

# Analysing the Characteristics of Educational Innovation: A Literature Review of Theory and Practice

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## ABSTRACT

This research aims to identify and clarify the main characteristics of educational innovation through a literature review of theory and practice. The method used was a literature study with a qualitative approach, analysing various literature sources from journals, books and research reports. The results showed that the main characteristics of educational innovation include the use of technology, pedagogical change, student engagement and curriculum flexibility. Diffusion of innovation, constructivist learning and social systems theories support these findings. Evaluations of innovation practices such as e-learning, project-based learning and the use of digital media show improvements in learning quality. This research provides a comprehensive understanding of educational innovation and is an important reference for policy makers, educators and researchers in education.

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## INTRODUCTION

Educational innovation is a systematic effort made to introduce changes and improvements in the education system to improve the quality of learning and its relevance to the needs of the times (1). It covers various aspects, such as curriculum development, teaching methods and the use of technology in the learning process (2). Along with the development of technology and information, innovation in education is becoming increasingly important to ensure that the education system can adapt quickly to changes occurring in the global environment (3).

However, although much research has been conducted on educational innovation, there are still different views on the characteristics that define innovation. Some studies emphasise the use of technology in education as the main form of innovation, while others place more emphasis on pedagogical changes and teaching methodologies (4). This suggests the need to conduct a comprehensive literature review to identify and clarify the key characteristics of educational innovation.

While many studies have explored various aspects of educational innovations, there is still a gap in a holistic understanding of their characteristics. Previous research tends to focus on certain aspects only, such as technology or pedagogy, without looking at the relationship between these aspects comprehensively. In

addition, many of these studies have focussed on one particular context or region, thus lacking a comprehensive and contextualised picture of educational innovations in various settings.

This research offers a new contribution by conducting an in-depth and comprehensive literature review of educational innovation theory and practice. By integrating various perspectives, this research will generate a more holistic and systematic understanding of the characteristics of educational innovation. In addition, it will also identify gaps in the literature, providing a foundation for further research.

## **METHODOLOGY**

This research uses a qualitative approach with a literature review method. This approach was chosen because the research objective was to identify and clarify the main characteristics of educational innovations through in-depth analysis of various existing literature sources, both from theory and practice. The qualitative approach allows researchers to gain a more holistic and in-depth understanding of the phenomenon under study (5).

The data sources in this study consist of primary and secondary literature including books, journal articles, conference proceedings, research reports and other relevant documents related to educational innovation. The literature used in this study was taken from various trusted sources such as academic databases (Google Scholar, ResearchGate, JSTOR), university libraries, and credible online sources.

The data collection procedure in this study was carried out through several stages, namely, identification of literacy sources, literature selection, and data organisation. First, researchers identified various literature sources relevant to the research topic using keywords such as 'educational innovation', 'characteristics of educational innovation', 'educational strategy', and 'educational innovation theory'. Secondly, we selected the literature based on its relevance, credibility and contribution to the research topic. The selected literature was then categorised according to the research themes and sub-themes. Third, the researcher organised the selected literature into a thematic framework to facilitate analysis (6). The literature was organised based on the characteristics of educational innovation, innovation theories and innovation practices that have been implemented.

Data analysis in this study was conducted using content analysis techniques. Content analysis is a method used to identify, analyse and interpret patterns and themes that emerge from data (7). The stages of data analysis include: First, coding the data from the selected literature using a predetermined categorisation system. Each category represents the characteristics, theories and practices of educational innovation. Secondly, thematic analysis was conducted to identify the main themes that emerged from the coded data. These themes were then further analysed to identify significant relationships and patterns. Thirdly, synthesis is to synthesise the findings from thematic analysis to produce a holistic understanding of the characteristics of educational innovation. These findings are then compared with existing theories to evaluate their appropriateness (8).

## **RESULTS & DISCUSSION**

Based on an analysis of the existing literature, some key characteristics of educational innovation have been identified. These characteristics include the use of technology, pedagogical change, student engagement and curriculum flexibility.

### **Use of technology**

The use of technology in education is one of the key characteristics of educational innovation. Technology has enabled more interactive and personalised forms of learning. (9). Rogers' diffusion of innovation theory supports this finding by stating that technology can improve accessibility and efficiency in learning (10).

### **Pedagogical change**

Educational innovation also includes changes in teaching methodologies. The constructivist approach, which emphasises the importance of students' active role in the learning process, is one form of pedagogical innovation that is widely applied (11). Piaget and Vygotsky's constructivist learning theory supports this approach, where knowledge is built through interaction and experience (12).

### **Student engagement**

Student engagement in the learning process is also an important characteristic of educational innovation. Successful innovations usually involve students actively in learning, either through discussions, group work, or projects relevant to the real world (13). Learning motivation theory underlines the importance of student engagement to achieve optimal learning outcomes.

### **Curriculum flexibility**

A curriculum that is flexible and responsive to student needs and the times is another characteristic of educational innovation. A curriculum that is able to adapt to environmental changes and labour market needs allows students to acquire relevant competencies (4). Bronfenbrenner's social systems theory supports the

importance of curriculum adaptation in the face of social and economic dynamics (14).

This research also analyses several theories that explain the concept of educational innovation, namely Rogers' diffusion of innovations theory, Piaget & Vygotsky's constructivist learning theory and Bronfenbrenner's social systems theory. Innovation diffusion theory explains the process of spreading innovations through five main characteristics: relative advantage, compatibility, complexity, trialability and observability. In the context of education, innovations such as the use of technology in learning fulfil many of these characteristics, making them more easily accepted and adopted by educational institutions (9).

Constructivist theory emphasises the importance of interaction and experience in learning. Innovations that focus on constructivist approaches, such as project-based learning and group work, have been shown to improve student understanding and engagement (11). Furthermore, social systems theory views education as part of a wider social system. Educational innovation should consider the interactions between various components of the social system, including family, school and community. Curriculum flexibility that is responsive to social dynamics is one application of this theory in educational innovation (4).

In addition, this research also evaluates some of the educational innovation practices that have been implemented:

### **Implementation of e-learning**

E-learning has been widely implemented and provides positive results in improving the accessibility and flexibility of learning. Studies show that e-learning can improve student motivation and learning outcomes when combined with appropriate teaching methods (13).

### **Project-based learning**

Project-based learning is a pedagogical innovation that involves students actively in the learning process. Studies show that this approach can improve students' critical thinking skills and collaborative abilities (11).

### **Use of digital media**

The use of digital media in learning, such as learning videos and interactive applications, has been proven effective in improving student engagement and understanding. Digital media allows the delivery of learning materials that are more interesting and easy to understand (9).

## **CONCLUSION**

This study identified and clarified the key characteristics of educational innovation through a literature analysis of theory and practice. The use of technology, pedagogical change, student engagement and curriculum flexibility are important characteristics that underpin innovation in education. Theories such as diffusion of innovation, constructivist learning and social systems provide a strong framework for understanding and implementing educational innovation. Evaluations of innovation practices show that innovations such as e-learning, project-based learning and the use of digital media can improve the quality of learning.

## **RECOMMENDATION**

Beberapa rekomendasi yang dapat dipertimbangkan yakni lembaga pendidikan dapat meningkatkan peluang keberhasilan dalam mengadopsi dan mengimplementasikan inovasi pendidikan yang efektif, sehingga dapat meningkatkan kualitas pendidikan dan mempersiapkan siswa dengan lebih baik untuk menghadapi tantangan di masa depan.

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