

Self-Directed Learning, its Implementation, and Challenges: A Review

Aashma Dahal,¹ Neeti Bhat,²

¹Department of Public Health and Community Medicine, Madan Bhandari Academy of Health Sciences, Nepal;

²Research Institute for Collaborative Development, Kathmandu, Nepal.

ABSTRACT

This narrative review discusses self-directed learning, its implementation, and the roles of various bodies, a guiding framework, and challenges to implementing it. It's an educational method in which learners plan, implement, and assess their learning, align with those of 21st-century education. By becoming self-directed learners, individuals gain critical thinking skills, digital tool proficiency, and the ability to retrieve information efficiently, employ appropriate learning methods by developing a strategic approach to learning, and extend learning beyond the classroom. It nurtures a growth and lifelong learning mindset necessary to succeed in a rapidly changing world. Furthermore, it can be a powerful and effective tool for navigating the ever-demanding field challenges of the healthcare profession. Although accrediting standards worldwide have acknowledged their significance, many institutions do not adopt them due to a need for a change in mindset from traditional approaches. Students and educators accustomed to teacher-led methods may struggle with it. It can, however, be easily embraced and implemented by educators and students with deliberate planning and targeted training by institutions. An integrated approach is necessary to successfully integrate self-directed into healthcare education. Students' readiness should be assessed, their roles understood, and digital literacy encouraged.

Keywords: Learning readiness; medical education; self-directed learning; student-centered learning

INTRODUCTION

With technological advancements and globalization, soft skills have become the tenets of the 21st century, which represent a reinterpretation of

learning (SDL) is principally a pedagogical method, focused on the actions of planning, implementing, and evaluating learning by the learners themselves.²

SDL addresses each of the domains identified by Binkley et al. A major aspect of SDL is its ability to foster critical thinking and problem-solving abilities, which fall under the category of "ways of thinking." Furthermore, SDL helps learners to make use of digital and tangible tools, which fall under "tools of working." In the context of "the ways of working", SDL includes the various methods and approaches learners use to learn

Correspondence

Dr. Neeti Bhat
Email: neetibhatbkt@gmail.com

Citation

Dahal A, Bhat N. Self-Directed Learning, its Implementation, and Challenges: A Review. *Nepal J Health Sci.* 2023 Jul-Dec; 3(1): 102-115.



traditionally understood professional skills. It incorporates four domains of 21st-century skills developed by Binkley et al.¹ Self-directed

effectively and independently. As part of the domain "living in the world", SDL encourages students to expand their learning beyond the classroom into real-world contexts. In health profession practice, SDL promotes the students' freedom to explore knowledge with autonomy, allows flexibility in learning, and develops self-discipline.³ All of these soft skills are essential to build a strong professional life by motivating students to be lifelong learners rather than merely improving grades or scores.

If we see global practices, accrediting standards have adopted SDL.^{4,5} Despite limited institutional support, medical students have adopted self-directed learning largely on their own but may have been hindered by the lack of a structured framework. As we recognize the importance of developing lifelong learners with a growth mindset, we are dedicated to sharing our perspectives on how SDL can enhance health professionals' education. This article provides an overview of SDL, its implementation, the role of stakeholders, the guiding map, and the possible challenges in its incorporation.

Overview of Self-Directed Learning:

Self-directedness or learner self-direction, refers to an individual's internal learning and growth process as well as the external influences experienced through instruction.² The teacher tends to be a facilitator of the learning process

while utilizing engaging techniques that harness the innate capabilities of the student's creativity. Practically, self-directed learning implies a shift of responsibility for learning planning from the educator to the learner, with the learner controlling the learning process.⁶ Among 17 countries, Guglielmino et al.⁷ conducted a study to measure self-directed learning levels. Economic development, productivity, and individualism all seem to be positively related to SDL. Conversely, they show a significant negative correlation between SDL and a concept called "power distance."

The power distance defines how a society views hierarchy and authority. A high power distance culture accepts unequal power and defers to authority. There is a greater level of equal participation and equality in decision-making in low power distance cultures. Self-directed learning is more prevalent in cultures with lower power distances, according to the study. A study by Karats et al.⁸ found that SDL skills are associated with 21st-century skills in a positive and statistically significant manner.

Furthermore, 21st-century skills were highly predicted by SDL skills. It was determined that a high school graduate who graduated in the late 1940s had 75 percent of the knowledge required for employment for a lifetime after graduation. Five decades later, however, that figure had fallen to just 2 percent.⁹ A successful career today isn't

solely determined by childhood and college education so it is imperative to develop lifelong learning skills. Learning is a continuous lifelong progression and it is intensively self-directed.¹⁰ Promotion of self-directed learning within our educational setting can contribute to the development of crucial cognitive skills such as critical thinking and creative thinking.¹¹

According to Merriam et al.¹², SDL has three main goals:

1. Enhance learners' self-determination to succeed in their studies.
2. To promote transformational learning.
3. Empowering learners with social action and emancipatory learning

Our narration on self-directed learning is inspired in part by such studies, which highlight how important it is to introduce self-directed learning into education. We develop critical thinking and problem-solving abilities when we cultivate a self-directed learning culture and embrace lifelong learning as a practice. Self-directed learning impacts not only individuals but also society as a whole. It is indeed disheartening to see how many countries, including Nepal, are hesitant to adopt self-directed learning policies.

As Nepal strives towards becoming a prosperous nation, it should not delay implementing such practices. As part of its newly adopted

competency-based learning approach, neighboring India already integrated self-directed learning into its curriculum.¹³ Self-directed learning is increasingly recognized in Nepal, but students and educators still struggle to define it and appreciate its importance. This challenge is compounded by the perception among educators that they have no role to play in facilitating self-directed learning.

Theory Underlying Self-Directed Learning:

The concept of self-directed learning dates back to the mid-1800s and has been a topic of interest for educators for around 50 years. The concept focuses on adult education and draws some concepts from experiential learning and also has an added psychological component to it.

Which provide insights into the key dimensions of self-directed learning; self-regulation, motivation, awareness, and self-discipline.¹⁴

The theory of self-directed learning is developed from active learning theory. Michael Prince explains, “Active learning is any method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing”. This process is widely known as metacognition. This self-awareness of what they are learning motivates students to find new and better methods of learning eventually. In Self-directed learning, the individual student is

primarily responsible for his or her learning process though the instructional process also plays its part in the experience of learning.¹⁵

It is a process of learning where the intrinsic factors of the learners play a vital role. These internal characteristics of the learner include self-discipline, a love of reading, and curiosity.¹⁶ Additionally, the successful ability to set learning objectives, create a learning plan, and develop motivational techniques are needed for individuals to get maximum benefits from SDL.¹⁷

The traditional curriculum mainly emphasizes the acquisition of knowledge rather than skills and attitude which greatly limits the learner's application of what is known. This not only leads to a mediocre healthcare system but also confines the applicability of a curriculum. Hence, a systematic approach to supporting and facilitating self-directed learning has the potential for transformation of the health systems and health professions at large. Hence, recognizing the potential to nurture lifelong learners with a growth mindset should be the target of our new curriculums to be competent globally.

Therefore, in an interconnected global community undergraduates' medical curriculum should be restructured to contribute to the medical mission with a global outlook and local implementation.¹⁸

Self-Directed Learning Readiness

In traditional educational practice, the students often become comfortable with the dominant instructional method which is teacher-directed or teacher-dependent learning. In such practice, the teacher takes center stage dominating how the students think, perceive, and act. This practice cannot set them up for future challenges and might end up causing a lack of motivation in changing environments. However, not every student is aware and feels ready for self-directed learning. Hence, it is required that teachers should assess the readiness of students before assigning projects for self-directed learning. Educators must understand readiness. Students need to be prepared for self-directed learning (SDL) because it determines their willingness and readiness to take a more autonomous role in the learning process.

Assessing readiness is essential for educators to ensure that students are adequately prepared for self-directed learning.¹⁹ There are various self-directed learning readiness (SLDR) scales to determine learning readiness. These scales can be useful for determining 21st Century Skills and Competencies Self-Directed Learning Skills, Metacognitive Awareness, and Readiness online. All of these can be measured all at once using appropriate tools²⁰

One such popular scale was devised by Fisher et al.²¹ which comprise a 40-item questionnaire and

5 points Likert scale. Higher scales in this tool signify a high level of readiness.

Student's Role in SDL

For students to grow professionally and personally, they need to engage in self-directed learning (SDL). Students need to understand that SDL aims to equip them with knowledge and skills that can be applied in their workplaces and throughout their lives to increase their productivity and effectiveness. The SDL provides them with the autonomy to drive their learning journeys, which is essential for their success. Getting motivated is the first step in learning. A student who cultivates a habit of self-directed learning due to internal motivation will set themselves on an upward trajectory of personal and professional growth. The incorporation of SDL into the educational experience empowers students to take ownership of their learning, make informed decisions, and acquire knowledge and skills that are relevant to their goals.

Self-directed learning is the process of identifying the needs, planning learning tools, finding appropriate resources, setting goals implementing the right strategies, and finally evaluating learning outcomes by the learners on their own.²² Here, the learner or the student is more active in knowledge construction while the facilitator takes a back seat and allows the learner to make their own decisions. These proactive learners have

comparatively more motivation than their counterparts and this leads to wider application of their knowledge. Thus, the students need to select, monitor, and evaluate the subject, the depth, and the way of learning they need by themselves.²³

Educator's Role in SDL:

The perception among educators is that Self-Directed Learning (SDL) implies that teachers don't play a role in teaching, but this is far from the truth. SDL represents a fundamental shift in a teacher's mindset and approach to teaching. Teachers typically prepare slides for classes, deliver lectures, and design assessments in traditional teaching. Teachers in SDL, however, must be prepared to take on a multifaceted role that extends beyond traditional teaching. They need to step into the shoes of mentors, advisors, assessors, refiners, evaluators, guides, resource developers, information providers, and planners. To facilitate and support students' learning journeys, educators need to engage more actively in facilitation and support, offering resources and guidance to foster growth and development while empowering learners to take charge of their education. A teacher must be available to help a learner when they request it.²⁴

Having students read a chapter in the library or classroom does not mean SDL. Learners take the initiative in SDL and determine the direction of their learning. So that students enjoy the learning

process and move towards deep learning, educators should gradually guide them toward shifting to independent learning. To become a strong self-directed learner, the learner must engage with the learning tasks and assume personal responsibility for the management of the learning process (self-management), find meaning in, and be reflective of, the learning process (self-monitoring), and foster the motivation to initiate, progress on, and complete the task and meet the learning outcomes.²⁵

Student's abilities, attitudes, and personality traits have shown a correlation with their readiness for self-directed learning and these traits can be improved through experience and practice. An educator has to cultivate these traits among their students through interpersonal interaction and motivation.²¹ As studies have shown that students identify difficulty in understanding as their biggest learning problem, it is important to teach students how to direct their learning by teaching them learning strategies for remembering, explaining, and controlling.²⁶ Additionally, critical thinking is another skill where students require guidance and facilitation from teachers. Hence, educators' motivation, facilitation strategies, resources, and experience help to transform students into self-directed learners. Students who are self-directed learners do not mean that teachers are not taking their responsibilities as teachers seriously, but rather

that policies and actions are aimed at meeting their needs.^{12,27}

Self-Directed Learning in the Age of Digitalization:

The millennium students need good acquaintances with digital technology to learn more and shape their careers better than the previous generations. Today's learning environments are beyond the walls of classrooms. This new generation has plenty of resources available to them apart from teacher's resources. They have to learn to navigate those resources and choose the best for accurate information and proper learning. In a survey involving 13,099 US medical students, the percentage of second-year medical students reported that they "rarely" attend lectures in person. And this number continued to increase, from 26.3% to 37.0% between 2018 and 2020.³ This explicitly implies that the preference of students towards these online-based platforms is increasing and that modern curricula must address this paradigm shift.

Technological advancements like smartphones make connections and social interaction easy which makes networking offline viable.²⁸ learning without a teacher. Peers and learning groups can be formed online with learners sharing common interests which opens new possibilities for group practice and gives space for new ideas and knowledge sharing.

Hence, imparting digital literacy is important for students to help them retrieve, manage, integrate, critically analyze, and evaluate information, and create meaning with knowledge in hand.²⁹ Digital literacy not only fosters self-directed learning but also equips them with the latest technology to perform tasks with better productivity.

Institution's Role in SDL

Institutions of learning have a huge responsibility to familiarize themselves with their students because of their diverse backgrounds. As Merriam et al.¹² argue, the structure and institution of society can influence individuals' learning transactions. In a similar vein, Ellinger et al.³⁰ found that an environment that promotes learning can enhance individual performance. Thus, institutions must create and promote conducive, positive, and empowering learning environments. In this way, students' academic success would be greatly enhanced.³¹

A conducive learning environment is created by developing faculty for SDL, making sure resources are available, integrating cognitive and affective assessment strategies, and harnessing the power of technology to enhance SDL.³

Institutions play a crucial role in nurturing an environment in which self-directed learning is encouraged. Self-directed, independent learning must be actively promoted by institutions. Learning environments must provide learners

with access to sufficient learning resources and flexible education opportunities that enable them to design their own educational experiences. Also, institutions should encourage faculty and mentors to shift from being mere knowledge diffusers to being active facilitators and guides, helping learners to set goals, identify resources, and provide guidance as needed, guiding them towards self-direction. Assuring competencies developed through independent study and exploration should be the institution's assessment method, aligned with the principles of self-directed learning.³²

Increasing teachers' awareness of their teaching process and training them to prepare learners to cope effectively with unfamiliar mathematical problems are goals to include in teacher training.

Assessment of SDL

Assessment strategies must be carefully designed to take into account the unique characteristics of self-directed learning. Self-assessment, reflecting on progress, and setting goals are key elements in encouraging learners to self-assess.¹³ Portfolios are used to track learners' projects, readings, and reflections throughout their educational journey.

Learning is applied to real-life problems through project-based assessments, which emphasize problem-solving and independent application. Assessments assess critical thinking skills and application skills through open-ended questions,

case studies, and adaptive assessments. Feedback is provided through formative assessments, goals are aligned through learning contracts, and final reflections claim the learning journey to have been successful.³³

Gerald Gerald Grow's Staged self-directed learning (SSDL) model:

This model assumes that self-direction is situational and progression can loop between stages. Various teaching strategies are suggested based on the learner's stage of self-direction. It has been summarized in Figure 1 by Anshu et al.³⁴

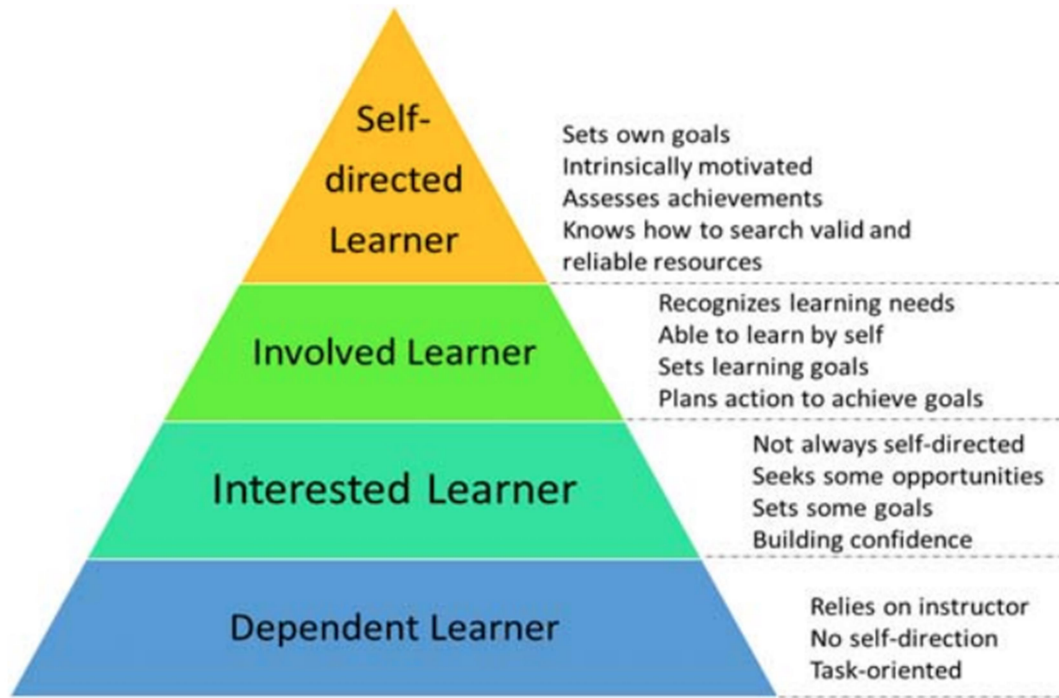


Figure 1: Stages of self-directed learner³⁴

Guiding Model of Self-Directed Learning:

Several foundational assumptions underlie self-directed learning. Adults are generally believed to be capable of taking responsibility for planning and executing their learning endeavors. Accordingly, adults are considered to have self-directed skills and beliefs as well as fulfilling adult societal roles. The majority of adults in formal education, however, expect the teacher to impart knowledge to students passively. It is common for individuals to encounter many challenges along the way when they engage

in self-directed learning without the assistance of a structured model or plan. To ease the facilitation of learners for SDL, the four-phase model can be adopted and summarized in Figure 2:

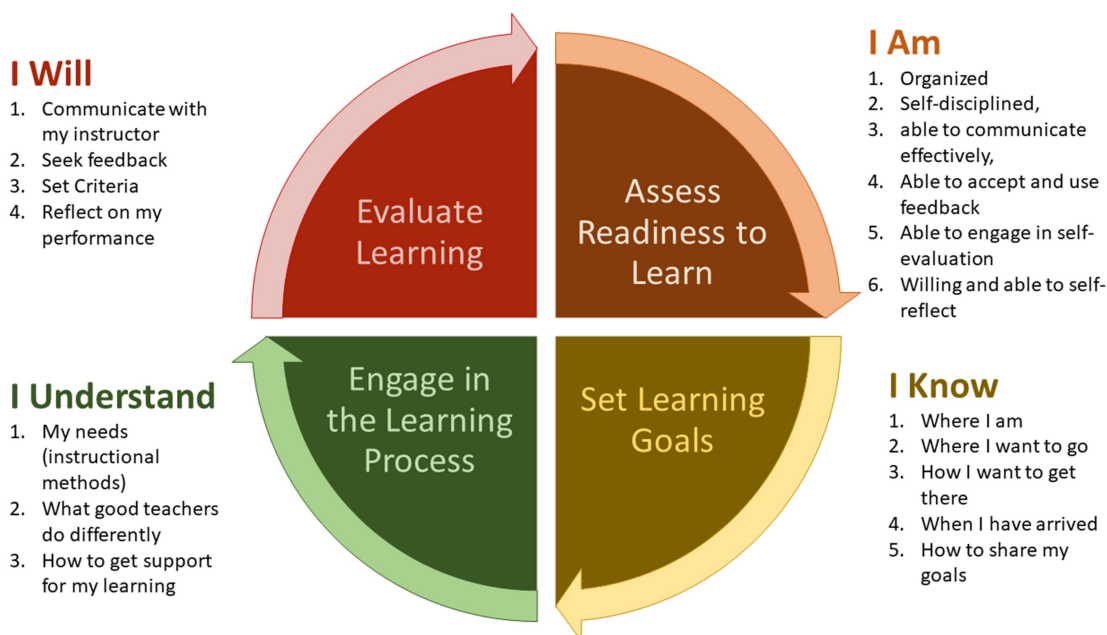


Figure 2: Framework of SDL³⁵

Implementation of Self-Directed Learning:

- **Develop vision:** To implement self-directed learning (SDL), university, college, and institutional leaders must have a vision. Leaders must be convinced of SDL's value and implications through data, literature, and proven outcomes. SDL can be made more relevant in the contemporary educational landscape by highlighting global educational trends.
- **Develop a pilot program for SDL implementation** within a specific department or course. During these pilot phases, collect feedback and data to demonstrate its effectiveness.
- **Professional Development:** Provides educators with opportunities to acquire and enhance skills in SDL facilitation.
- The curriculum should incorporate policies that foster self-directed learning by empowering students to take ownership of their educational experiences.
- The facilitators develop an action plan for integrating self-directed learning into the course. The action plan includes creating a conducive learning environment, incorporating flexibility in learning, and gathering necessary learning materials. The facilitators can step up as mentors,

advisors, motivators, and assessors for the learners.

- The learner assesses the readiness for self-directed learning. Deficiencies can be discussed and addressed with the facilitator.
- The learners need to be trained thoroughly in self-directed learning and its integration into their learning process. This includes time management, information retrieval literacy, digital literacy, resources, etc.
- The learner begins self-directed learning as discussed in the guiding model discussed above. Based on Knowles, the stages can be:
 - Establish learning goals
 - Locate and assess resources
 - Identify necessary steps. Choose learning strategies. Adopt and execute activities.
 - Monitoring of performance
 - Evaluating performance

Self Direction Learning and its adaptation into Health professionals' Education

In the field of healthcare, it's not just medical knowledge that matters. There are certain attributes attached to health professionals that can

be addressed by incorporating SDL. Medico-technological advances, along with new treatment modalities, constantly change the healthcare professions. Staying current and providing quality care to patients requires lifelong learning for professionals in these fields. The skills and motivation they gain from SDL empower them to take charge of their learning, adapt to change, and remain abreast with expanding information. As a valuable lifelong learning skill, self-directed learning can serve as the basis for a successful lifelong learning journey and career. Ways to incorporate SDL into health professions education are flipped classrooms, portfolios, problem-based learning, clinical observation, mind mapping, etc. To demonstrate how SDL can be planned, we have provided Table 1.

Challenges

Though SDL is highly viewed as a better teaching-learning approach and is proven effective in improving soft skills and creativity among students, SDL is still not widely accepted by all learners and professionals since it requires learners to shift from dependence to independence, and teachers to facilitate rather than dictate. For self-directed learning to yield the best learning outcomes age and study years are important determinants. Aged 20 to 21 for SDL were better than those aged 18 to 19 and aged 22 or above.³⁶ So, we encourage educators to adopt SDL during the freshmen year.

However, the challenges of SDL can be significant, especially in health professionals' education (HPE). The benefits of self-directed learning (SDL) are more enduring and broader than attending classes, but they require more time and effort on the part of students. Students often face overwhelming resources and materials they are expected to master in HPE, leading to time constraints and content overload. To meet academic requirements, students may rely on passive methods of learning. Students who have been accustomed to directed teaching may also have a hard time moving toward self-direction.

As learning takes place at a standard pace in traditional classrooms, students can't explore topics deeply or at their own pace. SDL, on the other hand, allows learners to take control of their education and delve deeply into subjects. Instead of determining how much students learn, credit hours determine how much time they spend. To address some of the challenges associated with SDL, students should be encouraged to develop effective study skills, be provided with guidance regarding resource selection, and become aware of the value of lifelong learning. Thus, the pressure to achieve good grades and progress through the educational system can overshadow the goal of becoming lifelong, efficient learners which is recommended to be effectively handled by educators and institutions.³⁷ Resistance is expected typically by facilitators used to

traditional ways of teaching. It is therefore essential to provide Faculty training to alleviate any concerns they may have about losing control or adopting new strategies.

In the process of curriculum development, independence, and resource limitations pose challenges for incorporating SDL. Students may see this practice as a burden rather than as a chance to experiment with the learning styles that are best suited to them.³⁸ Since learning and teaching methodologies are heavily influenced by culture, developing SDL as an approach to teaching and learning is difficult in low-resource settings and societies that consider teachers as information providers. Plus, in educational settings who exercises power over educational decisions plays a vital role in shifting the gear from educators to learners.¹⁵

Another major drawback of self-directed learning pointed out by many is its practice without appropriate validation.³⁹ If appropriately applied, the barriers of age and learning groups can be easily addressed. Self-directed learners can render an important contribution in augmenting different types of skills and abilities on one's own or through taking help from family and community members. The skills and abilities are put into operation to generate the desired outcomes. Furthermore, one will contribute efficiently to meeting the expectations of others.⁴⁰

In schools and workplaces accustomed to traditional teaching methods, educators not teaching in didactic classrooms may be considered not teaching true lessons, and students engaged in self-study may be considered inadequately educated. Education theories that don't prioritize learner independence, however, often fail to address the needs of diverse learners. We need creative and innovative thinkers in today's rapidly changing world. For institutions and educators to meet these evolving educational needs, a significant mindset shift is needed. To achieve this shift in attitude, educators must realize that education is no longer just about delivering information to passive learners, but about empowering students to develop their critical thinking skills, problem-solving abilities, and innovation abilities. One of the greatest challenges when it comes to implementing Self-Directed Learning (SDL) successfully is persuading educators with traditional teaching mindsets of the value and efficacy of this approach. In their educational communities, teachers who champion SDL must become advocates and change agents. The most effective way to address concerns and misconceptions is through collaboration, pilot programs, and open communication.

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Self-Directed Learning (SDL) emerges as an effective tool for institutions that recognize their role extends beyond providing good grades to helping their students become active, well-rounded members of society. In contrast to traditional teaching methods, which emphasize imparting knowledge, SDL encourages self-awareness and self-discovery. A key reason for SDL's effectiveness is this essential reflective component. The potential of SDL has been realized by many students and they have started engaging in it independently. It can, however, lead to suboptimal outcomes if this approach is not guided, unsupervised, and often unstructured.

When Self-Directed Learning (SDL) results in poor outcomes, students may revert to passive learning. Students may become frustrated or demotivated if they do not receive the support, guidance, and tangible benefits they expect from SDL. Although SDL is a highly effective educational approach, educators and institutions need to promote it as an educational approach, incorporate it into students' learning experiences, and evaluate its effectiveness. While addressing the factors necessary for SDL's success, guidance, resources, and structured opportunities are provided.

Conflict of interest: None

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