

A SYSTEMATIC REVIEW OF STRUCTURED METHODOLOGIES AND STANDARD GUIDELINES TO ENHANCE ACADEMIC PROFICIENCY OF POTENTIAL LEARNERS PURSUING PHYSIOTHERAPY

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Abstract

Background: Potential learners are those who have the ability and motivation to learn new skills and knowledge outside of their comfort zones (where they struggle). Although they are slow learners, potential students do not have intellectual disabilities. Each school of higher education has its unique remedial procedures. Effectiveness of strategies on potential students in higher education institutions is understudied. Aim of the study is to identify the existing literature on Strategies and guidelines to improve academic proficiency of potential learners in Physiotherapy. **Methodology:** Based on the framework created by Arksey and O'Malley, this review was done. In July 2023, six databases (PubMed/Medline, Scopus, Web of Science, Cochrane Central, ProQuest, and CINAHL) were searched, and publications published between 2013 and 2023 were taken into consideration for inclusion. Two independent reviewers independently reviewed studies at the title/abstract, full-text, data extraction, and critical assessment stages. A data extraction form was used to obtain the data, which was then displayed as figures and tables with narratives. **Results:** 356 full text articles in total were downloaded, and their eligibility was determined. 64 articles which were duplicate records have been removed. 36 articles focused on various remedial tutoring techniques and have been found ineligible. Out of 256 only 13 papers that explicitly addressed the inclusion criteria were included in this study, and both reviewers reached the same judgement concerning their inclusion. **Discussion:** Although there are studies on remedial coaching, its relevance in higher educational institutions to demonstrate their efficacy has not been studied. Literature that emphasizes the connection between teaching approaches and learning styles is scarce. A significant lack of explicit recommendations and standardized standard techniques for potential learners is also suggested by the literature. **Conclusion:** The literature on identifying and assisting potential learners in physiotherapy is scarce. Additionally, there is a significant and potential interest in skill-based and inter professional education in the physiotherapy profession's education sector. Innovative abilities and the active learning idea are quite well suited to regular classroom-related activities, but their significance and set standards or techniques are not fully explored in prospective students.

Keywords: Potential Learners, Slow Learners, Physiotherapy, Academic Proficiency, Structured Methodology, Standard Guidelines

INTRODUCTION

To face the problems given by the world's rapid changes, physiotherapy education must constantly progress, much like education in general. To better prepare students for the future, educational institutions have been forced to create and implement novel teaching strategies.¹ Numerous pedagogical and andragogical techniques, such as competency-based education and the use of various online technologies, have also been adopted and put to the test. The transition in the students' position to that of an active, self-reflective

participant is a key element of these approaches.² Professional development has historically been characterized as a protracted process that progresses through several stages from novice to expert. Research on adult learning and higher education has described professional growth as either a process of integrating many types of information, as suggested by the Integrative Pedagogy model, or as a sequence of transformational phases, as suggested by transformative learning theories.³ There are few longitudinal studies addressing the professional development of physiotherapy students, and the literature on professional growth in the field has mainly focused on new physiotherapists' first few years of practise.⁴ A country's educational system has a big impact on its progress. Parents are more concerned with how to motivate kids to learn. A teacher can do this through efficient classroom management. But on occasion they can fail to do so for a variety of reasons.⁵

Potential learners are those who have the ability and motivation to learn new skills and knowledge outside of their comfort zones (where they struggle). Although they are slow learners, potential students do not have intellectual disabilities. The four most crucial traits of potential learners are lack of cognitive ability, inability to pay attention, inability to concentrate, emotional immaturity, and anxiety.⁶ Potential students will appreciate learning more if the instructor can highlight their innate abilities by utilizing a variety of settings.⁷ Aural or auditory learners, visual or spatial learners, verbal or linguistic learners, logical or mathematical learners, physical or kinesthetic learners, social or interpersonal learners, solitary or intrapersonal learners, and naturalistic learners are some of the different types of learners in skill-based courses.⁸

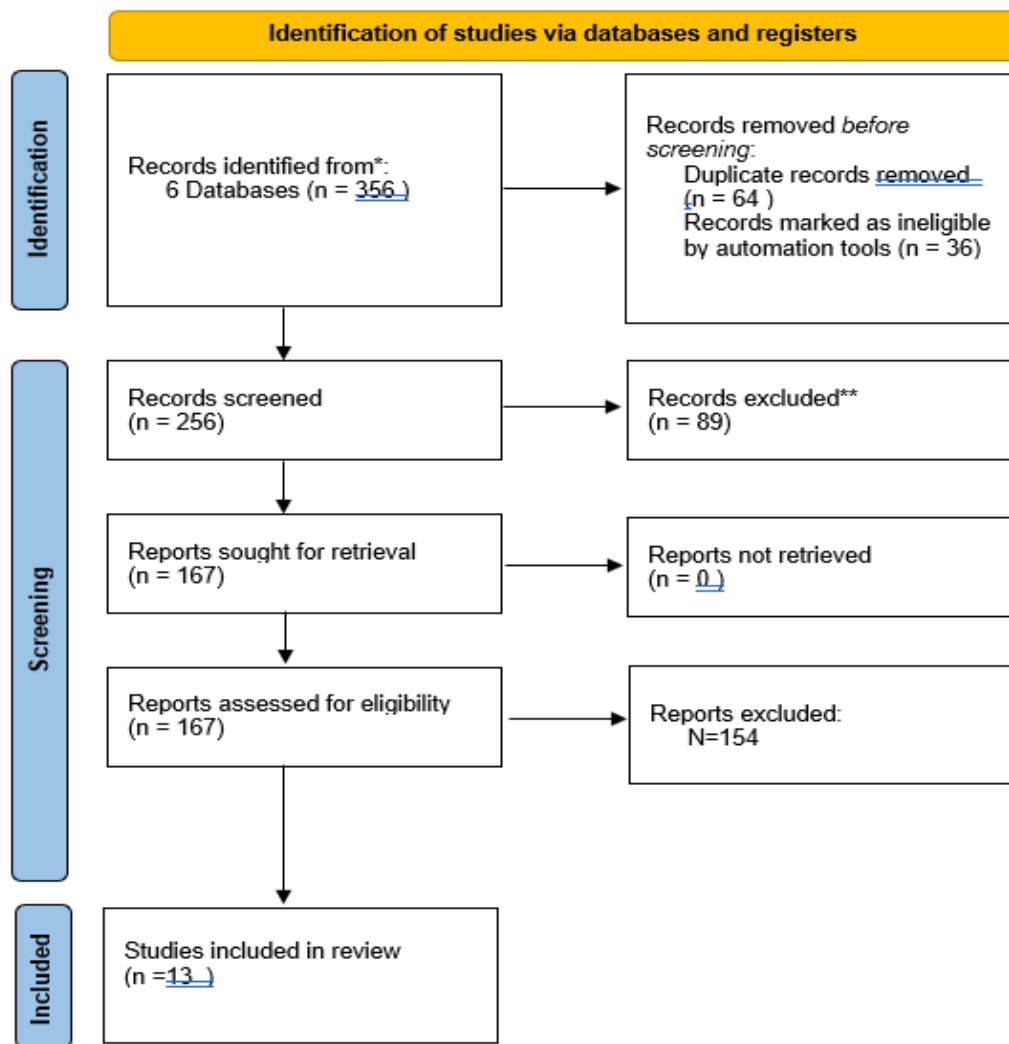
A student won't be able to tackle the tasks and challenges in the course's second half if they suffer a setback early in their education. In order to enhance learning and academic performance of potential students, it is the teacher's duty to choose, develop, implement, and assess a particular model of (remedial) education.⁹ Academic proficiency we referred it as the word used to describe a student's capacity to perform academically at grade level as demonstrated by grades, test results, emotional and social development, and other elements decided upon by the institute. There are various strategies to address Potential learning, psychological analysis, identifying presence of any learning disability, teaching in various different ways, maintenance of progress records, portfolios, peer interaction, one to one teaching, parental cooperation, project-based learning and appreciating every small success are the various coping strategies¹⁰. Most of these strategies are used in elementary school. There are various frameworks in education for example

1. LEAP essential learning outcome
2. Degree Qualifications Framework
3. Global Learning Qualifications Framework
4. Resiliency Competency Model
5. 21st Century Skills Framework
6. Employability Skills Framework
7. Beta Connecting Credentials Framework

All the above-mentioned frameworks target cumulative progress of a student to achieve the set goals in specific curriculum. But till date there is no research which explains the exact andragogical framework which targets a potential learner to achieve success in academics therefore Novel term is considered as an apt term in this context.¹¹

METHODOLOGY

This review was conducted using the framework developed by Arksey and O'Malley. Publications published between 2013 and 2023 were searched in six databases (PubMed/Medline, Scopus, Web of Science, Cochrane Central, ProQuest, and CINAHL) in July 2023. At the stages of title/abstract, full-text, data extraction, and critical assessment, two independent reviewers separately examined papers. The data was collected using a data extraction form and then presented as figures and tables with narratives.



Prisma Flow Diagram

Included articles 13 in number with their description and author (scholar remarks/interpretation) is given in the following table

Author	Year	Study on	Conclusion	Author remarks
Okuyama J et al	2023	Nurturing Basic Societal Competencies in Speech-Language-Hearing Therapy Training Education, stated that the coaching classes improved the students' basic societal competencies of relating with others, self-confidence, and planning solutions.	This suggests that coaching classes are useful in the training education for SLHTs. Ultimately, nurturing students' basic societal competencies will develop human resources who could achieve quality clinical performance ¹²	Additional coaching can help to gain self-confidence and problem-solving skills.
Rezayi S et al	2022	Computerized Simulation Education on Physiotherapy Students can help to improve physiotherapy students' skills improving professional and behavioral abilities.	Thus improving knowledge and self-confidence, and reducing stress. They also have great potential to reduce learning costs and increase the quality of education ¹³	Computerized simulation education can help in improving cognitive and psychomotor abilities of physiotherapy students and also help in reducing stress
Lu YCA et al	2022	Effects of Problem-Based Learning Strategies on Undergraduate Nursing Students' Self-Evaluation of their Core Competencies: A Longitudinal Cohort Study stated that students with the longest exposure to PBL had higher self-evaluated scores for all core competencies than the other groups, except for the execution competency	PBL is proved to be effective in nursing students ¹⁴	There is a high scope in conducting high quality research in execution competency of problem-based learning.
Bucklin BA, Asdigian NL, Hawkins JL, Klein U	2021	Making it stick: use of active learning strategies in continuing medical education states that in order to encourage learner engagement, critical thinking, and problem-solving skills,	It was determined that more efforts were needed to increase creativity and implement evidence-based AL techniques into medical education ¹⁵ .	Innovative skills can be improved in medical education with active learning strategies
Challa KT, Sayed A, Acharya Y	2021	The significance and difficulties of the contemporary educational system because education is a dynamic process that needs	They said that in order to properly balance and close the gap between conventional teaching methods and	Education is a dynamic process which needs to be altered on a regular basis. Innovative

		to be altered on a regular basis	contemporary educational requirements, adaptable medical curricula that accommodate distinctive modern teaching must be introduced and implemented ¹⁶	methodologies can be incorporated in teaching and as well as learning.
Yu WT et al	2021	Exercise therapy education enriched through interprofessional teaching stated that there is a positive space for information sharing between biokineticists and Physiotherapists through interprofessional education as both are exercise therapists.	Thus interprofessional education plays a significant role in generating new concepts for future both in biokineticists and physiotherapists ¹⁷	New concepts can be generated through interprofessional education. Learning concepts through examples from other professions which are skill oriented and near to physiotherapy profession
Shead DA, Roos R, Olivier B, Ihunwo AO	2019	Curricular and pedagogical aspects of gross anatomy education for undergraduate physiotherapy students highlights the distinctions in pedagogies, curriculum components, and learning strategies	They are important to the subject were addressed, along with how they affect the gross anatomy instruction of this group. There were beneficial behavioural, anatomical, memory-related, and academic impacts ¹⁸	The student's active participation in a variety of educational techniques fosters the development of their potential and interest, which has an indirect impact on their academic achievement.
Kimatian S et al	2017	Undirected learning styles and academic risk: Analysis of the impact of stress, strain and coping stated that low meaning directed and high undirected learning patterns correlated with lower In Training Examination percentiles, higher scores for stress and strain, and lower coping resources.	This association suggests that successful remediation of at-risk residents must address stress, strain and coping if long term academic improvement is expected. Further research to identify the value of stress, strain, coping screening and education is warranted ¹⁹	Unidirectional learning styles are prone for academic stress, strain and lower levels of confidence in problem solving skills.
Kyriakulis et al	2016	Educational strategies for teaching evidence-based practice to undergraduate health students, multifaceted approach may be best suited when teaching EBM to health students;	The use of technology to promote EBP through mobile devices, simulation, and the web is on the rise; and the duration of the interventions varying from some hours to even months was not related to the students' EBP competence ²⁰ .	Evidence based practice should be promoted with high standard teaching methodologies and more high-quality studies required to establish connection between evidence-based medicine and

				evidence-based practice.
Sattelmayer M et al	2016	A systematic review and meta-analysis of selected motor learning principles in physiotherapy and medical education mentioned that some evidence to recommend the use of mental practice for procedural learning in medical education.	There is limited evidence to conclude that terminal feedback is more effective than concurrent feedback on a transfer test. For the remaining parameters that were reviewed there was insufficient evidence to make definitive recommendations ²¹ .	Mental practice is proved to have good evidence in medical and physiotherapy education
Dasaradhi K et al	2016	30 effective ways to improve learning capability in children states that their ways improve the learning capability of the Potential learners but-also can make them successful students in academics at par with other students of their class/peer group.	They concluded that further study is needed in the area of identifying learning styles, teaching styles, and the significance of a match between the two and student academic success. ²²	Research gap exists between learning style and teaching styles and correlation between both for slow learner's academic success. This study is done in children going to school.
Nair PB, Binu PM	2015	Affective teaching emphasizes that Potential learners' behavioral and academic issues should be addressed on both an intellectual and an emotional level. In other words, educators must approach children with both their heads and their hearts.	Potential learners can be encouraged to produce quality work and form a positive attitude towards classroom behavior and learning with the right approaches, tactics, and strategies ²³	Both education and emotions have to be taken into account while handling Potential learners
Borah RR	2013	Role of Teachers and Guardians in Honing their Hidden Skills states that There will be students in this category in practically every class, but there is currently no systematic method of identifying and helping them. Without a doubt, each teacher has created a variety of useful strategies for assisting students who require more support.	Therefore, it would be beneficial if chances for teachers to communicate and discuss their work with Potential learners were made available. In order to create guidelines to help teachers support Potential learners, it is crucial that future research builds on the findings of this initial investigation. ²⁴	Study emphasizes that there is a lack of specific guidelines and structured methodology to support Potential learners.

DISCUSSION

Added coaching and problem-based learning techniques Active learning, creative thinking, mental exercise, and both education and emotions, namely lowering anxiety and enhancing behavior, have all been employed as tactics up to this point. There have been studies on various teaching and learning methods to raise students' comprehension levels, and the majority of the studies have a strong affective component. Although there are studies on remedial coaching, its relevance in higher educational institutions to demonstrate their efficacy has not been studied. Literature that emphasizes the connection between teaching approaches and learning styles is scarce. A significant lack of explicit recommendations and standardized techniques for potential learners is also suggested by the literature.

CONCLUSION

There is a dearth of research on locating and supporting physiotherapy potential learners. In the field of physiotherapy education, there is also a sizable and potential interest in skill-based and inter professional education. Innovative skills and the concept of active learning are quite well adapted to routine classroom-related tasks, but prospective students are not completely aware of their significance or trained in their use.

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