



Implementation of Bruner's Representation Approach in Financial and Accounting Learning

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Abstract

Background. Financial literacy is a fundamental aspect of making smart economic decisions. In an era of increasing global economic complexity, a thorough understanding of fundamental financial and accounting principles is crucial for individuals to manage assets effectively and maximize profits.

Aims. Analyze Bruner's cognitive learning theory from relevant literature studies and describe the implications of Bruner's cognitive learning theory in financial and accounting learning models.

Methods. This study employs a qualitative approach, integrating case studies and data analysis to examine how Bruner's representation theory can be effectively implemented in financial literacy and accounting education.

Result. Bruner's theory provides a systematic approach to learning through representational stages, comprising enactive, iconic, and symbolic representations. Applying this theory in financial literacy and accounting education enables learners to grasp financial concepts progressively, thereby enhancing conceptual understanding and practical application.

Conclusion. This article examines the implementation of Bruner's representations in financial and accounting education, exploring their impact on enhancing financial literacy, particularly in making more effective and sustainable economic decisions.

Keywords: Bruner's theory, financial literacy, accounting, representation, financial education.



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INTRODUCTION

In today's era of globalization, science and technology are developing rapidly, accompanied by the development of various new concepts and insights about the learning system in schools. One characteristic of learning in the nuances of modern education is that its presentation is based on learning theories from experts or education experts (Sundari & Fauziati, 2021). Financial and accounting subjects need to be given to students so that they have the ability to think logically, analytically, systematic, critically, and creatively and have

the ability to work together. To overcome this, it is very much required to improve the strategies and methods applied by teachers in the learning process. Students' thinking skills according to Jerome Bruner's theory are known as discovery learning. This theory explains that the learning process will run well and creatively if the teacher gives students the opportunity to find a rule (concept, theory, definition) through examples that illustrate the rules that are the source. Students are generally guided inductively to know the general truth. (Hatib & Setiawan, 2021).

As global economic systems become increasingly complex, financial literacy has become a vital component of informed economic and business decision-making (Robinson & Lum, 2020). Financial and accounting education plays a crucial role in equipping individuals with the skills necessary to manage their financial resources effectively. One promising learning approach for enhancing financial understanding is the Representation Theory developed by Jerome Bruner. Bruner argues that learning occurs through three stages of representation:

1. Enactive Representation – Learners acquire understanding through direct experience, such as financial transaction simulations and bookkeeping practices.
2. Iconic Representation – Financial concepts are visualized through financial graphs, accounting diagrams, and infographics, making abstract ideas more accessible.
3. Symbolic Representation – Understanding occurs through abstract language, such as interpreting financial reports and calculating financial ratios (Bruner, 1966).

By applying these representation stages in financial literacy and accounting education, learners can progressively grasp financial concepts, thereby enhancing their conceptual understanding and practical application.

At present, Indonesia is entering the era of globalization, as evidenced by its growing and expanding economy. It is characterized by the advancement of information technology, which is continually evolving, causing significant changes in people's lives, especially among students. Access to information, such as social media, can have both positive and negative effects on its users. Students often allocate funds to meet their desires rather than their needs. So that students are looking for solutions to meet their daily needs. Therefore, several economists have expressed opinions about the importance of learning accounting to help students manage their finances and allocate funds wisely, based on the attitude formed through accounting education.

Accounting is a course that requires an understanding of both theoretical concepts and calculations simultaneously. However, in learning, there are often problems because there has

been no harmony in the aspects of the learning process, which includes three aspects, namely verbalism, misinterpretation, lack of understanding, and lack of attention. Accounting education is able to guide students by providing lessons that serve as milestones in mastering finance. This indicates that students can master and understand the concept of financial management, acquiring basic skills in the financial management process, including managing their funds, and can prepare, control, and supervise monthly calculations (Islamita & Nugroho, 2023).

LITERATURE REVIEW

Financial Literacy and Accounting in Education

Financial literacy refers to the knowledge and skills necessary for individuals to manage their finances effectively. According to Susanti (2019), financial literacy enables individuals to avoid financial problems and enhances their economic well-being. While financial literacy and accounting are interconnected, they differ in their perspectives.

Financial literacy generally refers to the ability to understand and manage personal finances effectively, including financial planning, debt management, investments, and financial decision-making. Accounting literacy, on the other hand, focuses on understanding and applying accounting principles in various contexts, emphasizing financial recording, accounting cycles, and financial reporting. A comprehensive understanding of both financial and accounting literacy enables individuals to manage financial resources systematically and strategically.

The provision of resources with competence in the field of sustainability accounting affects the existence of an educational institution, especially those located near the company's operating area, which is directly related to natural resource exploitation activities. The existence of this university can be analyzed through stakeholder relationships because both internal and external stakeholders can influence the strategy, goals, quality of teaching, and university activities. Stakeholder requests have an impact on universities and if the requirements of stakeholders change, universities need to evaluate feedback and determine their goals and improve their processes in meeting the needs of their stakeholders. Thus, universities are more oriented to market needs and are responsible to their stakeholders (Kusumawardani et al., 2018).

Social and environmental accounting has long been a concern in the development of accounting science. These developments began around the mid-1990s, when the International Accounting Standards Committee (IASC) introduced the concepts of environmental

accounting and human rights auditing. So when the movement to care for the environment begins to receive public attention, accounting improves itself so that it is ready to internalize various externalities. Changes in industry standards and environmental accounting began to develop, and professional auditors also began to issue principles on environmental auditing. Accounting was then considered important because companies needed to convey information about their social activities and environmental protection to their stakeholders. The driving factor for the emergence of environmental accounting is a paradigm shift known as the Human Exceptionalism Paradigm towards the Environment Paradigm. This social and environmental accounting is often also referred to as green accounting, environmental accounting or sustainability accounting (Kusumawardani et al., 2018).

Higher education institutions, as well as the business world, face new and complex demands. Lecturers/educators in the field of business science play a key role in fostering awareness and social and corporate environmental responsibility. For example, in lectures, lecturers can emphasize that accountants play a role in sustainability reporting, so that students are better prepared to manage the social and environmental issues of the company. The challenge for academics and universities in the field of business science is to produce leaders who are responsible and responsive to the issues of climate change and sustainability. Therefore, university leaders and managers need to have the courage to think far ahead about what the future world in which they contribute will be like, thus demanding a high commitment to implementing a new leadership paradigm and transforming organizational behavior (Kusumawardani et al., 2018).

Bruner's Theory of Learning

Bruner, whose full name is Jerome S. Bruner, a psychologist (1915) from Harvard University, United States, has pioneered the school of cognitive psychology that emphasizes the importance of developing thinking. Bruner offers various perspectives on human cognitive development, including how humans learn, acquire knowledge, store it, and transform it. The basis of his theoretical thinking views humans as processors, thinkers, and creators of information. Bruner stated that learning is an active process that allows humans to discover new things beyond the information given to them. Three cognitive processes occur in learning, namely (1) the process of acquiring new information, (2) the process of transforming the information received, and (3) testing the relevance and accuracy of knowledge. The acquisition of new information can occur through reading activities, listening to teachers' explanations

about the material being taught, or listening to audiovisuals. This information may be a refinement of previous information that has been had. Meanwhile, the process of knowledge transformation involves adapting the knowledge we receive to suit our needs. The information received is analyzed, processed, or transformed into a more abstract concept so that one day it can be used (Hawa, 21014)

Bruner, through his theory, revealed that in the learning process, children should be allowed to manipulate specially designed objects or props that can be modified by students to understand a mathematical concept. Through the teaching aids he is researching, children will see firsthand how the order and structural patterns are contained in the object he is paying attention to. The child then connects the order to the intuition that has been attached to him. The role of the teacher in the implementation of the lesson, (a) needs to understand the structure of the subject, (b) the importance of active learning so that a person can find the concepts on his or her own as a basis for understanding correctly, (c) the importance of the value of inductive thinking. Thus, in order for learning to develop children's intellectual skills in learning a knowledge (for example, a mathematical concept), the subject matter needs to be presented by paying attention to the stage of cognitive development/knowledge of the child so that the knowledge can be internalized in the mind (cognitive structure) of the person. The internalization process will occur in earnest (meaning that the learning process occurs optimally) if the knowledge learned is acquired through three-stage models, namely the enactive stage model, the iconic model, and the symbolic stage model (Hawa, 2014).

Jerome Bruner (1966) states that the learning process progresses through three stages of representation:

1. Enactive Representation: Learning through direct experience, such as financial transaction simulations and accounting practices.
2. Iconic Representation: Learning through images and visualizations, such as financial charts, accounting flow diagrams, and financial infographics.
3. Symbolic Representation: Understanding through symbols and abstract language, including financial report analysis and financial ratio calculations.

Bruner emphasizes that the gradual transition from concrete experiences to symbolic abstraction enhances learners' understanding and skills more effectively than traditional learning methods.

The selection of the correct learning theory, which is a theory that can engage all students in the learning environment. Lecturers are required not only to convey material

thoroughly, but also to be able to adapt their approach to meet the needs of students who learn. Teachers must also be able to create a learning environment that enhances student learning outcomes. Theory is very much needed in education, as it provides a framework for addressing every problem encountered during the learning process. Therefore, the theory of teaching itself is necessary. The theories contained in education cannot all be applied because environmental factors, facilities, and other limitations restrict their application. Theories that can be applied include Vygotsky's theory, Bruner's theory, Dienes' theory, Gagne's learning theory, and van Hiele's learning theory. This is because each of these theories can improve learning outcomes, learning activities, and students' learning interests in financial and accounting learning (Najah et al., 2023).

METHODS

This study employs a qualitative approach, integrating case studies and data analysis to examine how Bruner's representation theory can be effectively implemented in financial literacy and accounting education. The research focuses on:

1. Data Collection Methods: Literature reviews, interviews with educators, and observations of financial education programs.
2. Analysis Approach: Evaluating the impact of representation-based learning on students' financial comprehension and decision-making abilities.
3. Research Scope: Investigating institutions that apply Bruner's representation stages in financial literacy and accounting learning.

By employing this methodology, the study aims to provide insights into how representation-based learning improves financial education outcomes.

DISCUSSION

The Role of Representation in Understanding Financial Literacy

Education in financial literacy requires an approach that allows learners to grasp economic and accounting concepts progressively. Bruner's theory provides an effective strategy through three representation stages:

1. Enactive Representation: Direct experiences through financial simulations and bookkeeping practices.
2. Iconic Representation: Visualization of concepts through financial graphs, accounting diagrams, and infographics.

3. **Symbolic Representation:** Abstract comprehension through financial report analysis and calculation of financial ratios.

A representation-based approach ensures that financial education is not only theoretical but also practical, helping learners connect financial concepts to real-life situations.

Implementation of Representation-Based Learning in Financial Literacy

To enhance financial understanding, **Bruner's theory-based learning strategies** can be implemented through:

1. **Interactive Financial Simulations:** Allowing students to manage virtual finances that replicate real-world economic conditions.
2. **Data Visualization Approaches:** Using interactive infographics and business flow diagrams to illustrate cash flows, investments, and financial management strategies.
3. **Case Studies and Problem-Based Learning:** Analyzing real financial data scenarios to enhance analytical skills and decision-making abilities.
4. **Technology Integration in Learning :** Utilizing financial applications and accounting software for practical financial management experiences.

Impact of Representation-Based Learning on Financial Skills

Research indicates that representation-based approaches significantly enhance several aspects of financial literacy:

1. **Improved Conceptual Understanding:** Learners can better connect financial theory to real-world financial management practices.
2. **Enhanced Analytical Skills:** Case-based and symbolic representations strengthen financial decision-making abilities.
3. **Reduced Errors in Financial Decision-Making :** A gradual understanding from enactive to symbolic representation helps learners avoid poor financial choices.
4. **Career Readiness :** This approach equips learners with practical financial skills applicable in both personal and professional settings.

Challenges and Solutions in Implementing Representation-Based Approaches

Despite its advantages, representation-based learning faces several challenges:

1. **Limited Resources:** Not all institutions have access to technology or adequate visual teaching materials.

Solution: Develop digital materials and free-access resources for all learners.

2. **Variations in Learners' Understanding:** Not all students grasp abstract concepts at the same pace.

Solution: Use a gradual approach and provide additional support for students needing assistance.

3. **Lack of Training for Educators:** Instructors may not be fully accustomed to representation-based teaching methods.

Solution: Conduct training sessions for educators to improve their effectiveness in applying Bruner's theory.

Bruner's representation-based approach proves effective in enhancing conceptual understanding and financial literacy. Combining direct experiences, visualizations, and symbolic abstractions enables learners to comprehend financial and accounting concepts better and apply them in real-life situations. Therefore, this approach is highly relevant in modern financial education and should be further developed to ensure financial learning remains innovative and adaptive.

CONCLUSION

Bruner's representation approach, consisting of enactive, iconic, and symbolic stages, plays a crucial role in enhancing financial literacy and accounting comprehension.

1. **Enactive Representation :** Learners grasp concepts through direct experiences, such as financial simulations and budget management.
2. **Iconic Representation :** Financial concepts are visualized through graphics, diagrams, and infographics, linking theory to concrete illustrations.
3. **Symbolic Representation :** Abstract understanding is reinforced through financial report analysis and ratio calculations, essential for data-driven financial decision-making.

Applying this approach has been proven to improve learners' conceptual understanding, analytical skills, and financial management effectiveness. By transitioning learning from concrete experiences to abstract comprehension, learners can not only grasp financial theories but also apply them in real-world financial decision-making.

Recommendations

To enhance the effectiveness of the representation approach in financial and accounting education, the following strategies can be implemented:

1. **Integration of Technology in Learning**

- a. Utilize accounting software and financial simulation tools to reinforce enactive representation.
 - b. Incorporate interactive applications that allow learners to practice financial concepts directly.
2. Development of Interactive Visual Materials
 - a. Provide graphics, diagrams, and infographics as learning aids for financial concepts.
 - b. Use educational videos and animations to support understanding through iconic representation.
3. Implementation of Case Studies and Problem-Based Learning
 - a. Assign real-world case studies reflecting financial and business scenarios.
 - b. Encourage group discussions to analyze and solve financial problems.
4. Representation-Based Evaluation Methods
 - a. Adapt assessment methods to align with enactive-to-symbolic representation stages.
 - b. Use simulation-based tests and financial report analysis to measure learners' comprehension.
5. Training for Educators
 - a. Conduct training programs for teachers and lecturers to effectively implement Bruner's theory.
 - b. Encourage innovation in teaching methods to align with technological advancements and learners' needs.

By applying these recommendations, Bruner's representation approach can be optimized to enhance financial literacy and skills, laying a stronger foundation for future financial decision-making.

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