

Trends in Self Directed Learning: Constraints and Opportunities

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Abstract

Self-Directed Learning is the emerging trend in education. This study was based on the meta-analysis of self-directed learning. The purpose of the meta-analysis was to study the trends in recent years and to devise a tool for meta-analysis systematic review. Five years (2013-2018) were taken as sample period for the study. Analysis was made regarding effectiveness of the SDL, factors that contribute in adopting self directed approaches for development of learning domains and finally, the use of ICT as self-directed learning approaches. A largenumber of articles were available during this time period. Three dimension of SDL were focused. The variables were the SDL effectiveness, factors contributing to SDL and the use of ICT in self directed learning. PRISMA technique was utilized for this meta-analysis. In this study each aspect was reviewed using critical lenses on the basis of eight articles. The focus was on the title, objectives, methodology, variablesand its findings and recommendations. The study revealed that in last five years the research on self directed learning focused on the use of ICT and factors contributing self directed learning. Merging of self-directed learning techniques helps to improve the efficiency of learning in digital era.

Key Word: *Self Directed Learning, ICT, Effectiveness, Meta-analysis.*

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Introduction

Self-directed learning (SDL) is the student's centered learning concept. It is considered as complex in nature as involving learners in the self regulated learning process. Usually self-directed learning approach is attached with the adult's learning but literature showed its application in junior elementary level (Yang & Li, 2013). It is a helpful learning model for education that is required on demand for removing some deficiencies. Self – directed learning shift the concept of cognition to meta-cognition.

Although the concept of SDL originally emerged from the field of adult education, with particular relevance to workplace learning, students in secondary vocational education on demand (Slevin, &Lavery, 2014). In many programmes the use of self-directed learning showed high degree of confidence and student' self improvement on the part of the learners (Park, 2013). The integration of self-directed learning with routine learning programmes improves the student's ability to learn and increase it higher degree involvement in the process.

Self-directed learning is considered as emerging pedagogical approach where learner is responsible for his or her own learning (Torabia, Aslani, & Bahrami, 2013). Scholarly work produced on self-directed learning in multi dimensions. The purpose of this review is to explore and analyze trends in this learning strategy. In addition to this the study also aimed to explore the use of ICT's in self-directed learning.

Research Objectives

1. To explore trends in the self-directed learning.

Research Questions

The present review is guided by the following questions:

- What is the effectiveness of the self-directed learning in various fields of education?
- Which factors contribute towards self-directed learning?
- How ICT is utilized in the process of self-directed learning?

Methodology

Search Strategy

A strategy of selection and reviewing on the basis of self-made meta-analysis technique, DMA (Devise to Meta-Analyses) was used for this meta-analysis and review. Self-constructed review technique was used for review of articles. The initial search was done with the key word of 'self directed learning', plenty of articles were downloaded. The

electronic databases of Jstore, Eric and Tandfonlone were searched for articles. The downloaded articles were review. Main themes were identified.

The study was delimited on the bases of the time span. Time span was decided from 2013 to 2018 as to review the recent developments in the field. The second phase of sampling of research paper was based on the deriving the basic themes address in this time period. So, the three themes were identified. In the third stage articles were selected on the basis of these selected themes.

Inclusion and Exclusion Criteria

Time was the first factor used as inclusion and exclusion criteria. All researches from 2013 to 2018, five years, papers from three databases were selected for inclusion and exclusion. Articles title and abstract were reviewed for further selection and delimiting of the number of research articles. It was observed that three aspects were highly addressed during this time period. These aspects were effectiveness, factors contributing to self directed learning and use of ICT's.

Further selection was made on the basis of these three themes. The main focus on this stage was given to the nature of the study, field of inquiry and its findings. Articles were review for identifying factors reported in previous studies and its classification, the articles that reported its effectiveness in various situations. The articles included both empirical and qualitative researches.

Avoid Duplication

To avoid duplication, articles were reviewed that address on same variables. In numbers of articles self-directed learning was checked its effectiveness with cooperative learning environment so it was seen whether it revealed same findings or different. Same technology tools used in the articles were also avoided for duplication.

Data Extraction

The final numbers of articles were thorough reviewed and extract the relevant information. Year of publication, its major findings were extracted from these articles. This data was arranging in table form to make a concise picture of the details. Each table was further interpreted and analyzed.

Data Analysis

The data was analyzed on the basis of selected themes. The objectives, research question and the major findings were set as a criterion for data analysis.

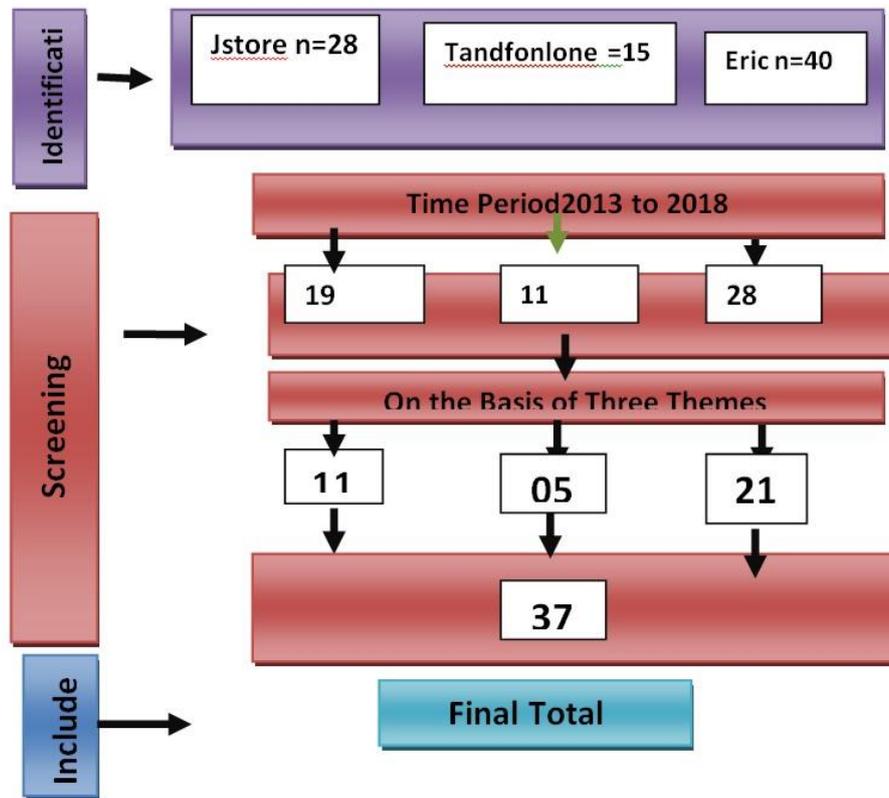


Figure 1 Papers Selection Criteria

Literature Review

Self Directed Learning is defined by different authors in their own way. According to Knowles (1975), SDL has can be better explained by its elements. He said that SDL is a process that is initiated by an individual. It is completed with or without the help of others. According to him the first step to SDL is identifying the need or deficient area that needs some solution through learning. Selection of ways how to reach or attain the set objectives. The appropriate strategies and the end point is the evaluation of the learning is considered the self-directed learning process. Self-directed skills not only limited to the field of education but also concerned with the other fields of work. Especially in relation with rapidly changing world (Levett-Jones, 2015).

Effectiveness of Self –Directed Learning

In 2013, Yang & Li, conducted a study to check the effectiveness of the SDL on the students ability to work on numbers. He utilized digital and non-digital two modules of Self directed learning to track the competencies in their Numbers concepts. It is found that involving in self directed practices enhance the numeral skills of the learners. The author also compare the effects of two modules and found that using the animation and digital technologies has better effect on students learning. Researches also support self directed learning in development of professional career competencies. One of the study reported the relation of self directed learning and the workplace abilities. According to this study self directed learning is the one way to improve job competencies (Guglielmino, 2013). It is also supported by the study conducted in the nursing profession by Alnasser in 2014. During his review study he found self directed learning is effective in nursing profession.

As in cooperative learning environment the students support each other and take responsibilities of the overall learning environment. One of the important finding of the study is that cooperative learning motivates learners to involve in self directed learning activities to support, prepare and assist their class members (Kyndt, et al., 2013). One of the researches conducting on the medical students, it was aimed to find out the effectiveness of self-directed learning with the traditional classroom lecture. It reported that however self-directed learning is effective learning strategy but also claimed that there are no additional benefits on part of it. It showed that it may be depends upon several factors and the results may be affected by those internal and external factors.

It allows students for their own learning, adopted their own learning styles students aware of self pacing and self initiative. It was also recommended by the research that it provided an opportunity to learn more and deeply because learners are involved to answer their own questions by their self (Punch, 2014). Self-directed learning serves two purposes in nursing education. One is work as a mean to make effective their knowledge, skills and attitude and on the other side it enables the learners to acquire independency of learning task completion. It also makes them self-accountable and responsible.

The positive effects were also seen in the informal learning environment. In formal learning approaches increasing attention was gained due to its openness. The self-directed learning is used verily in informal education. Self directed learning provided directions for informal learning (Jeon & Kim, 2013). The future of work depends on the skills of acquiring essential knowledge related to the field. Self directed learning build expertise on on-demand education (Mol & Dam, 2013).

Table1: Effectiveness of self-directed learning

Author, Year	Country	Nature of the Study	Research tool	Population
Yang , 2013	Taiwan	Experimental	Achievement Test	5 th Grade Students
Nasseri, 2014	Oman	Review Paper	Papers 1985-2009	Nursing Profession
Senyuva , 2017	Turkey	Qualitative	Interview	Nursing Students
Saeid, 2016	Iran	Co relational	Adopted scales	Bachelor degree students
Caruso, 2015	USA	Content Analysis	Research Papers	Employees

Table 1. Interpretation

Students get better performance in mathematics classrooms involved in self directed learning activities (Yang , 2013). Most of the studies reached to a conclusion that SDL is an effective approach for learning but not more than the traditional method of teaching. SDL found to facilitate the acquisition of skills, knowledge and problem solving skills effectively. Also, it is a satisfying approach and meets students' needs (Nasseri, 2014). In nursing education, SDL have a great influence on their professional skills (Senyuva , 2017). This research showed that there is a significant relationship between self-directed learning and academic self-efficacy and achievement (Saeid & Islaminejad, 2016). A review study reported the use of self directed learning professional career. Employees involved in self directed learning because of its increasing demand of the job environment (Caruso, 2015).

Various studies were shown its effectiveness in the fields of medical education, nursing education. Some of the studies also conducted on teachers and one study also has been done in museum guidance for museum visitors (Banz, 2014). In terms of effectiveness, researches showed diversification in the scope of the self-directed learning. As at graduate and post graduate level, in medicines, nursing and other professional development.

Factors contributing self-directed learning

The students readiness and the availability of technology are the factors that directed the self directed learning (Sumuer, 2018). Technology provided the ways to search and resolve their problems. Its decreases the learner's dependency on other person. Self directed learning influenced by several factors. These factors may be in internal and

external. any person can initiate as the self directed learner. The ability of self directed learning is based on several interrelated factors. These factors included motivation, experience, self efficacy, conscience and intelligence (Cazan and Schiopca, 2014)

According to the study the external factors is the learning environment and internal factors are readiness, motivation and self concept motivation. The external factors had dependency on the internal factors. The relation between internal factors and self directed learning is direct (Ramli, Muljono, & Afendi, 2018).

Nyambe et al., 2016 in their study said that the factors related motivation both internal and external have important role for self directed learning readiness of the students. He argued that the students who have good academic achievement it raises the motivation, besides this the interest of the student also direct the self directed learning of the students. One other study highlighted the factors of family, teachers, faculty facilities friends' support and the overall environment (Leatemia, 2016). It is reported that cooperative learning is produce better results in the self-directed learning process (Mentz & Zyl, 2018)

One of the study showed the relationship between self directed learning and meta cognition. The result of the study was that high meta cognition leads to high level of self directed learning activities. Meta cognition aware the learners what they know and what they do not know and also aware how they learn. Meta cognition make easy the task of self directed learning (Saks & eijen, 2014).

Table.2: Factors contributing to self directed learning

Author, Year	Country	Nature of the study	Research tool	Population
Cazan, 2014	Romania	Co relational	Rating scales	Undergraduate students
Nyambe, 2018	Indonesia	Census	Two Self developed Adopted	Medical students
Ceylaner, 2018	Turkey	Mixed Method Experimental & Interview	SDL Readiness	Vocational students
Sumuer, 2018	Turkey	Quantitative Survey	Questionnaire	College Students
Kosucu, 2017	Cyprus	Mixed Method Experimental & Interview	SDA Scale & Interview	Pre service teachers
Caruso, 2018	USA	Review	Research Papers	School

				Teachers
Senyuva, 2017	Turkey	Experimental	SDL scale	Nursing Students

One study investigated the factors of learners readiness and learning styles of the nursing education. The findings of the study showed that there is no relationship between the factors of readiness and learning styles and self directed learning approaches. They noted that tendind towards the self directed learning was due to the increasing level of complexities of the nursing profession for instance (El-Glinay&Abusaad, 2013). Self-directed learning is the external demand and pressure of the profession and learning task. External and internal factors jointly recorded as factors of self-directed learning Research found motivation, academic achievement, experiences and self-efficacy as factors that affect pace of self-directed learning. External and inter. Classrooms where advance modes practices, exhibits more open to self- directedness in learning. Flipped classrooms are more favorable to self-directed learning strategies (Kosucu, 2017). Empirical researches exhibit following factors dimensions.

Web 2.0 tools enhance and broaden the scope of self-directed learning. It makes easy the process. Creative dramatized activities improve pre service teachers' self-directed learning skills. Layered curriculum effect self directed learning on gaining pedagogical skills of pre-service teachers. According to these results; it could be suggested to integrate the web-based learning environments into education. Programs can be developed in order to develop the readiness of nursing students regarding self-directed learning.

ICT's in Self-Directed Learning

Information and communication affect every aspect of education. The trend of information and communication technology is fast growing phenomenon. Various studies showed its impact and relation with learning and learning strategies. Especially the trend of MOOC's highly adds in this process. Adults have in multiples responsibility and these responsibilities change over time. These varying role needs to involve learning experiences (Merriam & Bierma, 2014). The learners opt online courses. The research indicates different reasons variety of reasons. Through these courses' learners can direct their own learning. Online learning provides better opportunities to learn especially self-directed learning.

Table.3 Self directed learning and ICT

Author, Year	Country	Nature of the Study	Research Tool	Population
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Lai, 2015	Taiwan	Correlational	Questionnaire	283 Civil servants enrolled in an asynchronous prog.
Loizzo, 2018	USA	Ethnographic	Observation, Interview	12 adult Learners
Chan, 2018	Malaysia	Qualitative	Focused GrioupDicussion	20 students of digital animitation programme
Caruso, 2018	USA	Review	Content Analysis	Research Papers
Lai, 2017	Hong Kong, USA	Evaluative	Questionnaire	Undergraduate students
Sert, 2017	Turkey	Survey	Questionnaire	145 students of grades 5 to 8

In the above table the data showed the studies that concerned with the use of ICT in self directed learning. Varying nature of researches from pure quantitative to qualitative observed the two variables i.e ICT and SDL. ICT based studies were most recent and based on last one- or two-years' time span. Group discussion, face to face meeting and observation were used to analyze the use of ICT in self directed learning. As the first study Lai (2016), was conducted to find out the effectiveness of online learning in self directed learning. The 283 civil servants survey identified the dependence of self-directed learning and online learning opportunities.

One of the studies showed the use of online learning for self-directed learning. It is also found online videos for learning are proved for digital and critical learning skills. It may help to increase to increase the capabilities and maximize the potential to engage learners (May-Chan & Ah-Choo, 2018). Technology promotes willingness, efficiency and guided learning behavior in language learning. It also depends on the selection of appropriate technology relevant to that skill and knowledge needed to improve (Laia, Shuma, & Tianb, 2016).

Discussion

The study was based on meta-analysis of Self-Directed Learning. The review findings regarding the effectiveness of the self-directed learning, factors contributing self directed learning and the use of ICT's in the field, reported in other studies. This was an overview

of the self-directed learning activities. It was explored that the current studies on self directed learning works in different dimensions.

The findings of the study indicate the significant work has been done in self directed learning. Factors associated with the self-directed learning are reported by the studies were readiness on the part of the learners(Lindell& Perry, 2012).These factors also divide in internal and external factors. Internal factors are lies on the part of the learner. External are environmental that accelerate the self-directed learning pace (Oz, 2014). One of the studies conducted on the nursing education that the increasing jobs requirement as knowledge and skills were also identified as a factor of self-directed learning.

The other aspect of the paper was the use of ICT in self directed learning. Technology is the better and widely used in self directed learning. It is especially significant with the starting of open education. One of the studies conducted to measure the differences in learning in self-directed learning using technology and without technology. It's reported the difference and recommends technology in self-directed learning. More use of technology supported teach (Lee, 2014). The studies found that information and technology usage is the current trend in self-directed learning by emerging various online courses providers and technology awareness. It is the array of open education. The MOOC courses are best utilized the open education objectives. These innovations are available for self-directed learning.

If we look at the table it's showed that in earlier years in the field of information technology overall address and its use. By in more recent years the trend of MOOC is emerged and use in different profession. Researchers showed with experimental studies that in self-directed learning with the technology is widely used and accepted. One of the reasons behind that it is the decreasing the dependency on others.

Conclusion

This study was aimed to explore the self-directed learning in the light of the previous researches. The main findings of the study revealed the effectiveness of the self-directed learning, factors contributing to self directed learning and the use of ICT's. Further each aspect was analyzed separately.

In reviewing of effectiveness, teacher education, medical education, nursing education and job-oriented skills were mostly benefited from self directed learning model. The evidence from the studies revealed that mostly learners enrolled in these self-directed learning programmes because of its knowledge demand.

References

- Alnasseri, Y. (2014). The Effectiveness of Self-Directed Learning on the Professional Development of Pre-Registration Nursing Students: A systematic Review of Literature. *Journal of Kufa for Nursing Science*, 4(1).

- Banz, R. (2014). Self-Directed Learning: Implications for Museums. *The Journal of Museum Education*, 33(1), 43-54.
- Baylor, A. L. (2002). Expanding Preservice Teachers' Metacognitive Awareness of Instructional Planning through Pedagogical Agents. *ETR&D*, 50(00), 5-22.
- Caruso, S. J. (2018). Toward Understanding the Role of Web 2.0 Technology in Self-Directed Learning and Job Performance. *Contemporary Issues in Education Research (CIER)*, 11(3), 89-98. <https://doi.org/10.19030/cier.v11i3.10180>
- Cazan, A. M., & Schiopca, B.A. (2014). Self-directed learning, personality traits and academic achievement. *Social and Behavioral Sciences*, 127(00): 640-644.
- Ceylaner, G., & Karakuş, F. (2018). Effects of the Flipped Classroom Model on Students' Self-Directed Learning Readiness and Attitude Towards the English course. *English Language Teaching*. 11(9), 129-143.
- Chan, M., & Choo, A. (2018). Online Video for Self-Directed Learning in Digital Animation. *The Turkish Online Journal of Educational Technology*. 17(3), 91-103.
- Dinsmore, D.L., Alexander, P.A. (2013). Focusing the conceptual lens on meta-cognition, self-regulation and self-regulated learning, *Educational Psychology Review*, 20(00), 391-409.
- El-Glinay, A-H., & Abusaad, F. E. (2013). Self-directed learning readiness and learning styles among Saudi undergraduate nursing students. *Nurse Education Today*, 33(00), 1040-1044.
- Gencil, E., & Saracaloğlu, S. (2018). The Effect of Layered Curriculum on Reflective Thinking and on Self-Directed Learning Readiness of Prospective Teachers. *International Journal of Progressive Education*. 14(1), 8-20.
- Guglielmino, L. M. (2013). The case for promoting self-directed learning in formal education institutions. *SA-eDUC Journal*, 10(2), 1-18.
- Jeon, K. S., & Kim, K-N. (2013). How do organizational and task factors influence informal learning in the workplace? *Human Resource Development International*, 15(2), 209-226.
- Kyndt, E., Raes, E., Lismont, B., Timmers, F., Cascallar, E., & Dochy, F. (2013). A meta-analysis of the effects of face-to-face cooperative learning. Do recent studies falsify or verify earlier findings? *Educational Research Review*, 10(0), 133-149.

- Dochy, F. (2013). A meta-analysis of the effect of face-to-face cooperative learning: Do recent studies falsify or verify earlier findings? *Education Research Review*, 10(00), 133–149.
- Kosucu, E. & Hursen, C. (2017). The effect of creative drama activities on candidate teachers' self-directed skills. *Cypriot Journal of Educational Science*. 12(3), 148-156.
- Lai, C., Shum, M., & Tian, Y. (2016). Enhancing learners' self-directed use of technology for language learning: the effectiveness of an online training platform. *Computer Assisted Language Learning*, 29(1), 40-60, DOI: 10.1080/09588221.2014.889714
- Leatemia, L.D., A.P. Susilo & H. Berkel, (2016). Self-directed learning readiness of Asian students: Student perspective on a hybrid problem-based learning curriculum. *International Journal of Medical Education*, 7, 385-392.
- Levett-Jones, T.L., 2015. Self-directed learning implications and limitations for undergraduatenuising education. *Nurse Education Today*, 25(5): 363-368.
- Lindell, M. K., & Perry, R. W. (2013). The Protective Action Decision Model: Theoretical Modifications and Additional Evidence. *Risk Analysis*, 32(4), 616-632.
- May-Chan, Y., & Ah-Choo, K. (2018). Online Video for Self-Directed Learning in Digital Animation. *The Turkish Online Journal of Educational Technology*, 17(3). 91-103.
- Mentz, E., & Zyl, V. (2018). The impact of cooperative learning on self-directed learning abilities in the computer applications technology class. *International Journal of Lifelong Education*, 37(4), 482-498.
- Mol, C., & van Dam, N. (2013). Turn education into a lifelong education. *Chief Learning Officer*, 12(8), 58.
- Nyambe, H., Harsono and G.R. Rahay.(2016). Factors influence self-directed learning readiness of first, second and third years students at medical faculty of Hasanuddin University in PBL. *Indonesian Journal of Medical Education*, 5(5), 67-77.
- Oz, H. (2014). Pre-Service English Teachers' Perceptions of Web-Based Assessment in A Pedagogical Content Knowledge Course. *Procedia - Social and Behavioral Sciences*, 141(00), 45 – 58.

Park, H. (2013). Effect of self-directed learning readiness by learner's interaction on social network games.

Journal of Cases on Information, 15(13).

Punch, K. (2006) *Self Directed Learning and learning. Sage Publication Ltd: Los Angeles.*

Ramli, N., Muljono, P., & Afendi, M. (2018). External Factors, Internal Factors and Self-Directed Learning Readiness. *Journal of Education and Research, 5*(1), 37-42.

Ramli, N., Muljono, P., & Afendi, F. M. (2019). External Factors, Internal Factors and Self-Directed Learning Readiness. *Journal of Education and E-Learning Research, 5*(1), 37-42. <https://doi.org/10.20448/journal.509.2018.51.37.42>

Saks, K., & Eijen, A. (2014). Distinguishing Self-directed and Self-regulated Learning and Measuring them in the E-learning Context. *Procedia - Social and Behavioral Sciences, 112*(7), 190-198.

Saeid, N., & Islaminejad, T. (2016). Relationship between Student's Self-Directed-Learning Readiness and Academic Self-Efficacy and Achievement Motivation in Students. *International Education Studies, 10*(1), 225.

Senyuva, E., & Kayaa, H. (2017). Effect self directed learning readiness of nursing students of the web Based

Learning. *Procedia –Social and Behavioural Sciences, 152*(00), 386-398.

Sert, N. & Boynuegri, E. (2017). Digital technology use by the students and english teachers and self-directed language learning. *World Journal on Educational Technology, 9*(1), 24-34.

Slevin OD, Lavery MC. (2014). Self-directed learning and student supervision. *Nurse Educ Today, 11*(5):368-377. doi:10.1016/0260-6917(91)90037-b

Sumuer, E. (2018). The students readiness and the availability of technology are the factors that directed the self directed learning. *Australian Journal of Educational Technology, 34*(4).

Torabia, N.; Aslani, G & Bahrami, A. (2013). A study on self-directed learning among preliminary school

teachers in Esfahan. *Procedia - Social and Behavioral Sciences, 83*(00), 219 – 223.

Yang, C., & Li, M. (2013). Assessment of Animated Self-Directed Learning Activities Modules for Children's Number Sense Development. *International Forum of Educational Technology & Society, 16*(3), 44-58.