Definitions and Goals of “Self-directed Learning” in Contemporary Medical Education Literature
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Abstract

Introduction: Self-directed learning (SDL) has been an essential issue in medical education due to the expansion of knowledge, accessibility to information and greater emphasis on reflection. If SDL in educational research lacks a clear definition, terminological confusion may hinder the application of the results to practice. The aim of this study was to review and categorise the various forms of SDL described in the contemporary literature. Methods: A search of Medline was conducted using the key word “self-directed learning”. Articles published between 2000 and 2004 were extracted. Review articles, letters and articles from health profession education other than medical education, were excluded. Sixty-three articles were analysed in 2 stages: first, whether the definition of SDL is explicitly described was investigated and next, contents in the articles on SDL were qualitatively analysed using a framework approach. The concept of a compassionate-empathic physician, as developed by Carmel and Glick (1996), was used as the framework. Results: Only 5 articles (8.0%) had an explicit and concrete definition of SDL. Content analysis showed that 26 (50.0%) of the 52 articles dealt with SDL only in the scientific-technical dimension, 3 (5.8%) dealt with that only in the socio-emotional dimension and 23 (44.2%) did so in both dimensions. Conclusion: Although many researchers use the term “self-directed learning”, only a few clearly defined it to avoid semantic confusion. Scientific-technical goals tended to be discussed more frequently in SDL. From a patient-centred viewpoint, socio-emotional goals should be stressed more.


Key words: Categorisation, Patient-centred, Socio-emotional, Terminology

Introduction

Self-directed learning (SDL) has been one of the predominant issues in the study and practice of medical education in the last 4 decades. The impetus for the growing trend of SDL, in undergraduate as well as postgraduate education, results from the rapid advancement of science.1 In this educational trend, the term “self-directed learning” is often used along with a variety of educational concepts such as lifelong learning, continuous medical education, active/independent learning, student-centred education, etc.

The history of SDL can be said to date back to the ancient Greek philosophers.2 Studies on SDL have developed along 2 pathways, SDL as a goal and SDL as a method with several theoretical approaches.3,4 These pathways involve an understanding of the attributes associated with self-direction and an understanding of the process of self-direction. The term “self-direction” or “self-directedness” has also been discussed—Candy5 described self-directedness in SDL in 4 dimensions, involving personal autonomy, self-management, learner control and the independent pursuit of learning. He also extracted approximately 100 traits associated with self-direction in the literature review.4 Because of its diversity, SDL can cause conflict in the case of curricular innovation.6 In a situation where the concepts of SDL are fuzzy, it is very important to explicitly state its definition in each study in order to avoid misinterpretation of SDL. The aim of this study was to review and categorise the various forms of SDL described in recent published articles.

Methods

A Medline search was conducted in February 2005 using
the key word “self-directed learning”. The search was limited to articles published between 2000 and 2004 as the authors’ intention was to focus on the most recent trend in using an educational concept of SDL in medical education. Exclusion criteria were: (1) review articles, (2) letters, (3) articles referring to health profession education other than medical education, and (4) articles written in languages other than English. Extracted articles mainly involve the following themes: the introduction of new programmes or training methods, programme or instrument evaluation, the development of evaluation tools and the discussion of educational goals such as professionalism or SDL itself.

Sixty-three articles were collected and analysed in 2 stages. Firstly, definitive description was reviewed, focusing only on its explicitly, disregarding the adequacy of the definition. The first author was responsible for checking each article twice at a 5-month interval to increase trustworthiness. Secondly, contents on the articles on SDL were qualitatively analysed using a framework approach. The concept of patient care developed by Carmel and Glick was used as the framework. Their concept derives from the multidimensional clinical paradigm advocated by Engel. To confirm the reliability of categorisation, the first and third authors independently classified 5 randomly selected articles after they had agreed upon the grand rule for categorisation. Both authors resulted in achieving the same categorisation for all.

Results

Thirty-five articles (55.6%) discussed SDL for undergraduate students, while 25 articles (39.6%) for postgraduates or practitioners as learners. The remaining 3 articles on SDL dealt with postgraduates and undergraduates, postgraduates and practitioners, and faculty. Only 5 articles (8.0%) clearly stated the definition of SDL, where the authors used phrases such as “SDL is described/defined here...” and “SDL is (maybe) ...” (Table 1). What are the descriptions of SDL the authors provided in these 5 articles? Schmidt focused on learning activities. Shannon concentrated on personal aspects involving “autonomy” and “self-management.” As opposed to their explicit definitions, there was implicitness in the meaning of the word “self” involved in Gillespie’s description of “SDL is maybe self-learning ...” and the word “independent” involved in Rahman et al’s description of “SDL i.e., independent study”. These resulted in some semantic ambiguity, yet these were categorised as “clearly defined” because readers are able to identify how vague it is. Although “independent” in “independent study” explained by Ozuah et al also included ambiguity, he defined SDL by the quantitative method of “time per week.” Thus, explicit definition of SDL seems very difficult and only a few met this loose criterion.

In the other 56 articles (92.0%), explicit definitions such as those mentioned above were not found. Among these, 5 articles described some aspects of SDL, of which 3 articles described the components involved in SDL. Sanson-Fisher et al described a component of SDL in terms of the setting of undergraduate learning goals. Beckman et al presented peer-review items related to SDL by asking whether physicians as teachers encouraged the learners to pursue literature, motivated them to learn on their own, and encouraged them to do outside reading. Deans et also described questionnaire items on SDL where postgraduate learners were asked to try to evaluate their own performances and identify their learning needs. In the other 2 articles, the authors followed the General Medical Council description, but the description itself was not clear.

During the above investigation of definition, it was noticed that 52 articles explained the goals of SDL specifically and concretely, and content analysis was performed for these articles. Since patient-centredness has been advocated in clinical medicine, many undergraduate and postgraduate curricula have incorporated this concept. The biopsychosocial model is emphasised in these circumstances. Therefore, the contents of SDL were analysed using a framework that is based on this model. The biopsychosocial model in clinical medicine, originally advocated by Engel in 1977 as opposed to the biological model, is an approach to a patient’s psychological and social factors as well as his/her biochemical factors. Articles including the goals of SDL for biomedical knowledge and skills were categorised in the scientific-technical dimension of patient care. Articles including the goals for patient-physician relationship/communication or ethics were categorised in the socioemotional dimension. Twenty-six articles (50.0%) described the goal(s) of SDL only in the scientific-technical

Table 1. Definition of Self-directed Learning in 63 Articles

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<th>Explicit description of definition in 5 articles (8.0%):</th>
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<td>• “as the preparedness of a student to engage in learning activities defined by himself rather than a teacher”</td>
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<tr>
<td>• “an independent pursuit that involves a philosophy of personal autonomy and self-management” (Candy 1991)</td>
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<tr>
<td>• “self-learning with searching skills”</td>
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<tr>
<td>• “i.e., independent study”</td>
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<tr>
<td>• “operationally defined as the average time per week spent for independent study”</td>
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in 1961. Since then personal elements and assessment of SDL involves the categorical analysis of interviews with 22 adult learners. This tendency is historically understandable, because the first study of SDL involved the learner’s own characteristics. This demand would lead to the definition of SDL will not be demanded. SDL in the scientific-technical dimension was found in a total of 49 articles (94.2%), while that in the socio-emotional dimension was found in 26 articles (50.0%). SDL used in the scientific-technical dimension was for the purpose of acquiring scientific knowledge or medical examination skills, or developing resource access or information searching. SDL used in the socio-emotional dimension, on the other hand, was for developing patient-physician communication skills, or fostering ethical or altruistic attitudes.

**Discussion**

SDL, an interesting issue and an educational innovation in medicine, was explicitly defined in only a few articles published in the last 4 years. This is a matter of concern for effective communication with regard to SDL among medical educators/teachers who need global information exchange.

Why is SDL defined so scarcely? There are 3 possible reasons. Firstly, medical educators might simply believe in presenting a concept without necessarily referring to educational theories. SDL has been studied with different approaches, including cognitive/constructivist, social learning, and humanist approaches. The importance of individual experiences, the relationship between social/environmental aspects and individual learning, the degree of transfer occurring among different areas of learning, and views of human nature itself are all related to different perspectives of SDL. This conceptual difference may result in diverse views of SDL. It is, therefore, important to pay attention to the theoretical background in order to discuss SDL effectively, and to understand others’ differences or sameness of views.

Secondly, researchers may regard SDL as simple skills, e.g., learning skills, data searching skills, critical appraisal skills, or knowledge application skills of evidence to the real setting. Such views of SDL as a series of skills imply that the objectives for SDL will be more concrete if SDL is divided into such tasks of skills. If the objectives are not so concrete, learners would find it difficult to achieve them, especially when they have to learn for themselves. In that condition, further definition of SDL will not be demanded.

Thirdly, SDL is sometimes viewed as an attribute of the learner’s own characteristics. This tendency is historically understandable, because the first study of SDL involved the categorical analysis of interviews with 22 adult learners in 1961. Since then personal elements and assessment tools have been developed, including the frequently used Self-Directed Learning Readiness Scale (SDLRS).

Viewing SDL from only personal attributes or characteristics might cause the social/environmental aspects of SDL to be overlooked.

From the viewpoint of physicians’ behaviour for patient welfare, 2 crucial dimensions, scientific-technical and socio-emotional, are emphasised. Using this concept as a categorical framework, about half of published articles specified SDL only for the scientific-technical dimension, while less than 10% did so only for the socio-emotional dimension. One possible reason is that educators have a clearer idea of how to promote SDL in the scientific-technical dimension than SDL in the socio-emotional dimension. If patient-centredness and patient welfare in medicine are considered, it is natural to think that goals of SDL in the socio-emotional aspect of patient care should be stressed more. From the characteristics of SDL, however, learners may find it difficult to set their own goals, to decide what and how to learn, and to assess the advancement. These are important issues to be studied at the present time when empathy and humanities in doctoring as well as patients’ perspectives on their own illnesses are emphasised in medical education.

Then, is it possible to use the strategy of SDL for socio-emotional aspect? We believe the answer is yes. For example, reading, one of the main strategies of self-study, could be used for SDL in this aspect. Uses of reading and/or writing literary works to educate humanities in under/postgraduate curricula have been reported. Two studies presented the evidences of short-term effects of literary reading in clerkship programmes on educating importance of patients’ perspectives. The most difficult point may be for medical educators/teachers to realise how students are learning the socio-emotional aspect by various strategies other than reading and writing over a long period.

This study has several limitations. The only database used for the present study was Medline, and other sources of information would have altered the statistics obtained in this study. Historical papers, not the ones reviewed, might have different perspectives. Other approaches for content analysis would have suggested different views of SDL.

**Conclusions**

Two conclusions emerged from the present study. Firstly, the term SDL should be clearly defined to avoid semantic confusion and professional miscommunication. A clearer definition would lead to effective interactions among global medical educators, and their better understanding of SDL. This also suggests that interest in theories or theoretical models on SDL ought to be included among medical educators. Secondly, SDL focusing more on the socio-emotional aspect is an important issue in the study and practices of medical education.
REFERENCES


