
Enhancing economics education through phenomenography, variation theory, and multiple representations

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ABSTRACT

This study examines the intersection of phenomenography and variation theory in educational settings, with a focus on their implications for teaching economics. Phenomenography, a research approach aimed at understanding how individuals perceive and conceptualize phenomena, provides insights into learners' diverse interpretations of concepts. Variation theory, derived from phenomenography, guides instructional design by emphasizing the importance of experiencing variations in critical aspects of the learning material. Through a narrative literature review, this study investigates whether employing multiple representations enhances knowledge transfer, learning outcomes, and conceptual understanding. The findings suggest that integrating variation theory into economics classrooms can optimize students' understanding by directing their attention to critical aspects of concepts through varied instructional strategies.

Keywords: Variation Theory, Multiple Representation, Phenomenography, Economics Education, Learning Outcome

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INTRODUCTION

Education serves as a catalyst for developing learners' skills, attitudes, and behaviors, enabling them to achieve positive learning outcomes that contribute to sustainable development. The social sciences curriculum, encompassing subjects like economics, civic education, political science, and history, plays a pivotal role in fostering an economically prosperous, equitable, and opportunity-rich society. Teaching these subjects equips learners with foundational knowledge in economic literacy, resource management, and problem-solving, preparing them to address real-world economic challenges effectively.

Umo (1986) argued that economics “is a social science which studies the choices of limited resources in an attempt to satisfy the unlimited wants of the people, mostly in the areas of production, consumption, growth, and distribution.” Umo perceived economics as a science-based subject, emphasizing the use of scientific methodologies to solve economic problems and predict the short- and long-term behavior of economic variables. Similarly, Lemke (1998)

advocated for the scientific nature of the subject, stating that “to do science, to talk science, to read and write science, it is necessary to juggle and combine in canonical ways verbal discourse, mathematical expression, graphical-visual representations, and motor operations in the ‘natural’ world” (p. 90).

According to Cifuentes-Faura et al. (2020), teaching economics equips students with the knowledge to contribute to environmental preservation and the improvement of general living standards. Simultaneously, it helps them acquire appropriate codes of behavior that they can apply when making future decisions in their professional or personal lives. However, despite the significant role of economics in daily life, teaching the subject presents challenges such as teachers' inadequate mastery of content, limited use of instructional aids, and difficulties in interpreting and presenting mathematical and graphical representations (Olaleye, 2011; Adu et al., 2014). These challenges often result in teaching approaches that are overly theoretical and abstract, making them less relevant to students' real-world experiences and hindering their ability to connect with and internalize economic concepts (Hahn & Kim, 2010).

Okeke and Ezewulu (2021) argued that economics teachers face numerous challenges in helping their students understand basic economic concepts and apply these concepts in daily life. They emphasized that teachers need to be creative and innovative, employing new teaching strategies that address the needs, interests, abilities, and multi-sensory nature of learners in the classroom. Such strategies, they argued, would promote higher-order thinking skills, such as evaluating and synthesizing economic phenomena.

To address these issues, educational theories such as phenomenography and variation theory provide valuable frameworks. Phenomenography focuses on understanding the diverse ways learners perceive and interpret concepts, while variation theory emphasizes the importance of exposing students to multiple representations to deepen their conceptual understanding. For instance, Marton and Booth (1997) classify learners as either surface-level or deep-level. Deep learners develop a richer understanding when instructors employ varied and targeted teaching strategies. Variation theory encourages teachers to identify and emphasize critical aspects of content through comparison, thereby fostering students' ability to perceive and integrate different representations (Marton & Morris, 2002).

Applying these theories to economics, recent studies suggest that instructional approaches incorporating multiple representations—such as verbal explanations, graphs, and mathematical models—can bridge understanding gaps and facilitate deeper knowledge transfer (Airey & Linder, 2006; Lo, 2012). By guiding students through these diverse modes, teachers can foster "meta-representational competence," enabling learners to form meaningful connections across representations (McDermott, 2009; Disessa, 2004).

In the same vein, Marton and Booth (1997) claimed that in the process of learning in the classroom, learners can be classified as surface-level learners and deep-level learners. They further explained that surface-level learners are students whose attention is focused on learning the text itself, i.e., the sign. These learners primarily possess a reproductive understanding of the concepts learned, often employ rote learning strategies, and are classified as lower-order thinkers, as noted in Bloom's taxonomy of educational objectives. On the other hand, deep-level learners are those whose focus is directed toward "the intentional content of the learning material (what is signified)," meaning they aim to comprehend what the teacher intends to convey, such as a particular economic principle or problem (Marton, 1975).

The selected content or topic to be taught in the classroom is referred to as the *object of learning* in the variation theory of learning. Variation theorists, such as Marton and Pang (2006), argue that learners will only grasp the selected content or object of learning if they are able to perceive, see, and sense its critical aspects. In variation studies, the effective use of comparison strategies is considered both a necessary and sufficient condition for learning to occur (Marton & Morris, 2002).

Assan (2009) similarly identified two key challenges that learners face in understanding certain concepts: (i) they found the use of graphical representations to illustrate or analyze the foreign exchange market abstract and particularly challenging, often due to limitations in verbal explanations or the language of instruction; and (ii) they struggled to transfer knowledge from verbal descriptions to graphical representations within the context of the foreign exchange market. In introducing the variation theory of learning to teach the foreign exchange market, Assan (2009) found that this approach helped learners better understand key aspects of the market. However, the study did not address two important areas: (i) how variation theory affects learners' ability to translate their understanding from verbal explanations to graphical forms, and (ii) their ability to transfer knowledge from graphical representations back to verbal explanations. This omission may be due to the study's limited scope, which may not have covered these specific areas.

Yeşildağ Hasançebi and Günel (2013) claimed that there is limited literature regarding the guidance of students' learning competencies using multiple representations. Based on this, the study aims to critically explore how the use of multiple representations (verbal, algebraic, graphical, and mathematical) can simplify the object of learning by considering both the variant and invariant aspects of the object. The aim of this study is threefold: first, to examine the link between phenomenography and the Theory of Variation; second, to explain the application of Variation Theory within the field of economics; and third, to review the impact of multiple representations on knowledge transfer, learning outcomes, and concept variation. This approach seeks to establish a foundational understanding of how Variation Theory, rooted in

phenomenography, can enhance learning and knowledge acquisition, particularly in complex disciplines such as economics.

Research Questions

1. What is the link between phenomenography and theory of variation.
2. How can application of variation theory be applied in economics classroom.
3. Does multiple representation promote knowledge transfer, learning outcomes and concept variation.

Theoretical Framework

Phenomenography and Variation Theory

Phenomenography is a research approach associated with Ference Marton and his colleagues at the University of Gothenburg, Sweden (Richardson, 1999). This research approach has been adopted by numerous researchers in the Netherlands, United Kingdom, and Australia. Phenomenography is an empirical approach that investigates, or "aims to identify, the qualitatively different ways in which different people experience, conceptualize, perceive, and understand various kinds of phenomena" (Richardson, 1999).

In the pedagogical process, learners often interpret phenomena or concepts in different ways or conceptualize ideas taught in class from diverse perspectives. It was this observation of why and how learners understand concepts or phenomena differently that led to investigations in the 1970s by Swedish researchers (Marton, 1981). In phenomenographic studies, the range of qualitatively different ways of conceptualizing or understanding a particular idea, concept, or phenomenon is known as "categories of description" (Ayene et al., 2011).

In essence, the aim of phenomenography is to investigate learners' meanings of concepts and how these meanings vary among different learners (Marton & Booth, 1997). Researchers in phenomenography argue that, through the use of variation theory, "learners can only discern a particular aspect when they experience variation on that aspect" (Booth, 2008). It is also posited that the significant aspect of phenomenographic studies centers on the object of learning—that is, how a concept is understood or experienced by a particular group of learners.

Equally, Marton and Booth (1997) opined that the theory of variation is developed from phenomenography. Also, Marton et al. (2004) argued that learners interpret concepts differently, but it is only possible to focus on learning if teachers engage learners, understand their diversity in understanding the concepts, and structure learning activities through variation to promote learning outcomes. The theory of variation is developed from phenomenographic theory and shares the same epistemological assumptions as phenomenography (Bowden & Marton, 1998). However, the empirical research approach associated with variation theory differs from that of phenomenography in terms of the "object of study" and the "research questions" raised (Åkerlind, 2015). While phenomenographic studies are directed towards diagnosing the different ways in

which a phenomenon or concept may be perceived, conceptualized, understood, or misunderstood, variation theory focuses on applying the theoretical principles of variation to instructional design in order to promote classroom teaching and learning (Åkerlind, 2015).

Furthermore, while there is a theoretical overlap between variation theory and phenomenography, the adoption and implementation of variation theory in the curriculum design process will be more attainable and result-oriented when guided by phenomenographic research on core disciplinary concepts through teacher action research (Åkerlind, 2015). This relationship is further explained.

1. Phenomenographic research on variation in understanding or misunderstanding of concepts among learners is a necessary condition for learning to take place. It entails the identification of the critical aspects of any phenomenon or concept so that students can discern the intended critical parts clearly.

2. The application of Variation Theory to design the instructional process will maximize learners' opportunities to discern or focus on the broad range of critical aspects of the concept outlined in the previous analysis of its critical parts.

Therefore, both Variation Theory and Phenomenography are theoretically or practically intertwined. In essence, a sound understanding of Phenomenography is a necessary condition for the effective application of Variation Theory.

Table 1: Stages of development of Phenomenography to Variation Theory

Key Developments	Associated publications	Changing research questions
Phenomenography commences;	Marton 1981	What are the collective range of ways of understanding a concept?
Methodological Developments	Bowden & Walsh, 1994, 2000	
Theoretical developments; Variation Theory commences	Marton & Booth 1997; Bowden & Marton, 1998	What aspects of the concept are discerned (and not discerned) within those ways of understanding?
Pedagogical applications of Variation Theory	Marton et al. 2004;	What pedagogical design would maximize students' chances of discerning those different aspects?

Source: Åkerlind (2015)

Marton and Pang (2006) argued that for a student to grasp or discern a core aspect of an object, the learner must experience variations in the features of the object of learning. Critical aspects of any object of learning are the significant features that learners must focus on in order to notice or perceive the object. In classroom instruction, the teacher consciously varies certain critical aspects of the object of learning or phenomenon while keeping other aspects constant or invariant. As such, a space of variation is created during classroom instruction that brings the student's focal attention to the critical aspects, which in turn reinforces the learner's ability to experience the object of learning (Pang & Marton, 2005).

Sweller (1988) posited that cognitive theorists have demonstrated that the human brain is best at processing a limited amount of information at any given time. Effective learning occurs when the working memory load is small enough to facilitate changes in long-term memory. Learners cannot grasp all aspects of the phenomenon simultaneously. However, they can attend to certain aspects of the object of learning or phenomenon. During the application of variation theory in classroom instruction, separation occurs, allowing some aspects of the object of learning to come to the forefront, while others recede into the background (Marton & Booth, 1997). In essence, variation theory seeks to highlight "what is varying and what is not?" In the pedagogical process, the critical or most significant aspects of the object of learning are varied against its background or general perception to demonstrate a clear contrast. The application of variation theory in the learning process is designed to assist students in discerning the critical aspects of the object of learning. Equally, Bowden & Marton (1998) claimed that variation theory employs the use of comparison or juxtaposition to show similarities and differences between an object of learning, so that the learner's attention will be directed to a particular critical feature, promoting effective learning outcomes. In essence, Marton argues, "Experiencing variation, people discern certain aspects of their environment; we could perhaps say that they become 'sensitized' to those parts" (Åkerlind, 2015).

The concept of discernment, variation, and simultaneity is essential for learning to take place when variation theory is applied in the instructional process (Sabbaghan, 2015). Sabbaghan further explained that, in order for learners to experience a concept or phenomenon in the desired or intended way, they need to discern the critical features of the object of learning. For instance, the critical feature of the concept of a perfect market under market structure in economics is that the perfect market type is characterized by a "perfectly elastic demand curve." Therefore, during the instructional process, learners' attention must focus on experiencing variation in the forms or dimensions of the demand curve in order to become sensitive to or discern the horizontal demand curve. If learners are unable to discern the perfectly elastic or horizontal demand curve while trying to understand the concept of a perfect market—perhaps because the teacher doesn't explain the implications of a horizontal demand curve, the assumptions underlying it, and how price is determined in a situation of perfectly elastic demand—then we have not structured or focused the learners' attention or awareness to experience the concept of a perfectly elastic demand curve in a perfect market in a planned way.

Also, the concept of discernment as well as variation is significant in this context (Sabbaghan, 2015) because, if in economics the only market structure that exists is a perfect market, the concept of a perfectly elastic demand curve would have no meaning if there were no other market structures, like monopoly, to compare it with. We can understand the perfectly elastic demand

curve because we can compare it to the “downward sloping demand curve” faced by a monopolistic firm.

It must be noted that learning takes place when learners are aware of or have experienced a variation in the dimensions of the critical aspects—first individually, then collectively and simultaneously (Sabbaghan, 2015). Every concept has numerous features. So, if we want learners to discern or see an object of learning in exactly the same way, we must be able to focus their awareness or attention on the same features in the same order (Sabbaghan, 2015).

The aspects of an object of learning or a phenomenon that are essential for a particular learner to understand or become aware of are known as critical features (Sabbaghan, 2015). In the talk-and-chalk industry, the teacher or the resource person is meant to select the critical features of whatever is to be learned in the classroom after the intended object of learning has been identified through the school syllabus, scheme of work, or curriculum. Marton & Pang (2006) argued that in variation theory, the object of learning is a “specific insight, scale, or capability that the students are expected to develop.

Marton et al. (2004) argued that there are four distinctive approaches of demonstrating variations in learning, which are;

Contrast – A learner must be given an opportunity to compare something with something else for learning to take place. For example, if the object of learning is "Demand," learners' attention needs to be directed to the difference between demands, wants, and needs. Or, if the object of learning is "Cost," the learner must be given the opportunity to discern the difference between cost in economics (opportunity cost) and cost in accounting (money cost).

Generalization – This pattern shows that there should be variation in the concept of learning so that the learner can discern the critical part. In other words, the learner must experience variation within the same concept or phenomenon. For instance, effective and ineffective demand should be explained with examples, and variable cost, fixed cost, and other unit costs derived from the aforementioned cost should be explained with examples.

Separation – To enhance the learner's knowledge in a certain area of the object of learning, some aspects of the object need to vary while other aspects remain invariant. For example, in establishing the law of demand, we must assume that all other factors (price of other goods, income, taste and fashion, government policy, climatic conditions, etc.) affecting demand, except price, remain constant for the law to hold. Similarly, in analyzing cost concepts, we must assume that some costs are fixed while others vary to illustrate that unit costs fall, reach the lowest point, and then begin to rise, in order to demonstrate the effect of the law of diminishing returns in the short run of any firm. The aforementioned assumptions in both objects of learning are necessary and sufficient conditions that must be met to demonstrate the concepts of demand and cost using mathematical, algebraic, and graphical representations.

Fusion - It denotes that for a particular concept or object of learning to be discerned or perceived, learners must experience several or numerous critical parts simultaneously. Alternatively, it is paramount that a situation is presented where all the critical aspects of learning are experienced at the same time. This is a fusion with the critical aspect of variation in learning. This suggests that the analysis of unit cost should be presented in both the short run and long run for learners to perceive the numerous critical points simultaneously.

Marton and Pang (2006) claimed that for learners to be able to spot, notice, or discern certain aspects of an object of learning, they must experience variation in that critical aspect. A critical aspect is a characteristic of the object or content of learning that learners should direct their attention toward in order to use the object of learning appropriately (Jing et al., 2017). Pang and Marton (2005) posited that during the instructional process, when a certain critical aspect of learning is varied while keeping other aspects invariant, a space of variation occurs, which directs the learner's attention to the critical aspect.

Sweller (1988) argued that cognitive theorists believe the human brain is capable of processing only a limited range of information. Jing et al. (2017) claimed that when the memory load is small, it becomes easier for information to be transferred to long-term memory, and cognitive load can be minimized or reduced through the separation of variant and invariant aspects of learning.

According to Lo (2012), the variation theory of learning promotes knowledge or concept association, encourages learners to spot the key aspects of any content, helps students see the relationships between concepts and daily life experiences, and promotes retention and understanding.

METHOD

This study employs a narrative literature review approach to investigate the integration of phenomenography, Variation Theory, and multiple representations in economics education. Narrative research is particularly effective in capturing the experiences, perceptions, and insights of economics educators as they incorporate these frameworks and techniques to enhance student comprehension and engagement (McKibben & Breheny, 2023; Park, 2023). Adopting a qualitative perspective, this study aims to shed light on the effects of diverse instructional strategies on learning outcomes in economics classrooms.

RESULTS AND DISCUSSION

Multiple Representation & Learning Outcomes

Representation is defined as a process of showing and establishing relationships and links between objects, concepts, phenomena, and others (Gero & Reffat, 1997). Tang et al. (2014) claimed that representations consist of various forms such as graphs, algebraic expressions,

mathematical symbols, diagrams, simulations, written text, oral expressions, and analogies used to analyze and symbolize concepts in the learning process. Representation can be uni-modal instruction, where one mode of representation is used in the instructional process. In contrast, multiple representation involves using more than one mode in the teaching and learning process. Garza (2003) argued that intended learning outcomes are achieved when knowledge transfer equilibrium is attained. This involves transferring knowledge and establishing connections between various modes of concept representation. The equilibrium is attained when the cyclical process of knowledge transfer from verbal, algebraic, mathematical, and graphical representations is complete.

Hand & Choi (2010) also found that when students employ multiple representations in academic exercises, it is beneficial and has a significant impact on learners, especially when the use of multiple representations follows a sequential order and when the critical or most important characteristics of the object of learning are identified and emphasized.

Yeşildağ Hasançebi and Günel (2013) opined that “representation can be classified based on abstraction (concrete or abstract), modalities (text or graphs), sensory channels (auditory or visual), dimensionality (one or multiple dimensions), or types of information (qualitative or quantitative).” Schnotz (2002) argued that representation has the following benefits: it increases learners' representational power in analyzing a concept, enhances learning outcomes, helps learners see the relationship between concepts, and promotes better understanding.

Furthermore, Ainsworth (2006) posited that instructional processes employing multiple representations improve learners' competencies in using various modes of representation to convey their understanding, which also enhances their academic performance. Also, Meltzer (2005) argued that learners' problem-solving skills are improved when multiple representations are used during the instructional process. Meltzer further argued that learners can solve problems when they understand the necessary modal representations underlying those problems; however, they tend to avoid problems they do not understand the modal representations for.

Multiple representations in teaching and learning promote learners' conceptual understanding and students' analytical skills (Waldrip et al., 2014). Similarly, multiple representations were claimed to improve students' analytical and reasoning skills, learners' representation competencies of concepts taught, and learning outcomes (Waldrip & Prain, 2013). The effective use of multiple representations has the potential to provide cognitive diversity, in-depth learning and thinking processes, and desirable learning outcomes (Yeşildağ Hasançebi & Günel, 2013).

Ainsworth (2006) argued that the effective use of multiple representations in explaining the same information—such as verbal, algebraic, mathematical, and graphical representations—promotes learners' development of a better understanding of concepts and the relationships between those concepts and other phenomena. Yeşildağ Hasançebi and Günel (2013) similarly claimed that

using two or more modes of representation helps transfer knowledge from one mode to another, offering numerous advantages for learners. Based on this, Prain and Waldrip (2006) suggested that students taught using a multiple-representation approach perform better than their colleagues who are not. Ainsworth and Van Labeke (2004) argued that transferring knowledge from graphical to verbal or from verbal to mathematical representations promotes deeper conceptual understanding and learning.

Demirbağ and Günel (2014) opined that learners who can discern concepts through multiple representations are better at concept interpretation, argumentation, and concept analysis skills. The researchers further argued that arousing learners' interest in using multiple representations contributes to the development of their cognitive skills and data sense. Airey and Linder (2006) suggested that using multiple forms of representation in instructional methods can effectively enhance learning by engaging students with knowledge from both an ontological perspective (understanding the nature of what is known) and an epistemological perspective (understanding how knowledge is justified and structured). This approach implies that learners' economic literacy could be strengthened when various modes of representation—such as diagrams, models, spoken explanations, and data visualizations—are employed. These diverse methods enable students to grasp economic concepts more thoroughly by approaching them from multiple perspectives, fostering a deeper and more versatile understanding.

Multiple Representation & Variation

McDermott (2009) argued that the process of creating meaning involves multiple layers and that effective learning requires students to develop various interpretations. This approach suggests that knowledge is complex and enriched through diverse perspectives. Engaging students in multiple ways of interpreting information allows for a deeper understanding, encouraging them to move beyond a basic level of knowledge. For example, in economic literacy, learners may enhance their comprehension by exploring concepts through various modes, such as mathematical, graphical, verbal, and real-world economic scenarios, enabling a more holistic grasp of the subject. Similarly, Airey and Linder (2006) opined that “learning is about allowing students to use different modes appropriate to the topic to make meaning for themselves.”

McDermott (2009) also posited that, based on the connection between variation theory and multimodal representation, it is important to determine the core or critical aspects of the object of learning. Using multiple representations in instruction will promote the intended learning outcomes in economics.

Marton and Pang (2006) claimed that in order for a learner to discern a particular aspect of an object, they must experience variation in the features of the object. Similarly, Jing et al. (2017) opined that for learning to take place, learners must spot or discern the critical aspects of learning.

The researchers explained further that critical aspects are those significant elements of learning that learners must focus on in order to fully grasp the concept.

Schnotz (2002) claimed that the use of multiple representations has the capability to promote internal mental representation among learners by directing their awareness toward the critical aspects of learning. Similarly, Ting et al. (2017) posited that the critical aspects of learning are necessary to direct and refocus learners' senses on the distinct properties of the object of learning. Ainsworth (2006) aligns with the above assertion, stating that the use of multiple representations provides a complementary role, enhances interpretation, and fosters deeper understanding in learners. The use of diverse representations makes it easier to explain concepts through verbal, graphical, algebraic, and numerical means, each complementing the others in providing a deeper understanding. It also helps unpack and interpret difficult concepts in a more effective way.

Ting et al. (2017) explained that multiple representations perform several essential roles in the instructional process, including: stimulating cognitive processes to represent phenomena in different ways, reducing cognitive load, promoting learning focus, enhancing content learning and discernment of critical aspects, stimulating concept interpretation, transferring knowledge from one mode of representation to another, promoting deeper understanding, and conditioning or using various modes to illustrate specific critical aspects of learning.

In traditional teaching methods, often referred to as the "talk and chalk" approach, desired learning outcomes are more likely to be attained when teachers constructively use representations to emphasize the object of learning (Ting et al., 2017). Schnotz and Lowe (2003) claimed that the use of multiple representations is a powerful tool for promoting a deeper understanding of phenomena or concepts and their practical relationships to the world around us. Additionally, Ainsworth (1999) highlighted that multiple representations are vital for capturing learners' interest and awareness, thereby enhancing the mastery of critical aspects of learning content. Similarly, Prain and Waldrip (2006) asserted that in science education, the use of multiple representations entails the display or expression of the same phenomenon or concept in different forms. This approach promotes a deeper understanding of the critical aspects of learning that teachers aim to emphasize.

Knowledge Transfer and Multiple Representations

The utilization of multiple representations in transferring knowledge between various representational modes promotes conceptual understanding, fosters deep learning, enhances students' argumentative skills and communication competence, and improves learners' data sense by encouraging multidimensional thinking and drawing conclusions based on available data (Demirbağ & Günel, 2014).

Mayer (2003) claimed that knowledge construction results from the movement between different modes of representation. This is because the use of different modes engages various aspects of

working memory, and these multitasking activities in the learner's memory promote deeper learning that cannot be achieved when learners are exposed to a single mode of representation. Similarly, Pineda and Garza (2000) asserted that deep and reflective learning occurs when learners recognize the interrelatedness of multiple modes in understanding the same concept. Gunel et al. (2006) argued that when learners transition from one mode to another, they are conditioned to "cognitively process information in the language of one mode in a way that it can be utilized with another mode."

CONCLUSION

The study highlights the theoretical and practical significance of integrating phenomenography and variation theory into economics education. By recognizing the diverse ways learners perceive and understand concepts, educators can adapt instructional strategies to foster deeper comprehension. Variation theory's focus on experiencing critical variations enhances students' ability to discern and apply knowledge effectively. Additionally, using multiple representations promotes knowledge transfer and improves learning outcomes by engaging learners through varied modes of understanding. Integrating these frameworks into curriculum design and pedagogy can enrich economics education and support meaningful learning experiences for students.

The study recommends that economics educators integrate principles from phenomenography and Variation Theory into their teaching practices to enhance student learning. One effective strategy is designing instructional activities that highlight variations in the essential aspects of economic concepts. This approach could involve using multiple representations—such as graphs, diagrams, and verbal explanations—to accommodate diverse learning styles and facilitate knowledge transfer. Furthermore, encouraging students to engage in reflective thinking and discussions helps them explore economic phenomena from multiple perspectives, thereby deepening their understanding.

Another key recommendation is to provide students with opportunities to apply the concepts they have learned in real-world contexts. Such practical applications reinforce comprehension and foster meaningful learning experiences. By adopting these strategies, educators can create dynamic and engaging classroom environments that promote conceptual understanding, critical thinking, and the practical application of knowledge in economics education.

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