



International Journal of Literacy and Education

E-ISSN: 2789-1615
P-ISSN: 2789-1607
Impact Factor: 5.69
IJLE 2023; 3(1): 76-79
Received: 03-11-2022
Accepted: 09-12-2022

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An overview on need and importance of multidisciplinary development of teachers

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Abstract

For the development of comprehensive plans of teaching and action it is essential to have multidisciplinary professional growth of educators. The interdisciplinary or we can say multidisciplinary learning is said to be a comprehensive way of binding the topic, ideas and the text in a single thread to shine the domains of multiple knowledge. Beyond the scope of curriculum design this type of development among teachers could improve the methods of learning by changing the depth and scope of learning. To have an improvement in work environment, it is essential to change the strategies of problems solving, skills analysis, communication, research methodologies, time management, critical thinking, writing, teamwork, self-management and many more. As per the demand of time it is important to have a change in the style of diverse learning along with change in disciplinary perspectives.

Present paper deals with an overview on need and importance of multidisciplinary development of teachers. Society requires change in the cultural backgrounds. The best way of achieving the target is to promote multidisciplinary education. The National Education Policy 2020 proposes the concept of multidisciplinary approach in education for the holistic development of all. This kind of approach is noble and unique. The trainee teachers could impress the learners. They could become skillful and multi-dimensional with the experiences collected from this platform. Any teacher could illustrate the ideas in an easy and clear way.

Educators would be in a position to impart the hybrid content to learners, which he had gathered from the interdisciplinary approach. The future educators would be able to understand the multidisciplinary curriculum in which a student of engineering could take a subject of humanities. This type of approach is a reflection of our "Gurukul parampara", the ancient system of education. Our ancient teaching learning system favors the multi-disciplinary teaching learning method. The students of diverse levels would be able to learn the holistic learnings. It is highly desirable to introduce diverse subjects at a common platform for learners. Also it is required to start such programs for training of teachers which would provide multidisciplinary methods of teaching and learning.

Keywords: Multidisciplinary approach, innovative learning, multifaceted, Gurukul parampara

Introduction

Prologue

A teacher is a guide who gives shape to the future of any nation, provides right education, teaches the principles of ethics, and interacts with learners and a true guide of his students. Through the planned curriculum of individual subjects and of activities, the teacher provides guidance to students. As per the words of "Albert Einstein" He is the teachers only who is having the supreme art of awakening the joy in the knowledge and creative expressions. He or she is the person only who gives assistance to the learners in understanding the life and the skills of education. If we talk about the teaching then we say that it is a multi-facet profession, aiming at transmission of knowledge as well as the interpersonal skills.

In the present scenario it is required to have a smart education system and smart curriculum. As per the need of hour we want such human being in which there should be all qualities. It is desirable to inculcate the qualities and knowledge of all fields among students at the root level which means if we frame such a curriculum in which from the student's life everybody could avail the knowledge almost of all fields then good citizens would be there in the society having better knowledge and qualities. Indirectly such a curriculum would cross the boundaries of various disciplines. It enables the learner to have the knowledge of one topic from view point of multi angles. Such type of education would make the learner skillful in analysis, communication, time management, problem solving, team Work, research methodologies and in critical thinking etc.

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In any working environment such skills are required at every step. Such kind of education is essential for teachers as it would make the teacher able to have the understandings of various perspectives and the ideas of various disciplines. Teachers can easily identify the reasons of any problem and can provide innovative solutions of that problem. The cross-disciplinary approach or the multidisciplinary approach focuses mainly on the discrete subjects. In addition to it, this approach also give different perspectives so that illustration of any issue or any topic becomes easy to understand. How to present any theme in various styles is the beauty of this approach. Now in this century if we want to have such citizens, to whom we expect they should be smart enough, must have the holistic knowledge, then their method of thinking must be multidimensional.

Multidisciplinary Education

Such an education which is the base of curriculum integration, mainly highlighting the diverse disciplines, providing various perspectives or viewpoints in order to define any topic. Such an education opens the door of the mind of student's through which they can see problem from multi-angles; they did not consider it before like this. In the multidisciplinary education there are four types of curriculum interventions. These are the multidisciplinary curriculum integration, parallel curriculum integration, Tran's disciplinary curriculum integration and the Infusion curriculum integration.

Such kind of approach has faith on such people who cross disciplines in order to distribute the knowledge just to enhance the depth as well as the scope of learning. No doubt this type of learning like a powerful tool to mitigate the different kinds of problems in education. It is the integration of various knowledge, domains, centralization of the problem, knowledge of concept and the context. In the multidisciplinary approach the topics are examined, the insights of various disciplines are taken, synthesis of their contribution for understanding is done and finally the integration of ideas in the framework of analysis is completed so as to decide the nature of this multi-facet education. The motto of this type of approach is to involve two is more scientific, artistic, academic, cultural and ethical disciplines just to result out the academic, skilled, scientific, ethical and social development of an individual.

Review of literature

Nial seery, Lena Gumacelius *et al.* in their study on multidisciplinary teaching: The emergence of an holistic STEM teaches reveal that teaching of STEM, the view point of the novel multidisciplinary approach is approachable rather the STEM agenda is not disputed. Present paper head Challenged through advocacy of science agenda learning. Our education systems could create silo-effects unintentionally.

Sakari Tolppanen in his research on a tool for planning multidisciplinary teacher collaboration and project based learning stated that multifaceted challenges now a days are being addressed using the novel approach of multidisciplinary education. The paper unfolded the need of this education; Researchers presented "Planning Canvas" as a tool so as to guide the teacher for having a better plan. The canvas was framed for helping the teachers and authorities for preparation of structured plan of this education. Further the implications of their results had also been discussed in

this paper.

Dr. Krishna Roy in his findings on Multidisciplinary approach in teacher education programme: A study, reveals that this type of method is a unique one. It would improve the teaching and learning programme. For the integration of teacher education programme this type of approach would defiantly play a vital role. The National education policy-2020 had highlighted its importance for the overall personality development of teachers as well as for the taught. It would improve the knowledge and the skills of an individual. This paper had highlighted the cons and pros of this novel multidisciplinary education programme for teachers. In almost all the streams like commerce, humanities, science and in vocational courses, the teachers and taught both would be benefited.

B. Sailaja, K. Hemalatha in their research findings on Innovative teaching and learning process with multidisciplinary approach: An illustration on Engineering education unfolded the innovative ways for enhanced learning as well as teaching via multidisciplinary approach. It would definitely improve standards of engineering education, they added. In various learnings like phase project based learning, case based learning, E - learning, the project based learning, problem based learning and the learning via multimedia using multidisciplinary approach, these approaches might mitigate different kinds of problems in innovative teaching and learning processes. As the scenario of present education had been changed due to advancements in the technology day by day. The learners are demanding more. In this situation the teachers have to be updated. To mitigate the real time queries involved in any problem, the learners have to be attached in real time scenarios.

Robert c. wicklein and John W. schall in their research paper on case studies of multidisciplinary approaches in integrating Mathematics, science and technology Education. The paper presented the case studies of multidisciplinary demonstration projects. In the team work, the studies cover the development of play on multidisciplinary curriculum. It mainly focused on integration of Science, Mathematics and the technical education. In this unique environment it would be effective and workable, they shown believe.

Berrymau and Bailey in (1992) demonstrated the process of innovations as well as the accelerated for duct. In the field of international competitions, the quick response capabilities are the critical one. At the lower organizational standard, it is highly required to have advancement in the thinking and learning. It is the demand of competitive workplace for having the advancement at the employee's part.

Licui chen, jia zhang *et al.* (2022) ^[20] in their study on exploring the role and practice of teacher leader in professional learning communities in china: A case study of a shanghai secondary school, unfurled the concept of (PLC) i.e "profession learning communities" in the direction of professional learning. This concept is the novel one and is playing a significant role just to facilitate the teachers. In order flame PLCs, the efforts had been made so that teachers could lead and sustain PLCs. The paper covers the teacher's role as leaders to analyze the leadership practices for promotion of profession learning in PLCs in country of china. In the analysis it was highlighted that' those professional teachers who had been appointed on formal basis exercised the professional oriented practices based on the subject in PLC process. The study challenged that the

teacher leadership development contain great potential to sustain the productive PLCs

Wilfried Admiral, Lysanne Post *et al.* (2022) ^[21] in the study on learning labs in secondary school in the Netherlands: Effects of teachers autonomy, support on student learning, motivation and achievement, find that the activities based on autonomy support are essential for the promotion of the autonomous forms of the learning regarding educational outcomes, well-being and the motivation. The study covers two learning labs of the Dutch's secondary school. Using organizational procedure and the activities of cognitive autonomy support, the learning process had been studied. The implications had been discussed regarding research and practice. In the second learning lab none of the effects were found on the student's achievement as well as learning motivation.

Susanne Schwab, Stefan Markus *et al.* (2022) ^[22] in the study on Teacher's feedback in the context of students social acceptance, student's well-being in school and student's emotions, investigated teacher's role on feedback on behavior and achievements for student's per acceptance. Data was collected from 970 primary schools. On the basis of the achievements and the behavior parameters the feedback by students was on equal footage: Positive feedback was reported as compared to negative feedback from the different subgroups, the emotions and the social acceptance were investigated as the result of feedback. In the key findings it was reported that there is a strong correlation among negative feedback and the social acceptance.

Remon Tizado - Morueta, Yalanda ceada - Gassido *et al.* (2021) in the research paper on the association of self-determination with student engagement moderated by teacher scaffolding in a project - based learning i. e(PBL), presented the self-system model of motivational development had been adopted to address the deficiency of teachers decision regarding scaffolding. The multi group analysis was adopted by high school students. Study favors the teachers support in the project activities had strengthened the association.

Aim and objectives of the paper

The main aim of this research paper is to analyse the need and importance of multidisciplinary development of teachers in the present scenario .The objectives of this paper are

1. To highlight the concept of multidisciplinary approach
2. The concept of multidisciplinary education in new education policy -2020 in India
3. Need of this Approach
4. Importance and requirement of this concept in present scenario.

The paper gives emphasis on need of innovative and novel methods of learning as well as teaching processes using multidisciplinary approach to have an improvement in the standard of teaching.

Need of professional development of teachers

In the present education system the artificial boundaries have been set up using time blocks. The boundaries are inhibiting the learning and these are establishing the paradigm of those instructions, accustoming the growth of students. It essential to have such an environment in which

students could realize that there could be a strong relation between the knowledge gained by him through one discipline to another It is well known that education process is said to be that learning process which is having no end. It is highly needed to have professional development of teachers in our education policy Teachers do want to give the best learning results of their students. Also the guidelines given by the education departments and the education technology are changing their standard day by day.

This is challenging the teachers to be updated with the best practices as well as trends in this field. Only on the basis of knowledge and the experience, a teacher could not support the students. Some researchers presented their results on the correlation between professional development of teachers and the student's achievement. They found that the achievements of students get enhance due to teacher's development. Most of the time teachers remain engage in curriculum development, evaluation and other paper works along with class room teaching.

The professional development of teachers would teach them how they could plan time table and can manage extra time to have more focus on students. The new teaching strategies would provide a pathway to mitigate the problems of teaching and learning. Through this approach the teacher becomes student, keep innovating himself and can get holistic understandings of this universe anywhere. As this, multidisciplinary approach is the better method of integrating content from the view point of different disciplines. The learners could directly keep into any issue from different angles and could give a better solution in the society as well. Such an education is related with the professional development of teachers

New education policy -2020 and multidisciplinary approach

The news education Policy -2020 is proposing the multidisciplinary education. It is assumed to be the novel approach of learning which ensures the autonomy and the flexibility of learners so that they could select their field of study easily. Everybody knows that education is that powerful tool in human life which contains the capability of changing the mind set of humans. NEP-2020 promotes the multi-disciplinary education in the undergraduate programmes, in the vocational courses as well as in the technical and professional courses.

As per the recommendations of NEP, our curriculum should be so flexible that our content should be less and the learning should be more. The multi-disciplinary education would provide such an inclusive environment in which leaner could think critically and the problem solving would become easy. Learners become creative and innovative and could be capable of adapting and abscising the material in the different fields. It would bring a domestic change in the India education system.

Conclusion

The multidisciplinary approach in the education no doubt is going to change the present scenario of our education systems. It would definitely shake the pros and cons of our education policy. The approach would give a positive difference in the learning strategy of students and teachers both. It is believed that when administration is agree to have change, teachers are willing to strengthen themselves by

multidisciplinary development, teachers are ready to take students responsibility regarding development aspects and the students are motivated, then teaching and learning would definitely get effected. In this running time the role of teacher is changing and he or she is supposed to be a facilitator of all kind of knowledge at a common platform. Therefore, it is essential to adopt the interactive teaching and such an approach would make the teacher innovative, having problem solving capabilities, creative, skilled and intelligent. This paper summaries that the development of teachers via multidisciplinary approach involves the innovative learning and teaching so that students get ready for having the careers in various fields of world. The teachers could be made skilled, self-respectful, determined, knowledgeable, smart, better future planner, time manager, helpful, co-operative, social and confident using the current techniques. It is well said by someone that the better skilled teachers can give a fine shape to the future of any country.

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