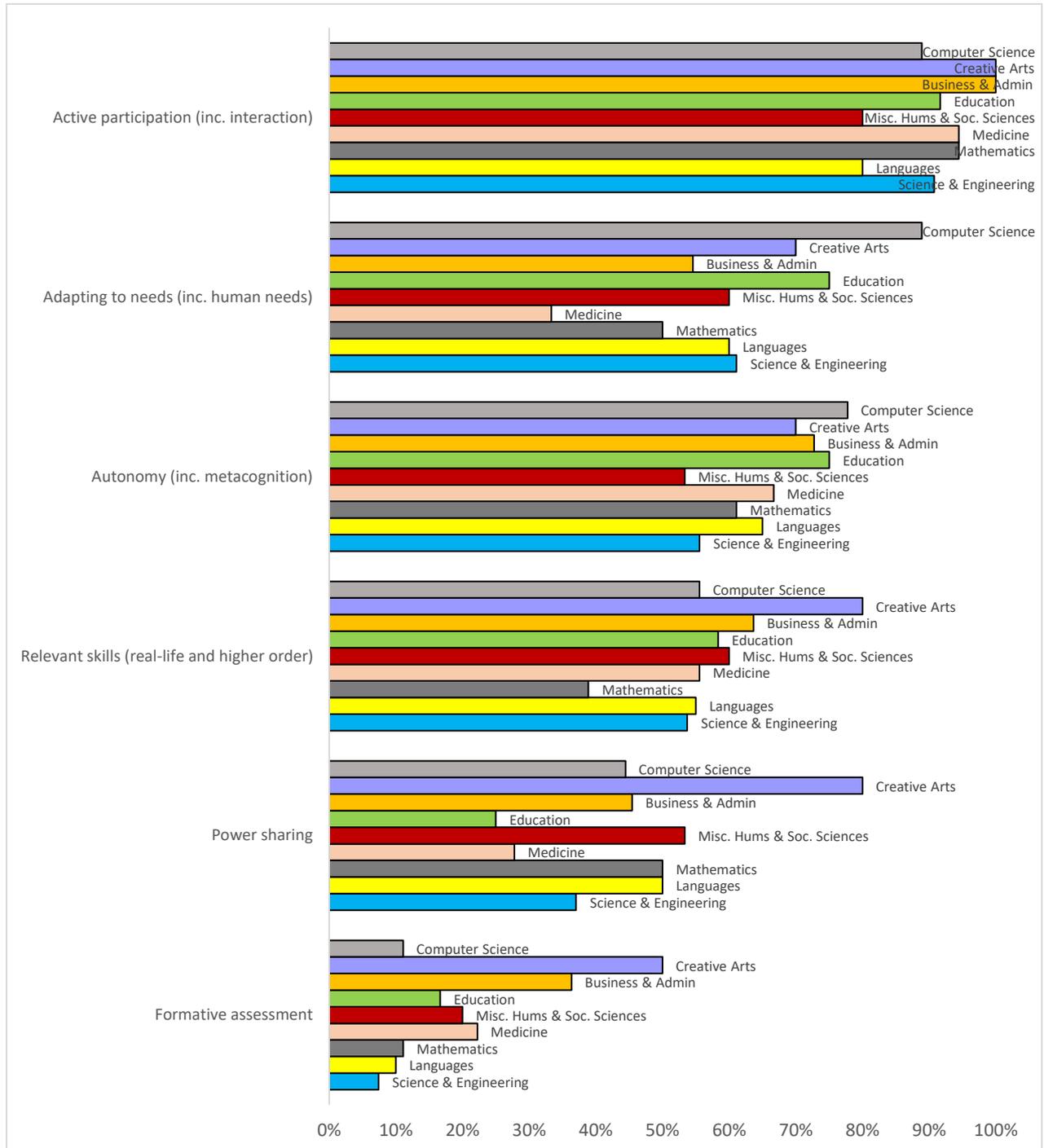
For the final research question, the data were analysed to see if definitions of SCE/LCE varied depending on subject area. The subject groups, and relative numbers, are shown in Table 8 below. It is worth noting that 79 of the texts were ‘unclassified’, reducing the sample size further from 245 to 166. This was because they were either non-specific texts, and/or included a combination of more than one subject.

*Table 8. Number of texts in each subject group*

<b>Subject group</b>	<b>Number of texts</b>
Science & Engineering	53
Languages	20
Mathematics	18
Medicine (including Nursing)	18
Misc. Humanities & Social sciences	15
Education	12
Business & Administration	11
Creative Arts	10
Computer Science	9
<i>Unclassified</i>	79
<i>Total minus unclassified</i>	166

Fig. 8 shows the relative weightings of the 6 aspects of SCE/LCE based on the 9 subject groups:

Fig. 8. Graph showing relative weightings of the 6 aspects of SCE/LCE by subject group



The overall theme from Fig. 8 is that there was a general amount of similarity across subject areas. However, as with the regional data, there were some interesting points of variability. For

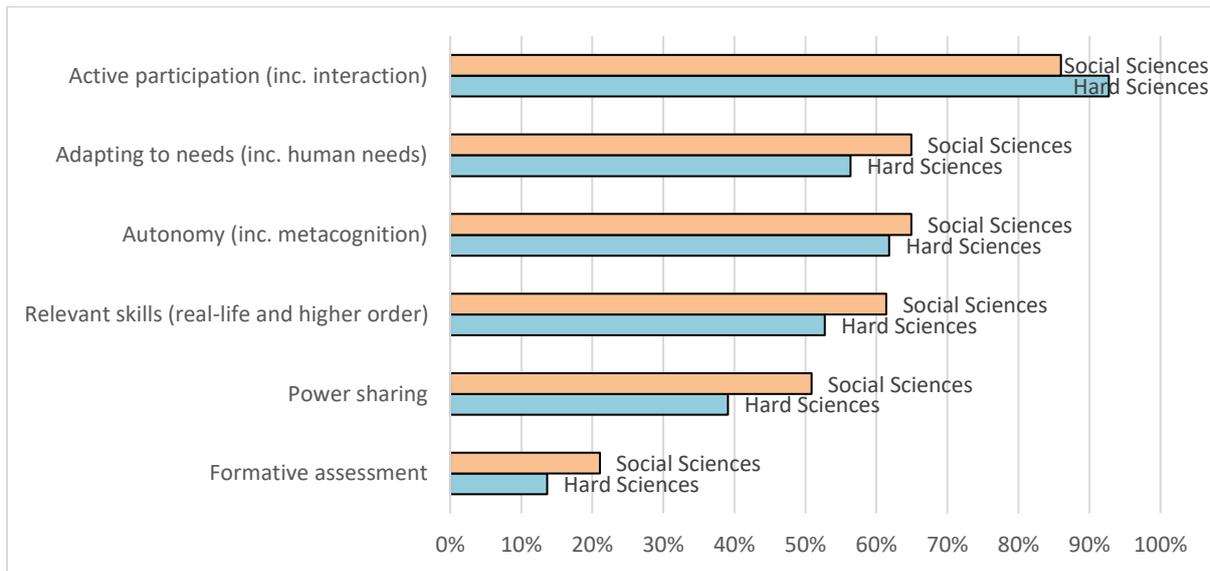
example, although we must be tentative when inferring findings from a sample of only 10 texts, it is noteworthy that the Creative Arts had a considerably higher emphasis on ‘Power sharing’, ‘Formative assessment’ and ‘Relevant skills’ than the other disciplines. This would seem understandable, given that creative subjects often focus on practical skills for real life (music, art, design, and so on), and tend to be subjective in nature, without there being ‘one right answer’. Compare this, for example, to Medicine, which had a relatively high score for ‘Active participation’, but relatively low scores for ‘Power sharing’ and ‘Adapting to needs’. This may be because Medicine and its related subjects tend to have a more fixed curriculum, meaning that SCE/LCE in such contexts would imply fewer opportunities to be flexible and/or allow students to make decisions about their learning. Returning to Schweisfurth’s meta-categories, it would again seem that the focus was mostly on ‘technique’ as opposed to ‘relationships’ or ‘epistemology’.

As with the regional data, there are relatively small sample sizes per subject group, meaning the findings must be interpreted with caution. However, it was thought that if we were to combine groups into ‘Hard Science’ and ‘Social Science’, it might be possible to observe more general tendencies. The relative numbers of texts in the two groups are shown in Table 9, and their relative weightings for the 6 aspects of SCE/LCE are shown on Fig. 9.

*Table 9. Numbers of texts in ‘Hard Science’ and ‘Social Science’ subject groups*

<b>‘Hard Science’ or ‘Social Science’</b>	<b>Number of texts</b>
Hard Science	109
Social Science	57
<i>Unclassified</i>	79
<i>Total minus unclassified</i>	166

*Fig. 9. Graph showing relative weightings of the 6 aspects of SCE/LCE in the ‘Hard Science’ and ‘Social Science’ subject groups*



Again, no massive differences are visible on Fig. 9 above, suggesting that the way SCE/LCE has been defined is broadly similar across the ‘hard’ and ‘social’ sciences. However, some minor differences are worth noting. Texts in the ‘hard’ sciences have a slightly greater emphasis on ‘Active participation’, whereas the other five aspects are more strongly mentioned by texts from the social sciences. For example, ‘Adapting to needs’ and ‘Power sharing’ are mentioned in approximately 10% more of the social science texts in comparison to the hard sciences. Again this would make sense, given that there is (generally) less of a focus on ‘one right answer’ in the social sciences, with teachers potentially having more opportunities to adapt to students’ needs and involve them in decision-making. In terms of Schweisfurth’s meta-categories, we again discover a distinction between ‘technique’ and ‘relationships’ or ‘epistemology’. Indeed, in the social sciences, there may be increased scope for more democratic teacher-student relationships, as well as viewing knowledge as more ‘fluid’ and changeable.

## Discussion

### Key findings

The findings of the meta-analysis confirm that SCE/LCE is a ‘messy’ construct that has been interpreted in a variety of different ways in the literature. The findings from RQ1 demonstrated that there was a great deal of variety when it came to ‘coverage’ of the definition. Notably, a quarter of the 326 articles, despite having the words ‘student-centred’ or ‘learner-centred’ in the title, did not clearly define SCE/LCE. Given our lack of shared understanding, and the widespread opportunities for misinterpretation of SCE/LCE, it could be argued that the absence of definition might be one contributor to our ongoing lack of clarity. Furthermore, there were 22 texts that mentioned SCE/LCE in the title but never again in the main body of the text. In such cases, it appears that SCE/LCE is being used merely as a ‘buzzword’ (or, as Harber and Davies, 1997 called it, a ‘hooray term’). Schweisfurth (2013) has highlighted that it may be useful, politically, for a term to be relatively meaningless. This may be true, but for researchers and practitioners on the ground, this fleeting use of SCE/LCE is unhelpful, and adds to the general degree of confusion regarding its definition.

The findings from RQ2 indicated that certain aspects of SCE/LCE were considered more important than others. The differences between ‘Active participation’ (87%) and ‘Power sharing’ (47%) provide a noteworthy point of comparison here. Whilst several key theoretical texts focus extensively on themes related to power sharing (Neumann, 2013; Nunan, 2013; Schweisfurth, 2013; Tangney, 2014, among others), this aspect is not mentioned anywhere near as frequently as ‘Active participation’ in the literature as a whole. Perhaps this has to do with what is *feasible* in classrooms; indeed, the literature seems to focus much more on practical strategies, decided upon by the teacher, as opposed to handing over decision-making to the

students (a focus on changing teaching ‘techniques’ as opposed to ‘relationships’ or ‘epistemology’). It is not incorrect to say that SCE/LCE *may* involve power sharing, but it is important to emphasise that this aspect represents only *one possible aspect* of SCE/LCE.

The idea that ‘power sharing’ might be *removed* from an interpretation of SCE/LCE may be concerning to strong advocates of student- or learner-centred approaches. However, it is worth reminding ourselves that the aim of this study was not to examine whether or not SCE/LCE is *desirable* or even *appropriate* within a certain context, but rather to explore how the concept is defined by a wide range of people. If we are to better compare and understand teachers, teaching, education systems and research studies, it is important to allow for emerging interpretations.

Indeed, the findings from RQs 3 and 4 indicate that, although the interpretations of SCE/LCE were generally similar across cultural macro-regions and subject areas, there were certain examples of variability. For example, there were relatively few examples of ‘Power sharing’ and ‘Formative assessment’ in East Asia, whilst there was an abundance of references to these aspects in texts from the Creative Arts in different countries. Although this study does not have the qualitative data to pick apart the particularities of specific cases, examples like these add further weight to the argument that certain aspects of SCE/LCE may lend themselves to different circumstances, and that a more flexible approach based on individual contexts may be more sensible than using prescriptive definitions. I discuss possible frameworks for defining SCE/LCE in the following sections.

## *Towards a flexible approach to defining SCE/LCE*

The findings of this study show that the concept of SCE/LCE has been defined inconsistently in the literature, and that different teaching contexts may lend themselves to different interpretations of SCE/LCE. With this in mind, it would seem that a realistic way forward would be to embrace a more flexible approach to its definition, in which individuals could select the aspects that were relevant to their specific contexts. In order for them to do this, a framework for conceptualising SCE/LCE would be useful.

Previous research has either outlined an extremely broad range of characteristics (Chung & Walsh, 2000), or reduced it to only a few categories (Neumann, 2013; Starkey, 2017). This paper suggests that either the 10- or 6-aspect framework might be more useful for those interpreting SCE/LCE in different contexts. Whilst these frameworks do not universally solve the problem of defining SCE/LCE, it is hoped that they may provide a more practical way of reconciling the numerous ways in which the term has been interpreted, whilst not being so all-encompassing to be unmanageable. The 10 and 6 aspect frameworks are summarised in Table 10 below (see Fig. 2 for a visual representation of the 6-aspect framework).

*Table 10. Two possible frameworks for defining SCE/LCE*

<b>A 10-aspect framework for defining SCE/LCE</b>	<b>A 6-aspect framework for defining SCE/LCE</b>
1. Active participation	1. Active participation (including interaction)
2. Interaction	
3. Real-life skills	2. Relevant skills (real-life and higher order skills)
4. Higher order skills	3. Adapting to needs (including human needs)
5. Adapting to needs	
6. Power sharing	4. Power sharing
7. Autonomy	5. Autonomy (including metacognition)
8. Metacognition	
9. Formative assessment	6. Formative assessment
10. Humanistic role	

As with the frameworks proposed by Neumann and Starkey, the specific aspects of each framework are less important than the idea that individuals must have the flexibility to select the aspects that are relevant to their contexts. For example, in the case of the 6-aspect framework, a ‘student-centred’ Medicine course in China might involve ‘Active participation’, ‘Autonomy’ and ‘Relevant skills’, but not necessarily ‘Adapting to needs’, ‘Power sharing’ or ‘Formative assessment’. Conversely, a ‘student-centred’ Research Methods course in the UK might involve ‘Autonomy’, ‘Adapting to needs’, ‘Power sharing’ and ‘Formative assessment’, but not so much focus on ‘Relevant skills’ or ‘Active participation’ (in class). Finally, a ‘student-centred’ Geography course in the United States might aim to encompass all six aspects (although they may focus on some aspects more than others, and might focus on some aspects more or less at certain points in the course).

A flexible framework could potentially be useful for anyone needing to define SCE/LCE; that is to say, teachers, teacher educators, researchers and even educational policy makers. Regardless of what framework is chosen, it is ultimately down to the individual to a) decide which aspects of SCE/LCE are relevant to their own contexts; and b) to explicitly state which aspects they have chosen (whether this be through the literature, training manuals, policy documents, and so on). The key benefit here is that a flexible framework would better place us to compare ‘student-centred’ or ‘learner-centred’ practices, thus potentially allowing us to reach more valid conclusions as to the effectiveness of different aspects of SCE/LCE in different contexts.

### *Possible criticisms of a flexible approach*

There are some ways in which a flexible approach to defining SCE/LCE could be criticised. One argument might be that choosing from a list of individual characteristics gives a somewhat

reductionist feel to phenomena that are extremely complex. It is relevant here to mention the argument that education takes place within a wider ‘pedagogical nexus’ (Hufton & Elliott, 2000; Schweisfurth & Elliott, 2019); that is to say, the bigger picture of interrelated factors influencing the way pedagogies are enacted. For example, it could be argued that the complexities of ‘Power sharing’ (or the absence of power sharing) permeate many of the other aspects, and that it is therefore impossible to separate this from the other categories. This is an interesting perspective, and the argument for the pedagogical nexus is appealing in terms of helping us to gain a more comprehensive understanding of teaching and learning contexts. However, when comparing larger samples, a more complex approach may not be practical. Similar to the regularly-cited dilemma between large-scale quantitative research and smaller-scale qualitative research, there is likely to be a trade-off between recognising detail, nuance and complexity, and the real-world practicality and applicability to a wider range of audiences.

Another potential argument against a flexible approach is that if we separate aspects like ‘power sharing’ and ‘adapting to needs’, we make it easier for stakeholders to *avoid* these more difficult-to-change, culturally-embedded aspects. This echoes the point earlier that some advocates of SCE/LCE might feel uneasy with any definitions of SCE/LCE that do not include the notion of ‘power sharing’. Again, this is an interesting perspective, but it is debatable whether this is for the meta-analyst (or comparative educationist) to decide. It must be reiterated that this study did not aim to examine if/how SCE/LCE *should* be taught, but rather how the concept is defined in a wide range of journal articles. Moreover, it has attempted to steer clear of prescriptive notions regarding how SCE/LCE *should* be defined, with the one exception that future definitions of SCE/LCE should incorporate at least some degree of flexibility.

This discussion alludes to a wider issue regarding whether the *definition* of SCE/LCE can/should be prescriptive. Schweisfurth and others have rightly argued that the *implementation* of SCE/LCE needs to be interpreted and adapted within different contexts. Indeed, whilst SCE/LCE is generally considered to have begun as a ‘Western’ construct, it has now well and truly established itself worldwide, and has been *appropriated* by those implementing it. When this happens, these people and systems certainly do make student-centred or learner-centred education their own. The fact that some contexts may decide that an active, engaging class with no learner choice or control can be defined as ‘student-’ or ‘learner-centred’ must surely be considered valid, and acknowledging this flexibility is helpful from a comparative perspective. In fact, the idea that the avoidance of aspects such as ‘power sharing’ might imply some sort of failure, fails in itself to embrace SCE/LCE as a worldwide, multi-cultural term. In light of this, perhaps we need to move away from Schweisfurth’s ‘minimum’ standards and move towards more ‘flexible’ or ‘contextually appropriate’ standards, which may, admittedly, sound somewhat oxymoronic.

### *Limitations of the methodology, and recommendations for future research*

A key limitation permeating this entire study has been the notion of subjectivity. As highlighted in the literature review, the concept of SCE/LCE has been interpreted subjectively throughout the literature, leading to it being defined inconsistently, and justifying the need to seek further clarity. However, it must be recognised that, in my attempt to increase clarity, I have inevitably relied on my own subjectivity. As emphasised throughout the Methods section, the process of categorising this meta-analysis was far from an ‘exact science’. The early stages of category creation relied on my individual interpretations of key texts; I coded each of the 326 texts based on my personal interpretation of them; and perhaps most importantly, the process of condensing the 10 categories down to 6 involved a great deal of my own thinking. Other

researchers may have created different initial categories; they may have coded differently; and they may not have agreed with my reasoning when condensing the categories. The frameworks proposed in this study are the result of numerous hours of reading, analysis and deliberation, carried out by a postdoctoral researcher specialising in the area of SCE/LCE. However, it is clear that, if more researchers had been involved in the coding and categorisation process, this would have significantly increased the reliability of the study (Oliver et al., 2012). Future research could critique the frameworks proposed in this paper, and propose new ones. Ideally, small teams of dedicated researchers could repeat the meta-analysis in order to test, refine, and redefine the frameworks.

In addition to the previous, there are several other ways in which future research could develop the findings of the present study. Broadening the sample size by widening the search criteria (to include related terms such as ‘child-centred/centered’, to different forms of publication, or to a wider date range) would likely increase the generalisability of the findings, especially in underrepresented macro-regions and subject areas. Further data could be acquired from different written materials such as training manuals and policy documents, and perspectives could also be gathered from teachers themselves, as well as teacher educators and other key stakeholders. Applying additional factors to the analysis such as educational level (primary, secondary, higher education) might also prove interesting, in order to see if SCE/LCE has been interpreted differently by teachers of different age groups. An interesting extension to this study would be a cross-case analysis of articles published in other languages than English. Finally, qualitative studies focusing in more detail on the reasons behind the choice of definition might illuminate some of the underlying factors influencing the ways in which SCE/LCE has been interpreted.

## Conclusion

Starkey (2017) stated that SCE/LCE was ‘under theorised’ (p.1). After reading 326 texts on SCE/LCE in the educational literature, I would argue that a more adequate description would be ‘defined to death’. The issue does not seem to be a *lack* of theorisation, but rather the inconsistent nature of interpretation. In many ways, this variety is understandable, given that the term has been implemented in a wide range of different contexts. However, I have argued that the overly wide-reaching nature of SCE/LCE has made it too broad to be practically useful.

A realistic way forward is not to prescribe yet another definition, but rather to provide a flexible framework that could be adapted to different contexts. In this paper, I have provided two of these potential frameworks. The frameworks include 10 or 6 main aspects of SCE/LCE, thus making them large enough to recognise different interpretations of SCE/LCE, but also small enough to be manageable at a practical level. A point to reiterate here is that stakeholders would not necessarily have to adopt all 10 or 6 categories all of the time; on the contrary, they would be encouraged to select the aspects that they felt were most relevant to their contexts. As long as these stakeholders were to explicitly state which aspects they had chosen (for example, in training courses, policy documents, and the literature) it would allow us to compare ‘student-centred’ or ‘learner-centred’ practices in similar contexts, and draw more reliable conclusions when comparing case studies. This would surely better equip us to address the complex challenge of implementing aspects of SCE/LCE in a wider range of classrooms.

## Acknowledgements

To be added.

## Declaration of interest statement

No potential conflict of interest was reported by the authors.

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