



THE FUNCTION OF EDUCATORS IN EXPANDING THEIR PROFESSIONAL COMPETENCE THROUGH EXPLORATION



Pan Yan*, Babu Natarajan

Original Article

Lincoln University College, 47301 Petaling Jaya, Selangor D. E., Malaysia

*Corresponding Author's Email: panyan090@outlook.com

Abstract

Examining how actively teachers participate in inquiry-based professional development is the goal of this qualitative study. The research used classroom observations and in-depth interviews to investigate teachers' viewpoints, experiences, and difficulties with professional development programs. The main focuses of the study are their level of participation and their perception of its impact on classroom learning. Schools that value research aim to develop reflective practitioners among their faculty by making research and an inquiry-based pedagogy integral parts of their curricula. A lack of data about the academic and personal success of program alums is a major drawback. This research sought to evaluate the development of inquiry-based practice among seven first-year teachers from Dutch academic teacher training programs. For three years, these grads and their school administrators were subjected to questioning. Their level of engagement with the curriculum increases as the school and students go through inquiry-based learning. It has been suggested by scholars that inquiry-based learning might have many interesting benefits for educators. While obstacles like time and reluctance to change persist, the findings demonstrate that inquiry-based professional development fosters collaboration and self-reflection. The findings might provide valuable information for future professional development (PD) programs that aim to increase student achievement via increased teacher engagement and the use of inquiry-based teaching methods.

Keywords: *Action Research; Autonomous Learning; Curriculum Investigation; Educator Professional Advancement*

Introduction

Over the past few decades, inquiry-based learning has become more common in teacher preparation programs. Teachers must engage in research because it improves student learning, advances their careers, and enables them to adjust lessons to societal changes. Many nations' teacher-training programs aim to produce academics who can effectively use their expertise in the classroom. Over the last several decades, there has been a movement toward incorporating inquiry-based learning into programs that prepare teachers [1]. Teachers need to be flexible in order to adapt to society's changing needs. This includes being receptive to new ideas and approaches to teaching, doing research to support their decisions, and using an inquiry-based approach. As a means of preparing future teachers to critically analyse existing literature and develop engaging lessons based on their findings, teacher research modules have recently been included in the curricula of many countries' programs. The strong emphasis on inquiry-based learning in teacher training programs may lead to

new instructors bringing their own preconceptions about research methods and their appropriate application into the classroom. In contrast, information about how first-year teachers enhance their skills via inquiry-based learning is scarce. Can educators put their newfound knowledge to use in any way? What worked for them, and what can other educators do to improve? These questions are the driving force behind this research, which tracks the professional development of seven Dutch educators who have just completed teacher preparation programs and evaluates their implementation of inquiry-based pedagogy [2].

Inquiry-based methodology

Research is conducted in inquiry-based learning with the goal of evaluating and enhancing student learning. The researcher still favours project-based learning, even if inquiry-based learning has been on the rise, according to experts. Many names appear in the literature to characterise this method, such as evidence-based working, action research, data-based working, evidence-informed working, and lesson studies. Previous studies have shown that inexperienced teachers may dabble in this kind of research every once in a while, but they nearly never do whole research cycles [3].

Participation of instructors in inquiry-based practices

Looking for possible entrance sites for competent educators. Recent college graduates are prepared to stand out in the academic job market, according to these types of results. The graduates' eagerness and readiness to put their research skills to work in the real world are shown by the outcomes. Primary sources such as literature and self-reflection are often relied upon by first-year teachers with advanced degrees rather than research. Teaching methods that rely on student inquiry are common among educators. However, there are school-level educators who engage in inquiry-based work, particularly those who are members of professional learning communities, according to the study [4].

Background of the Study

Bachelor's degrees with an emphasis on the workforce are offered by institutions of higher professional education. These institutions prioritise applied research, in contrast to conventional universities. There have been academic programs for student teachers for almost a decade, but only a small percentage of them complete them; therefore, the majority of schools still lack qualified educators. Numerous new degree programs were introduced in the Netherlands in 2008. Colleges that aim their programs toward working people often provide traditional, career-focused degrees like a bachelor's [5]. These institutions place a greater focus on hands-on training than on academic research, in contrast to traditional universities. Academic programs have been available for over ten years, but only around 10% of student teachers actively use them. Therefore, after completing degree programs, relatively few students find employment inside their respective institutions. Numerous educational initiatives aim to foster teachers' capacity to apply classroom knowledge in the real world by providing them with opportunities to think critically and take initiative. Research has shown that student teachers learn about different research methods and read literature on teacher research from all around the world as part of their education. The four years of the degree program are built on research. Academic student teachers are more likely to actively seek out new information and use what they've learnt in the classroom than their professional program counterparts. This is why it's critical for educators to possess the knowledge and abilities necessary to successfully use an inquiry-based approach in the classroom and beyond [6].

Improvement of novice instructors' professional skills

In order to become more successful in their instructional practices, beginner teachers work to improve their professional abilities. This involves developing, refining, and enhancing their teaching competencies [7]. This growth necessitates the acquisition of subject-matter competence, classroom management skills, pedagogical understanding, and methods for student involvement. For first-year educators, this means making the leap from classroom theory to practice via a systematic and ongoing process. Mentorship programs, seminars for professional development, CLCs, and self-reflection activities all help new teachers improve their craft. They also benefit greatly from instructional coaching, feedback sessions, and peer observations as they progress. Incorporating technology into the classroom, using tactics supported by evidence, and doing action research all contribute to making them even more successful. Reflective teaching is an important part of developing one's teaching abilities. In this method, teachers evaluate their own teaching

methods, pinpoint where they may improve, and then adjust their methods according to the requirements of their students and the results of their lessons. Their professional competency is enhanced by working in diverse classrooms, using student-centred learning strategies, and using inclusive teaching practices. At the end of the day, helping first-year teachers hone their craft makes sure they grow into competent educators who can create engaging lessons, overcome obstacles, and boost their students' achievement [8].

Determinants of career progression

The phrase "determinants of career progression" describes the myriads of elements that could affect a person's chances of climbing the corporate ladder, taking on more responsibility, and ultimately enjoying their work more. There are three main types of these determinants: internal causes, external environmental circumstances, and organisational effects. Skills, education, job experience, drive, flexibility, leadership potential, and networking initiatives are all examples of personal characteristics. Advancement in one's career is greatly facilitated by obtaining relevant professional certifications and maintaining a lifelong learning mindset. A person's ability to successfully traverse the dynamics of the workplace is a key component of their soft skills, which include communication, problem-solving, and emotional intelligence. Corporate policies, leadership's encouragement, professional development opportunities, mentoring programs, and business culture are all examples of organisational influences. Career progression is more likely to occur in companies that support their employees' growth by providing opportunities for training, performance-based promotions, and leadership development. How people rise through the ranks of a company is also affected by the presence of transparent career paths and equitable promotion standards. Changes in the economy, new technologies, industrial needs, and labour market changes are all examples of external environmental factors. A person's capacity to advance in their profession may be impacted by changes in these areas, which might bring either new possibilities or difficulties. As an example, workers in sectors where technology is advancing at a quick pace may need to regularly acquire new skills in order to maintain their relevance and progress in their chosen fields [9].

Purpose of the Research

The primary goal or rationale for carrying out a study is known as its purpose. It specifies the goals of the study and the information the researcher hopes to get from it. In laying the groundwork for the study, the purpose directs the procedures for methodology, data collection, and analysis. To keep the research focused and relevant, it specifies the study's scope, importance, and anticipated contributions. Addressing a particular issue, knowledge gap, or practical need is a common way to define the objective of academic and scientific research. It might include coming up with new ideas, testing hypotheses, or investigating treatments. With a clear aim in mind, researchers are better able to formulate focused research questions and set attainable targets that will guide the study. If the researchers were doing educational research, for instance, they might state the goal as "to investigate the impact of collaborative learning on English language proficiency among high school students." This statement of purpose elucidates the research's intended scope, significance, and contribution to the field's existing body of knowledge. Research that is relevant, methodical, and delivers significant insights to academia, business, or society is ultimately defined by its goal.

Literature Review

According to studies, inquiry-based professional development (PD) may help teachers become better at what they do and encourage students to keep learning throughout their lives. By stressing cooperation, reflection, and participation, this research-based approach aids educators in incorporating new methodologies [10]. Teachers' subject knowledge and capacity for self-reflection and technique improvement are both enhanced by inquiry-based professional development, according to the findings. Problems with resources (time, money, etc.) or resistance to change may sometimes prevent people from fully engaging. The literature highlights the need for ongoing support and cooperation as a means to overcome these obstacles. Discovered that, despite these limitations, inquiry-based professional development improves student and teacher learning outcomes when executed correctly. Teachers who lack self-confidence are more likely to experience emotional exhaustion, work dissatisfaction, and, ultimately, to quit from their positions. Teacher self-efficacy (TSE) influences whether teachers remain or leave by indirectly expressing positive feelings like devotion and

satisfaction. It would be reasonable to believe that there are healthier methods for teachers to take care of their mental health, given how confident they seem. On top of dealing with the dynamics, conventions, and practices of several school organisations, educators confront a multitude of other challenges. When there is consensus on the goal of education or when the system validates teachers' personal ideals, structural and cultural factors may work to their advantage. Principals and other school officials may not always be on the same page as educators. When the needs, skills, and perspectives of members of the institution conflict with those of the instructors, it becomes tough to promote their professional progress [11].

Research Questions

- What strategies may increase educator participation in the creation of inquiry-based professional development programs?

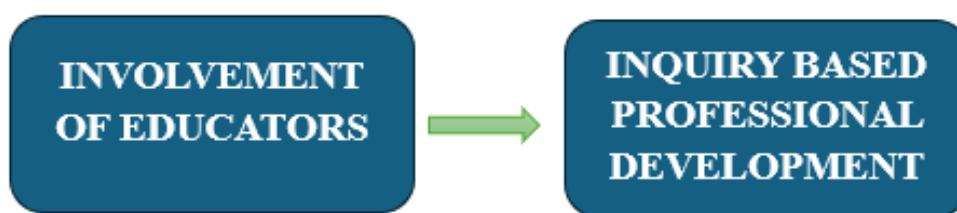
Research Methodology

The qualitative research investigated the evolution of educators' educational viewpoints. This method depended on interviews with principals and other school leaders.

Data collection and instruments: A preliminary investigation Interviews and data collection procedures were used to assemble the study's results. A total of 120 individuals completed the survey, including 57 males and 63 females. The investigator conducted interviews. Interviews were conducted with classroom instructors and administrators. Interviews with teachers and the principal lasted between three and five minutes. Participants were interrogated individually by educators.

Data analyses: Interviews were first transcribed for analysis. The writers categorised inquiry-based work within personal, structural, and cultural contexts according to the literature. Due to the professors' diverse teaching experience and the tendency for subsequent interviews to reference past years, a chronology may be established. The cross-case analysis ultimately revealed both situational and chronological patterns in the evolution of instructors' inquiry-based practices.

Conceptual Framework



Results

Qualitative studies suggest that educators saw enhancements in student engagement and classroom management due to inquiry-based professional development. Temporal limitations and opposition to change are two obstacles they encounter. To overcome these challenges and improve the efficacy of PD, sufficient support and resources are considered essential (refer to Table 1).

Table: 1 Yes/No Questions

N=120 (M=57, F=63)		
QUESTIONS	YES	NO
1. Have you participated in inquiry-based professional development programs in the past year?	110 (92.0%)	10 (8.0%)
2. Do you feel that inquiry-based PD has positively impacted your teaching practices?	114 (95.0%)	6 (5.0%)
3. Have you encountered any significant challenges or barriers while engaging in inquiry-based PD?	109 (91.0%)	11 (9.0%)
4. Do you believe that additional resources or support would enhance your experience with inquiry-based PD?	107 (89.0%)	13 (11.0%)
5. Have you noticed any improvement in student outcomes because of implementing strategies learned in inquiry-based PD?	115 (96.0%)	5 (4.0%)

Source: Collected by Author

Discussion

Teachers have many challenges, including a lack of time and resistance to change, but inquiry-based professional development may help them overcome these obstacles and improve their teaching methods [10]. Professional development and student involvement in the classroom may both benefit from the researcher's ability to tailor assistance and resources to each participant. The professional development of first-year teachers has been the subject of a great deal of research. It is worrisome that inquiry-based techniques do not prioritise professional growth [11]. This study seeks to address a knowledge vacuum by investigating the inquiry-based practices of teachers who have earned degrees in the field. Out of 110 people surveyed, 92.0% said they have participated in an inquiry-based professional development program in the last year, whereas 10.0% said the opposite. And whereas 6 people (or 5% of the total) didn't think that inquiry-based professional development improved their teaching approaches, 114 people (or 95.0% of the total) thought that it did. Out of 120 participants, 110 (or 91% of the total) felt that inquiry-based professional development would be more effective with more support or materials. Nine percent disagreed out of eleven persons polled. The majority of the 107 respondents (89.0%) believe that inquiry-based professional development would benefit from more money or support, while a small minority (11.0%) disagree. Of the 120 people who took the survey, 115 thought that inquiry-based professional development practices improved student results, while just 5 were sceptical.

Conclusion

The qualitative study presented here emphasizes the complex nature of teacher professional development that is inquiry-based. Time constraints and a lack of willingness to try new things make it difficult to fully use the reflective practice and classroom improvement opportunities presented by inquiry-based professional development. School management should be cognisant of the fact that first-year academic instructors have specific requirements. The researcher should not demand that instructors who are capable and open to considering problems with school structure delay improving their craft for five years or concentrate only on their own classes until they reach a certain level of proficiency. Young children should be given more chances to take on leadership positions and encouraged to use their abilities to improve their school for other students. This has implications for educational policy. Do the researchers really think that first-year instructors will consistently use inquiry-based strategies? The sheer volume of challenges that teacher-researchers confront can cause them to lose interest in inquiry-based approaches before they are comfortable teaching. As a result, schools need to put systems in place that let teachers capitalise on their knowledge. The findings indicate that a combination of customized assistance and structural reforms is necessary to triumph over these obstacles. The results of

the research could provide useful recommendations for enhancing professional development programs with the goal of raising student engagement and academic performance.

Conflict of Interests

The authors declare that they have no conflict of interests.

Acknowledgement

The authors are thankful to the institutional authority for completion of the work.

References

1. Ammoneit R, Reudenbach C, Peter C. Developing geographic computer modeling competencies in higher education. *Journal of Geography in Higher Education*. 2024 May 26;48(3):345-67. <http://dx.doi.org/10.1080/03098265.2023.2250991>
2. Aktan O, Toraman Ç, Aytug Kosan AM. I Have a Letter to My Faculty!= Fakülteme mektubum var!. *Pegem Journal of Education and Instruction*. 2021;11(1):1-48. <https://doi.org/10.14527/pegegog.2021.001>
3. Ammoneit R, Turek A, Peter C. Pre-service geography teachers' professional competencies in education for sustainable development. *Education Sciences*. 2022 Jan 11;12(1):42. <https://doi.org/10.3390/educsci12010042>
4. Arbia A, Kouchou I, Kaddari F, Hour RH, Elachqar A. Evaluation of the Analysis of Classroom Practices of Future Moroccan Teachers. *Int. J. Eng. Pedagog.*. 2021 May 1;11(3):99-115. <https://doi.org/10.3991/ijep.v11i3.20493>
5. Baan J, Gaikhorst L, van't Noordende J, Volman M. The involvement in inquiry-based working of teachers of research-intensive versus practically oriented teacher education programmes. *Teaching and Teacher Education*. 2019 Aug 1;84:74-82. <https://doi.org/10.1016/j.tate.2019.05.001>
6. Baan J, Gaikhorst L, Volman M. Stimulating teachers' inquiring attitude in academic and professional teacher education programmes. *European Journal of Teacher Education*. 2020 May 26;43(3):352-67. <https://doi.org/10.1080/02619768.2019.1693994>
7. Barraza P, Rodríguez E. Executive functions and theory of mind in teachers and non-teachers. *Heliyon*. 2023 Sep 1;9(9). <https://doi.org/10.1016/j.heliyon.2023.e19915>
8. Bedin E, Marques MS, das Graças Cleophas M. Research on the content, technological, and pedagogical knowledge (TPACK) of chemistry teachers during remote teaching in the pandemic in the light of students' perceptions. *Journal of Information Technology Education: Research*. 2023 Jan 3;22:001-24. <https://doi.org/10.28945/5063>
9. Godfrey D, Brown C, editors. *An ecosystem for research-engaged schools: Reforming education through research*. Routledge; 2019 Mar 14.
10. Du Plessis AE, Wheeley E, Klieve H, Gramotnev DK, Gramotnev G. The out-of-field phenomenon: Perceptive consequences and Support Needs Through the Lens of graduating second career preservice teachers. *Journal of University Teaching and Learning Practice*. 2023 Jan;20(1):1-27. <https://search.informit.org/doi/10.3316/informit.T2024121100015200848429488>

11. Verhoef L, Volman M, Gaikhorst L. The contribution of teachers of research-intensive teacher education programmes to a culture of inquiry in primary schools. *Professional development in education*. 2022 Oct 20;48(5):861-77. <https://doi.org/10.1080/19415257.2020.1747104>