




Self-directed learning and student-centred learning: a conceptual comparison

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ABSTRACT

Self-directed learning and *student-centred learning* are key theoretical constructs in the educational literature. However, to date, the similarities and differences between these terms have not been examined. This paper therefore provides a historical overview of both constructs, followed by an analysis of the similarities and differences between them. The analysis found that student-centred learning has been interpreted in a much broader and more inconsistent way than self-directed learning, and that any conceptual comparison is dependent on the ways in which student-centred learning is interpreted. In particular, the inclusion or non-inclusion of the notion of *power-sharing* is key when comparing student-centred learning to self-directed learning. If power-sharing is not considered part of student-centred learning, learning might be student-centred and not yet self-directed. An original and important conclusion from the present work is that: only if power-sharing is considered part of student-centred learning can learning be *both* student-centred and self-directed. Increased clarity around the meanings of these concepts will benefit teachers and other educational stakeholders and will allow us to conduct more valid research to examine the potential impacts of such approaches.

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Introduction

Self-directed learning (SDL) and *student-centred learning* (SCL) are two key constructs in educational research and practice. Scholars in these research fields commonly apply *either* SDL *or* SCL as a central construct in their research studies (e.g., Bergner and Chen 2022; Hamori 2023). It is commonplace for scholars to situate themselves within just one of these fields of educational research – which may be seen as separate knowledge communities that scholars habitually engage with (Van Maanen 1988). Hibbert et al. (2014) argue that such ‘genrefication’, or intellectual isolation – where knowledge communities distance themselves from each other – may limit theory development. In order to address this gap, the present conceptual paper employs two phases of relationally reflexive research practice between scholars in the fields of both SDL and SCL: (a) *engaging*

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otherness and (b) *enacting connectedness*; which may be viewed as a process of ‘opening up ... our conservative theory-building communities’ (Hibbert et al. 2014, 284).

Specifically, to date, similarities, differences and relationships between SDL and SCL have not been explicitly examined. For example, the terms SDL and SCL may share certain core characteristics, such as both might be seen to imply that the learner takes increased ownership over their learning. In filling this gap, this paper offers a valuable contribution to the theoretical literature, as well as providing an important practical and reflective resource for teachers and other educational stakeholders.

The fact that both SDL and SCL are poorly understood among many stakeholders (e.g., Gandomkar and Sandars 2018; Neumann 2013) is a significant problem, both theoretically and practically. As Neumann (2013, 162) put it, ‘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?’ In this respect, Bremner (2021a) argued that educational researchers will be in a far better position to reach more reliable conclusions when comparing teaching and learning practices if there is a clear and explicit understanding of what key terms like these mean.

In what follows, we first trace the history of SDL and explain its various characteristics (e.g., Hiemstra 1994; Rogers 1969). We then turn to SCL, outlining its origin and development as well as its current (multifaceted) interpretations (e.g., Bremner 2021a; Schweisfurth 2013). These initial sections were written in order to begin the process of engaging otherness in these two constructs, which was the first phase of our relationally reflexive research practice (Hibbert et al. 2014): where scholars with specialist and significant expertise (e.g., had written multiple and recent systematic reviews of peer-reviewed academic literature in these fields) of both SDL and SCL were asked to independently write a review of the respective construct in which they have expertise in respect of its (a) history and (b) current conceptual thinking. After these sections were merged into one single shared document (below), all authors of this present work then independently, but concomitantly, conducted the first two phases of a thematic analysis (data familiarisation and generating codes; Braun and Clarke 2006), to identify the similarities and differences of SDL and SCL constructs. Specifically, sentences, groups of sentences or parts of sentences were highlighted by the investigators in the shared document with an accompanying note identifying a similarity and/or difference, which was assigned a code and/or notes that made explicit the thinking of the relevant investigators. The lead author then asked all authors to review the collective codes and notes, and for each to generate initial themes pertinent to similarities and differences between the SDL and SCL constructs, which represented the third phase of thematic analysis (Braun and Clarke 2006). Finally, the authors met multiple times, both in person and online via video conference, to review and finalise the key themes in terms of similarities and differences between the constructs; this represented the final step of the analysis and also of enacting connectedness between the two constructs (Hibbert et al. 2014). A summary of these discussions forms the conceptual analysis of similarities and differences between SDL and SCL below.

Self-directed learning

The history of the concept of self-directed learning

SDL has been historically positioned as a key competence for meeting the demands of our changing world: as competent self-directed learners are afforded, not only *adaptivity* – which is fundamental in the face of changing conditions, but also *proactivity* – which is an invaluable workplace attribute (Morris 2019a; Rogers 1969). In this respect, Crant (2000, 435) explained, ‘As work becomes more dynamic and decentralized, proactive behavior and initiative become even more critical determinants of organizational success’. Thus, affording persons SDL competence – an important part of competent lifelong learning – has been underwritten with a democratic sentiment: it is arguably important for individuals and societies as a whole; and fostering SDL competence in persons, especially through formal schooling, is an important process and outcome in respect of working towards social justice (Bagnall and Hodge 2022; Tien 2022).

Although the construct and process of SDL have been around for centuries, the term SDL was not popularised in the academic literature until the 1960s and 1970s (Hiemstra 1994; Morris 2019b). Subsequently, SDL became a core theoretical framework in adult education and research (Garrison 1992). Hiemstra (1994) identified that it was Cyril Houle who laid the foundation for a growing number of studies on SDL through his 1961 small-scale study with 22 adult learners entitled ‘The Inquiring Mind’. Most notably, Houle was dissertation supervisor at the University of Chicago for two scholars, the Canadian, Allen Tough and the American, Malcolm Knowles who were instrumental in popularising the concept of SDL in the coming years.

The empirical study by Tough (1971) with 66 Canadian adults was seminal. Tough (1971) identified that it was habitual for adults to undertake self-taught learning projects, defined as a ‘major, highly deliberate effort to gain certain knowledge and skill (or to change in some other way)’ (1). Learning projects represented a proactive and purposeful learning process in which the objectives and means were self-directed by the learner, most of which related to the person’s job or occupation and were often undertaken for very practical reasons. To our knowledge, this was the first empirical study to capture the notion that SDL was a natural, common and important part of adulthood. However, an important limitation of the study was that it did not show whether adults were competent self-directed learners; it merely demonstrated that all adults were engaging in such processes.

Concomitantly, Knowles was inspired by Rogers’ (1969) ideas of *person-centred* education and Eduard Christian Lindeman’s (1926, 193) ‘situation approach’ to adult learning (Knowles 2001), and spent his career advocating for the facilitation of SDL in higher education settings (e.g., Knowles 1975, 1980). Similar to the work of previous authors, such as Dewey (1963) and Freire (1970), Knowles (1975) offered a damning view of the oppressive process of teacher-directed learning, stating, ‘It is a tragic fact that most of us only know how to be taught; we haven’t learned how to learn’ (14). Indeed, the most commonly cited definition of SDL, which is widely accepted in the academic literature (Guglielmino, Long, and Hiemstra 2004), is from Knowles (1975, 18):

In its broadest meaning, 'self-directed learning' describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

Indeed, Rogers (1969) advocated that SDL is the most important competence in formal education to prepare young people to cope effectively with rapidly changing societies, stating that 'no knowledge is secure' and 'only the process of *seeking* knowledge gives a basis for security' (104; emphasis in original). He therefore argued that '[a] way must be found to develop a climate in the *system* in which the focus is not upon *teaching*, but the facilitation of self-directed *learning*' (304; emphasis in original). Rogers was a leading founder of the *person-centred* approach to learning and education, which is underwritten by humanistic psychological assumptions that emphasise human individual difference and unlimited potential for growth.

In his book entitled 'Freedom to Learn', Rogers (1969, Chapter 1) referred to the process of facilitating SDL in formal educational settings as a 'learning experiment'. In this work, he cited informal notes kept by a primary school teacher, Barbara Shiel, who 'experimented' in facilitating SDL, in which students determined their learning objectives and means that were written into a learning agreement or *learning contract* (with various amounts of teacher support). Through this process, learners worked on their own topic through their preferred means and at their preferred level and pace; they went as far as they were able or self-motivated enough to go, with or without other learners.

Here, Rogers (1969) outlined six principles for facilitating SDL in a formal educational setting: the need to set an appropriate initial mood or climate for the experience; enabling the collaborative setting of learning objectives; providing access to the widest possible range of resources for learning, including themselves (the educator) as a valuable resource; welcoming all opinions and attitudes towards the content in an unbiased way; working towards a share of control of directing the objectives and means of learning between teacher and learner(s); and not imposing how students choose to construct meaning.

Scholars of SDL view formal education settings as a primary opportunity to practice and foster competence for SDL: to form a foundation for successful lifelong learning (Bagnall and Hodge 2022). SDL aligns with constructivist epistemology, in that the learner's context is of key importance – the learner themselves being part of the context (Groen and Kawalilak 2014; Morris 2020). In this respect, SDL is a fundamental competence for solving the authentic problems that adults face on a regular basis: problems that are *situated in context* (Lindeman 1926, in reference to the ideas of Dewey 1910; associated with the philosophy of pragmatism).

More recently, perhaps in accordance with rapidly changing conditions, driven in part by digitisation, COVID-19, and times of conflict, SDL has been highlighted as a *fundamental meta-competence* for living and working in our increasingly complex and unpredictable world: because it empowers a person to *upskill* – and be therefore *adaptable* to change (Morris and Rohns 2021). Hence, fostering competence for SDL has been positioned as the most essential goal of education, especially by Western philosophers and educationists (e.g., Kranzow and Hyland 2016).

Current conceptual thinking on self-directed learning

The construct of SDL is complex, and most studies and models commonly identify four dimensions: (1) the personality characteristics of learners, or 'readiness' for SDL; (2) the cognitive aspect or responsibility, which includes self-regulation; (3) the contextual factors that moderate the possibility and likelihood of SDL being carried out; and (4) the process of SDL itself (e.g., Apu et al. 2022; Brockett and Hiemstra 1991; Garrison 1997).

An interesting and unique study was from Gibbons et al. (1980), who analysed biographies of twenty acknowledged 'experts', who had no formal training beyond high school but rather had fostered their expertise through SDL. In this study, the authors described how these experts had the motivation and ability to employ a wide variety of learning methods and techniques to further their knowledge in their field. But, perhaps most notably, learning bouts were often conducted with and around other experts: where they would share ideas, maintain intrinsic motivation for learning, build on each other's expertise, and even celebrate their new learning achievements together.

In respect of responsibility, it was Garrison (1997) who identified that motivation 'plays a very significant role in the initiation and maintenance of [learner] effort' (26); he identified responsibility as a process of *self-monitoring* which concerns both cognitive and metacognitive activity: 'monitoring the repertoire of learning strategies as well as an awareness of and an ability to think about our thinking' (24). In line with Knowles' (1975) definition of SDL outlined above, in which the process can be conducted with or without the help of others, Garrison (1997) maintained that *responsibility* inevitably entails, at least in formal educational settings, a collaborative effort between teacher, learner and perhaps other learners – a process of power-sharing.

In this regard, Caffarella (1993) highlighted the point that, irrespective of the organising circumstances of the learning environment, SDL involves the learner assuming and maintaining *primary* responsibility for directing their learning process. Ultimately, then, this concerns a process in which a learner retains control over choice and decision-making in terms of learning objectives and means; thus, they retain control of directing the planning, undertaking and reviewing aspects of the learning process.

Nonetheless, in practice, in formal educational settings there are a number of contextual factors that instrumentally determine whether SDL is possible or desirable. Indeed, the literature on SDL has highlighted that scholars' ideological views on the possibility for power-sharing can conflict in practice with some educators' views on what it means to be a teacher (and subject knowledge expert, e.g., Nasri 2017). Additionally, Spear and Mocker (1984) have identified that there are many constraints within the organising circumstances that operate to moderate the possibility or likelihood of SDL being carried out.

In this regard, Cross (1981) classified two types of contextual constraints that work alongside learner dispositions towards SDL: *situational* constraints that concern learners' immediate learning environment, and *institutional* constraints, which comprise institutional practices and policies. Another set of contextual factor classifications was proposed by Pilling-Cormick (1996), who classified contextual factors as: *social constraints* (the cultural-political climate); *educator characteristic* constraints (personal beliefs, forms of control, and skills for sharing authority); and *environmental* constraints (such as the physical aspects of the institution and classroom, and how the course and institution functions).

Finally, studies have examined both *learner readiness* and personality characteristics that are likely to influence learners' tendencies, preferences and propensities to undertake SDL. In this respect, Lounsbury et al. (2009) described SDL as a *personality construct*, where the learner has 'a disposition to engage in learning activities where the individual takes personal responsibility for developing and carrying out learning endeavors in an autonomous manner without being prompted or guided by other people' (411).

Some traits associated with SDL readiness appear to be deeply embedded with personality. Indeed, Guglielmino's (1978) Self-Directed Learning Readiness Scale, a popular measurement scale used in academic studies, was based on the following underlying assumptions about highly self-directed learners: they have a high degree of curiosity; they exhibit initiative and independence; they have a strong learning desire and show persistence in learning through a goal orientation to learning; they are self-confident, they are capable of self-discipline and accept learning responsibility; and they hold the necessary skills, including the ability to plan and pace learning, and have a tendency to view problems as challenges. Likewise, Oddi's (1986) Continuing Learning Inventory is another popular questionnaire used to assess readiness for SDL, and was based on a learner's proactive drive, cognitive openness and commitment to learning. Moreover, empirical studies have reported strong correlations between learner self-directedness and four personality traits: conscientiousness, openness, optimism and work drive (e.g., Kirwan, Lounsbury, and Gibson 2014; Lounsbury et al. 2009).

In sum, the SDL construct relates to a learning process in which learners control the direction of their learning objectives and means, with or without the help of others. Studies have focused on various dimensions of SDL, commonly: personality characteristics, contextual constraints, the learning process, and the cognitive aspect – responsibility. In terms of SDL responsibility, the learner makes the ultimate decisions when directing the learning process; however, successful SDL is commonly a collaborative process – thus, power-sharing is a common and salient feature of SDL.

Student-centred learning

This section traces the history of student-centred learning (SCL). In so doing, an important point to clarify is that SCL has often been used interchangeably with other terms, such as *learner-centred* or *child-centred* learning. It has been argued that there may be subtle differences between these terms; for example, child-centred learning may more likely be used in the context of school children, whereas SCL tends to also include older students (see for example, McCombs and Whisler 1997). The view of the authors of this paper is that student-, learner- and child-centred learning essentially share the same core characteristics; and therefore to maintain consistency we have predominately used the term SCL throughout this paper.

The history of the concept of student-centred learning

The concept of SCL may be traced back several hundred, or even thousands of years, and is said to originate from largely Western philosophers and educationists. The great-grandfather of the principles that would later come under the name of SCL is often said

to be the Greek philosopher Socrates (Perkinson 1980). With his student Plato, Socrates utilised a dialogic, question-based approach to *draw out* ideas from his less experienced student.

The next common reference when explaining the history of SCL is the literary work of Jean-Jacques Rousseau, (1712–1778). Rousseau's influential novel, *Emile* (1911/1762/1762), presented a new vision of education through the lens of an individual child who had been cut off from society. For many, this marked the origins of the term *child-centredness* (Darling 1986); indeed, it was not until much later that the term would be more universally applied to older learners through the terms student- or learner-centred learning (McCombs and Whisler 1997). The main principles of Rousseau's ideas were that each child has their own unique characteristics and differs depending on their stage and rate of growth, thus highlighting the potential importance of a more individualised curriculum. Rousseau's vision of education suggested that children were capable of reaching their own conclusions based on their experiences, and that education should adapt to the child's needs, rather than the child adapting to the school (Darling 1994).

The ideas proposed by Rousseau were taken forward by other great thinkers of the 18th and 19th centuries, most notably the Swiss pedagogue Johann Pestalozzi (1746–1827) and the German pedagogue Friedrich Froebel (1782–1852). Indeed, it was Froebel who is said to be the first person to explicitly use the term 'child-centered learning' (Chung and Walsh 2000). Froebel proposed a 'new education' (Lawrence 1952, 21), in which the natural stages of children's development were recognised, and in which children would be tended to like plants, so that '[g]iven the right conditions they would grow and unfold' (Lawrence 1952, 195).

In the 20th century, a number of key writers continued to develop these ideas. Dewey (1859–1952), who coined the term *progressive education*, had a vision that the 'center of gravity' should be shifted from outside the child to inside the child themselves, for education to 'get hold of the child's natural impulses and instincts, and to utilise them so that the child is carried on to a higher plane of perception and judgement, and equipped with more efficient habits' (Dewey 1956b/1902, 127). While Dewey continued to advocate, in line with Rousseau, that learning should be individualised with a curriculum adjusted to the learning aspirations of each child (Stone 1996), Dewey did not see value in simply meeting children's interests without there being a clear direction to achievement; in his words, 'nothing can be developed from nothing' (Dewey 1956a/1900, 18). Additionally, what he aimed to achieve through a more progressive education was to foster the concept of democracy amongst children (Dewey 1963/1938). He stressed the linkage between school and society and suggested that schools should be a place where children would learn to become democratic citizens.

As the 20th century progressed, developmental psychologists such as Jean Piaget (1896–1980) and Lev Vygotsky (1896–1934) provided empirical evidence to support earlier educational theorists such as Froebel and Dewey (Stone 1996). Piaget (1970) conducted experimental observations and ultimately supported the ideas of Rousseau. In particular, he further hypothesised the notion of a natural sequence of development for children, although this was later challenged by some scholars (e.g., Wood 1998). It is often said that contemporary understandings of the theory of constructivist learning originated with Piaget and is a term often linked with SCL (Marshall 2000; Tangney 2014); it essentially

states that learners construct knowledge actively through their experience with the world, building on their individual experiences and prior knowledge: learners are not simply *blank slates* or *empty vessels* to be filled with knowledge (Marshall 2000).

Vygotsky (1962, 1978) built on the foundations of constructivist learning espoused by Piaget but added a social element. Vygotsky emphasised that children do not exist in an isolated world of mere objects, but rather one filled with other people. It is with these people that the social interactions take place in which all parties co-construct meaning. For this reason, Vygotsky is often linked to *socio-constructivist* theories of learning (Wood 1998). Vygotsky also proposed the theoretical *Zone of Proximal Development* (Vygotsky 1962), in which children develop knowledge and skills, but only if there is not too large a gap between their current state and their desired state. It is through support from, and interaction with, a more experienced person (such as a teacher) that children may move from what they do not know, or are not able to do, to what they are capable of knowing or doing (this process of assisting a less able person was later named *scaffolding*; Bruner 1977). As such, Piaget and Vygotsky demonstrated that knowledge does not pre-exist, but rather is acquired through experiences and observations at certain developmental stages. Applying their scientific findings to the educational domain, it was suggested that a child is an active agent in the process of knowledge construction.

The ideas of the above educationists began to be influential in the second half of the 20th Century, notably in the UK and the USA. In the UK, the Plowden Report (Central Advisory Council for Education England 1967) proved an important influence in the development of thinking around child-centredness, explicitly claiming to be based around the ideas of Rousseau, Dewey and Vygotsky. Among other key points, the report emphasised that: 'At the heart of the educational process lies the child' (7); flexibility in the curriculum was important in order to take into account learners' natural readiness; discovery learning was more effective than the transmission of knowledge; and social and emotional aspects were important as well as cognitive ones. Likewise, the US Office of Education and the National Education Association recommended learner-centred pedagogical approaches as 'best practices' (Stone 1996, 10).

Despite growing interest in child-centredness at a theoretical and political level, the implementation of child-centred learning has been quite limited in some contexts, including within the UK and USA (Alexander 2000). Indeed, Simon (, 24) argued that there was 'little evidence of any fundamental shift either in the content of education or in the procedures of teaching and learning', with a largely traditional teacher-centred approach prevailing in most classrooms. Furthermore, child-centred education was criticised as being unrealistic (Perkinson 1980); vague (Entwistle 1970); having too much focus on the individual as opposed to the group (Edwards and Mercer 1987); and not enough focus on the teacher (O'Neill 1991); as well as allowing too much freedom to students, leading to discipline problems (Darling 1986). In the UK, since the Conservative government's victory in 1979, under the leadership of Margaret Thatcher, there has been a trend back towards more controlled, teacher-centred instruction, together with a more rigid centralised National Curriculum with a focus on learning facts detached from context (Ball 2021). Similar tendencies have been found in the USA, with the focus on child-centredness eventually subsumed by a focus on increased standards, examinations and teacher-centred learning (cf. Alexander 2000; James 2021). Indeed, Blossing, Imsen and

Moos (2014) identify that such a movement has also been seen partially in Nordic countries to various degrees, where educational systems have started to become influenced by neoliberal policies.

Our discussion on SCL thus far indicates that its conceptual development originated from the West, and thus its implementation practices tend to be discussed within Western contexts or within the context of pedagogical transmission from Western to non-Western contexts (Sakata, Bremner, and Cameron 2022; Schweisfurth 2013). However, similar pedagogical concepts exist in non-Western settings. For example, a locally initiated educational movement called *Escuela Nueva* in Colombia has been formulated based on student-centred pedagogical elements, including students' active participation and problem solving, which has been scaled up across the country and the Latin America region (Colbert and Arboleda 2016). Moreover, Tanzania's *ujamaa* philosophy (translated as *familyhood*) also promotes educational practices compatible with SCL, such as learning by doing and participatory methods (Sakata, Oketch, and Candappa 2021).

Current conceptual thinking on student-centred learning

SCL is recognised in some educational contexts as a key educational concept. This is exemplified in Western European countries, where the importance of SCL has been formally recognised (Tandamrong and Parr 2022). It is important to highlight the point that current interpretations of SCL have, however, become extremely broad and varied, with the construct being described as a 'messy' idea (Neumann 2013, 161). Over 30 years ago Farrington (1991) argued that there was 'considerable disagreement and confusion about what student-centered learning actually is' (16), and, this comment seems as relevant now as it was then. One of the main issues is that SCL has been linked to many other terms (e.g., *progressivism*, *flexible learning*, *problem-based learning*, *person-centred learning*, among several others; see for example, Burnard 1999; Duke et al. 2021), with varying degrees of overlap and distinction (Lea, Stephenson, and Troy 2003; Schweisfurth 2013). As such, it has been increasingly difficult to compare student-centred practices directly (Lea, Stephenson, and Troy 2003).

To the knowledge of the authors, the earliest comprehensive taxonomy of SCL was created by the American Psychological Association in 1997. The APA's (1997) list established 14 learner-centred principles, which were divided into four domains. The first domain, the *cognitive and metacognitive*, encouraged learner-centred teachers to help learners relate content at school to their prior knowledge and experiences, and to gradually help them to become more self-reflective about their learning. The second domain, *motivation and emotional*, argued that positive emotions (with just the right amount of anxiety and stress) are likely to enhance motivation and learning, and that teaching should aim to increase learners' intrinsic motivation; for example, through choosing content that is interesting to learners, geared at the right level, and incorporating some degree of choice and control. The third domain, *developmental and social*, stated that teachers needed to be aware of children's developmental differences, as well as the importance of social interactions and relationships. Finally, the fourth domain, *individual differences*, argued that learners' individual differences should be taken into account where possible, including during assessment.

Later work by Schweisfurth (2013) further developed theoretical thinking around SCL, with a specific focus on its implementation in developing countries. Schweisfurth argued that it may be useful to understand SCL by 'contrasting it with the concepts and practices to which it is opposed' (9) and proposed a series of theoretical continua (i.e., between teacher- and student-centred learning). Although some authors (e.g., Elen et al. 2007) have argued that such binary oppositions are not particularly useful, these continua may help us to better understand some of the key characteristics of SCL. Schweisfurth (2013, 11–13) argued that SCL implies changes in: *technique* – a continuum from 'frontal, "chalk and talk" transmission' to 'independent or group inquiry'; *relationships* – from 'authoritarian' to 'democratic' classroom relationships; *motivation* – from 'extrinsic' to 'intrinsic'; or/and *epistemology* – from viewing 'knowledge as fixed' to 'knowledge as fluid'.

In addition to the previous continua, Schweisfurth (2013) examined *justificatory narratives* for SCL which can also help us to understand its different characteristics. The first justificatory narrative is the *economic* perspective, which essentially states that SCL is the optimal way forward to better prepare learners to be competitive in an increasingly changing world. To achieve such competitiveness, the assumption is that young people are likely to need key skills such as autonomous learning, critical thinking and creativity – skills that are supposedly more likely to be developed under a student-centred approach to learning (e.g., Sahlberg and Oldroyd 2010). This then leads to the second justificatory narrative: the *cognitive* perspective, which argues that SCL approaches, often said to be informed by theories of constructivism, are more likely to lead to long-lasting learning, as they lead to deeper learning and higher motivation to learn (e.g., Ginnis 2002). Schweisfurth indicated that the final justificatory narrative is the *emancipatory* perspective which argues that the implementation of SCL may have more profound and far-reaching social benefits than just students learning more effectively (e.g., Biesta 2006; Freire 1970). Such benefits may include increased democracy in and out of the classroom, improved teacher-student relationships, and, from an epistemological point of view, the idea of seeing knowledge as less 'fixed'.

On a more radical note, SCL may be seen, by some, as a way of liberating learners from rigid and oppressive patterns of teaching. A key proponent of this vision was Paulo Freire (1921–1997) who advocated a *critical pedagogy*, which promoted emancipation from oppression through education (Freire 1970). As Schweisfurth (2013) recognised, there may be overlap between these three justificatory narratives. For example, when students develop more autonomous learning skills for use in the real world (as in the economic perspective), they may use these in the classroom, thus leading to enhanced cognitive outcomes. Moreover, when students are granted more of a voice to offer their own views (as in the emancipatory perspective), they may experience increased intrinsic motivation and engage in deeper learning (as in the cognitive perspective).

As alluded to at the beginning of this section, the problem with such taxonomies of SCL is that they are exceptionally wide-ranging. Indeed, Schweisfurth (2015) herself recognised the significant challenge of 'how to reconcile different manifestations of it without rendering [them] so all-inclusive so as to be meaningless' (262). Other conceptual works have sought to establish further clarity, although it is questionable whether this has been achieved. For example, Neumann (2013) proposed a three-contoured framework for defining SCL, emphasising the different degrees of control that learners may possess. According to Neumann, learning-centred *in* students refers to a situation in which

students have a great deal of control in what they learn. Learning-centred *on* students refers to contexts in which teachers attempt to adapt pedagogy to respond to students' needs, but ultimately under a rigid set of pre-established curricular goals. And, learning-centred *with* students assumes a more reciprocal learning relationship in which learning content and assessment are co-constructed between learner(s) and teachers. In addition, a more encompassing framework for SCL was proposed by Starkey (2017), which included three dimensions: the *cognitive* dimension (relating to the student learning process), the *agentic* dimension (relating to the degree to which learners can be empowered), and the *humanistic* dimension (relating to an increased focus on learners as individuals; cf. Tangney 2014).

Most recently, Bremner (2021a) conducted a meta-analysis of the definitions found in 326 journal articles in the literature and later compared the findings to the interpretations of 248 English language teachers Bremner (2021b). Through the meta-analysis, Bremner highlighted ten potential aspects of SCL and compared the coverage of the definitions in (a) journal articles and (b) according to the teacher participants. In this respect, Table 1 shows that both the literature and teachers interpreted SCL considerably more in terms of practical aspects such as *active participation* and *interaction* (cf. Schweisfurth's 2013, changes in *technique*), and focused relatively less on aspects such as power-sharing (cf. Schweisfurth's changes in *relationships* and *epistemology*).

Table 1. Summary of Ten aspects of SCL, with percentage coverage of literature and English Language teachers (adapted from Bremner 2021a, 166; 2021b, 14).

Aspect of SCL	Explanation	Literature coverage (Bremner 2021a)	Teachers' coverage (Bremner 2021b)
Active participation	The teacher organises learning so students actively participate (including hands-on learning, learning by doing, etc.).	75%	82%
Interaction	The teacher organises learning so students can interact with others (including pair work, group work, etc.).	70%	80%
Real-life skills	The teacher not only teaches theoretical knowledge, but also 'real-life' skills that students can apply outside of the classroom.	45%	62%
Higher order skills	The teacher organises learning so that there are opportunities for students to develop higher order skills (including critical thinking, creativity etc.).	30%	59%
Adapting to needs	The teacher bases learning around the students' prior knowledge, skills and experiences, and adapts learning based on students' needs and interests (including flexible learning, personalised learning, etc.).	60%	70%
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 (including learner choice, control, more democratic relationships, reduction of power distances, as well as epistemological considerations – viewing knowledge as more fluid).	50%	53%
Autonomy	The teacher organises learning so that there are opportunities for students to work independently, both in and out of the classroom (including students taking responsibility for their own learning, becoming less dependent on the teacher, etc.).	67%	65%
Metacognition	The teacher not only teaches content, but also provides opportunities for students to reflect about how they learn.	30%	71%
Formative assessment	The teacher provides formative assessment as well as summative assessment (including viewing learning as a process as opposed to just a product).	10%	58%
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 (including focusing on affective factors, emotional wellbeing, wellbeing, viewing students as individuals, etc.).	25%	58%

One might argue, then, that some of the core principles espoused in historical definitions (e.g., of Rousseau and Dewey) have been somewhat watered down by more modern interpretations at the expense of more practical interpretations of SCL. It should be recognised that there may be practical limitations to implementing SCL in a given educational context. For example, although it may be desirable from an idealistic perspective for teachers to cater to each student's individual needs, it has been argued that this is often difficult to achieve, especially when there are large class sizes (e.g., Sakata 2021). Similarly, although it may be appealing on a theoretical level for students to control the content of their learning, standardised curricula and examinations reduce the possibility of this happening in practice (e.g., Shaobing and Adamson 2014).

The aforementioned practical constraints, coupled with the generally wide-ranging interpretations of SCL, have led some scholars to argue for a more flexible approach to conceptualising the term (e.g., Bremner 2021a; Schweisfurth 2013). For example, Schweisfurth (2013) recognised the difficulties of implementing idealised forms of SCL in developing countries (O'Sullivan 2004), and thus proposed a series of 'minimum standards' (146) for SCL, 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.

Although agreeing with the general principles of minimum standards, Bremner (2021a) argued that flexible or 'contextually appropriate' (25) standards would be more useful, stressing that certain aspects of SCL will naturally be more or less appropriate in different contexts. To support this viewpoint, in his meta-analysis, Bremner found that power-sharing was much less likely in texts from East Asia compared to other cultural macro-regions, and that power-sharing was also more common in certain subject areas (notably the creative arts). These findings are reflected in the work of authors such as Wang (2007), who found that Chinese teachers adopted their own, culturally appropriate interpretations of SCL, which involved some of the student-centred aspects found in Table 1, but ultimately under a largely teacher-directed framework (cf. learning centred *on* students – Neumann 2013; learning-centred education –; O'Sullivan 2004).

Conceptual comparison

We now compare the two constructs – SDL and SCL – to consider the similarities and differences between them. Having conducted an historical analysis of the two terms, one difference becomes immediately apparent: namely, that SCL emerged primarily from philosophical thinking around how *children* can be taught in *schools* (hence 'child-centred learning' being a more common term until relatively recently, when the broader terms student- or learner-centred began to be used more widely). In contrast, the origins of SDL were in *adult learning*. Therefore, SCL has an inherent focus on *teaching*; whereas for SDL the focus is much more on the individual process of *learning*.

Another important difference between the two terms is that SCL has the potential to be interpreted in much broader and, at times, contradictory ways in comparison to SDL. As Bremner (2021a) established in his meta-analysis of definitions in journal articles, a combination of one or more of ten different aspects may be possible in SCL (cf.

Table 1). Bremner demonstrated that there was a wide range of coverage in the definitions; very few definitions were extremely narrow (i.e., just one aspect) or extremely encompassing (i.e., nine to ten aspects), but there was roughly an even spread between definitions mentioning between two and eight aspects (173). What this essentially means is that SCL has been defined in a largely inconsistent way, at least in terms of the academic literature. Indeed, if you were to randomly select two journal articles from the literature and analyse their definitions of SCL, there is every likelihood that the definitions might be very different. For example, one interpretation might focus on teachers' planning activities to encourage active participation and interaction in class, but not mention autonomy and metacognition out of class. Another interpretation might focus on the importance of real-life skills (i.e., skills perceived to be relevant to learners' lives), but not mention power-sharing or formative assessment in their teaching, to name but two examples.

Therefore, given the potentially broad and varied nature of interpretations of SCL, a comparative analysis between SDL and SCL is ultimately dependent on which interpretation of SCL is adopted. For example, one possible similarity between SDL and SCL is the need to help students develop the skills necessary to meet the demands of our changing world – as in the *economic* justificatory narrative identified by Schweisfurth (2013). However, while fostering learner skills to meet the demands of society is the ultimate goal of SDL, the related aspect of SCL (i.e., real-life skills) is just one of ten possible interpretations, and indeed one which was mentioned in less than half of the journal articles analysed in Bremner's meta-analysis (see Table 1).

Perhaps the most noteworthy distinction between the two concepts concerns the notion of power-sharing. This essentially relates to the degree of power and choice: i.e., *who decides what* in terms of learning objectives and means. With SDL, the literature would seem to agree that it should be the learner who must be empowered to define their learning objectives and means. This does not necessarily mean that learners are left to make such decisions completely on their own; indeed, Garrison (1997) pointed out that power-sharing with others is *inevitable* for SDL in formal schooling settings, given the presence of a teacher and other learners (see also Gibbons et al. 1980).

While power-sharing is a common characteristic of SDL, interpretations of SCL are divided when it comes to the inclusion or non-inclusion of this aspect. Some interpretations firmly incorporate a power-sharing element, emphasising the importance of learners shaping the content and process of their learning, whereas others view the decisions to be made *outside* of the learner – for example by curricula or teachers. Thus, if one's interpretation of SCL embraces the notion of power-sharing, then it is theoretically possible to define such a learning process as both student-centred AND self-directed. Conversely, if one's interpretation does not involve power-sharing (e.g., focusing instead on more practical elements such as active participation), learning could be considered student-centred, but ultimately teacher- (or curriculum-) directed (see Table 2).

The previous point may be emphasised by asking ourselves which aspects of Bremner's framework of SCL may be compatible with SDL. First, the aspects of autonomy and metacognition would clearly fit with SDL, as both aspects value students' ownership and responsibility over their learning, a fundamental characteristic of SDL. The aspect of formative assessment may also resonate with a self-directed approach, in the sense that it views learning as a *process* as opposed to a *product*; however, if it is ultimately the teacher providing such formative assessment, then one might argue the process is more teacher-

Table 2. Aspects of SCL theoretically possible in teacher-directed learning and SDL.

Aspect of SCL	Possible in Teacher-Directed Learning?	Possible in SDL?
Active participation	✓	✓
Interaction	✓	✓
Real-life skills	✓	✓
Higher order skills	✓	✓
Adapting to needs	✓	✓
Power-sharing	X	✓
Autonomy	✓	✓
Metacognition	✓	✓
Formative assessment	✓	✓
Humanistic role	✓	✓

directed than self-directed. The aspect of adapting to needs with an appreciation of individual differences (in which we might include the humanistic role – essentially adapting to human needs) would seem self-evident in a self-directed approach, but again, this would depend on *who* decides, and acts upon, such needs (i.e., whether or not there is power-sharing). If it is the teacher (or curriculum, etc.) that decides what adaptations are to be made, then this would have to be defined as teacher-directed, and not self-directed. If it is the student who ultimately has increased power to make such adaptations, then this could potentially be defined as self-directed learning. Similarly, real-life skills, which some authors have linked to SCL, can only technically be considered self-directed if those skills are decided upon by the student (with or without the help of others).

Here, the more ‘practical’ aspects of SCL (e.g., active participation, interaction, higher order skills) may ultimately be the pedagogical tools or characteristics that may be drawn upon to develop effective teaching and learning as part of a student-centred or/and self-directed approach (cf. Schweisfurth’s 2013, notion of technique). However, again, the crux of the matter would appear to lie in who makes the ultimate decision – who chooses – and again this is determined by whether there is power-sharing or not.

Unlike learning environments in which SDL is facilitated, teacher-directed learning concerns a process in which the teacher determines the learning objectives and means. Specifically, the teacher is often presented with a centralised curriculum, which all students must learn, but then in teaching that curriculum the teacher may apply one or more of the ten common aspects of SCL at any given time (refer to Table 1). As highlighted by Bremner (2021a), some of these aspects are more commonplace than others. Active participation and interaction, for example, are the two most common aspects that are implemented in student-centred classrooms. Here, there seems to be a tendency, in some contexts, to lean towards more practical interpretations of SCL rather than its ideological ends (i.e., power-sharing) that may require a shift in cultural values or may diverge from beliefs and structures inherent in existing educational systems.

An important point to make at this stage is that it may be somewhat unhelpful to conceptualise both SCL and SDL in binary terms. Learning and teaching in formal school settings are likely to have varying degrees of student-centredness and/or learner self-directedness at different points in time, depending on a whole host of factors. For example, elements of power-sharing may be apparent in certain classrooms, under a generally teacher-directed approach – such as by giving students a limited amount of choice in activities and assessment, instead of

allowing wholesale changes to pre-planned curricula. Although we have presented the distinction between self-directed and teacher-directed learning (and student-centred vs teacher-centred) as binary oppositions, perhaps a more realistic and useful way of conceptualising different options is to imagine a continuum with SDL or SCL on one end, and teacher-directed or teacher-centred learning, respectively, on the other, but with most contexts falling at some point in the middle depending on various contextual factors (Schweisfurth 2013).

It is theoretically possible – and some would argue, desirable – for education systems to incorporate all ten aspects of SCL, in addition to effectively supporting learners to develop their SDL skills. However, in some educational contexts, it is unlikely for a teacher to be in the position to achieve this in practice. In order to facilitate one or more aspects of SCL or/and SDL, a great deal of planning, effort and skill is needed on the part of the educator, requiring significant training, experience and support (Morris 2020).

Moreover, it is also highly likely that the organising circumstances of the education environment, including the learning objectives, the nature of the learners, the availability of resources and facilities and the pedagogical preferences of the teacher, could hinder or promote student-centred or SDL at any given time (e.g., Schweisfurth 2011). As highlighted previously, perhaps the most important contextual constraint is that teachers often face a centralised curriculum and/or other central demands, which limit the extent to which they can give learners more of a voice to influence the process of their own learning. Indeed, given such practical constraints, it is also theoretically possible (and, perhaps, more likely) that an educational experience may rather be both teacher-directed and have *few or no* characteristics of SCL.

There were some limitations of the present study. First, in terms of the epistemological perspectives of the present authors, we identify in the introductory section of this article that it is commonplace for scholars to situate themselves within one of these fields of educational research (i.e., SDL or SCL) – which may be seen as separate knowledge communities that scholars habitually engage with (Van Maanen 1988). This was the case in the present study, where, prior to its completion, the researchers' knowledge and practice were firmly embedded within just one of these educational research fields. We anticipate that our prior (to undertaking this work) research specialism – or scholarly intellectual isolation – was a limitation of this study, in terms of its effect on shaping the process and outcome of this research. We acknowledge that we do not live in an epistemological vacuum. Furthermore, it is important to highlight the point that other authors, present and past, may have or had a more combined, alternative, integrated epistemological positioning in terms of their worldview of practices and processes of education. Carl Rogers (1969) is perhaps an example, where many of the aforementioned dimensions of SDL and SCL may arguably form part of his 'person-centred' approach to education (cf. Burnard 1999; O'Neill and McMahon 2005).

Conclusion

This article has traced the origin and development of two interrelated educational constructs – SDL and SCL – to conduct a conceptual comparison between the two. The paper established that SCL has been interpreted in a much more wide-ranging and inconsistent way than SDL, and that comparisons between the two constructs inevitably depend on which interpretation of SCL is used as a point of comparison. The notion of power-sharing is key in this regard. Whilst power-sharing is not included in many interpretations of SCL – where definitions tend to focus on more practical aspects such as active participation and interaction – the notion of power-sharing is common in SDL.

Theoretically, then, both teacher-directed and student-directed learning can incorporate one or more possible aspects of SCL, while SDL must be, as its name suggests, ultimately self- (learner-) directed. That said, a variety of terms – ranging from child-centred or learner-centred pedagogy to progressive education – share similar concepts as SCL; a conceptual comparison between other SCL-related terms and SDL might result in a conclusion dissimilar from ours. This study did not take the form of a systematic review (e.g., Zawacki-Richter et al. 2020), but the literature reviewed were selected based on the authors' prior knowledge and expertise. In this regard, a more systematic way of selecting and organising the literature could have provided more objective evidence regarding the similarities and differences of SDL and SCL.

The aim of this paper has been to provide a higher level of conceptual clarity of the possible meanings of two important terms in the field of education, for the terms to be operationalised more effectively by educational stakeholders and as part of the continuing discourse in education (e.g., in educational policy documents and as part of teacher education). Moreover, research on either or both concepts is likely to be much more valid and reliable if there is a clear understanding of what the terms mean. Clearly, the wide-ranging nature of the term SCL means that it may not be possible to present a simple, one-size-fits-all definition, as interpretations will be different in different contexts. However, what is most crucial is that we are as clear as possible about what we mean when we mention terms like SDL or SCL; this will better place us to compare and evaluate learning processes and practices.

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