Systems Thinking Indicators and How to apply in Social Dance Instruction

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Abstract. Systems thinking skills are important for physical education in research and practice-based learning. However, these are less commonly integrated into social dance instruction and evaluation. This article proposes the indicators for evaluating systems thinking skills and applying in social dance instruction. Describe the process drawing model of systems thinking skills by literature review and offer a set of these indicators for evaluating by synthesis in the context of social dance instruction. We found five indicators consist of; 1) get the system, 2) listen to the systems, 3) find responsibility in the system, 4) use group dynamics and adjust the systems, and 5) go for good of the system. These indicators can be applied to the learning management process in social dance instruction covered preparing the learner to learn, practicing the dance skill, and concluding what has been learned.

Keywords: Indicators, Systems thinking skills, Social Dance Instruction

1 Introduction

Systems thinking skills are important for physical education in research and practice-based learning. However, these are less commonly integrated into social dance instruction and evaluation. This article proposes the indicators for evaluating systems thinking skills and applying in social dance instruction. Describe the process drawing model of systems thinking skills by literature review and offer a set of these indicators for evaluating by synthesis in the context of social dance instruction.

1.1 The context

Years studies document. This article was reviewed literature into the theoretical and practical to enhance systems thinking skills for undergrade students. The reader has responsibility for: reading all the conceptual and theory, in the order presented and deciding document to synthesis indicators of relevance and utility consist of; Yonisomanasikara, Blooms Taxonomy,1956,2001,

ACPES 2022, October 28-30, Medan, Indonesia

DOI 10.4108/eai.28-10-2022.2327455

Systems Dynamics, Donella Meadows,1989, Peter Senge,1991, and Stave & Harper,2008. It will be possible to create a completely new set of indicators through assembly, taking virous parts of document splicing them together, and partial synthesis. As illustrated below.

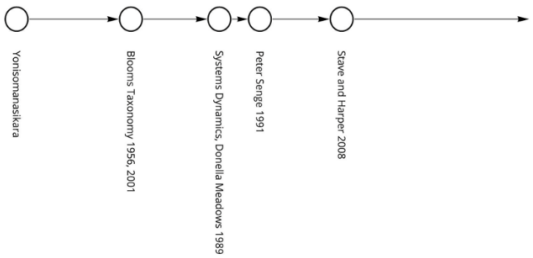


Figure 1. Reviewed literature into the theoretical and practical to enhance systems thinking skills

Yonisomanasikara stands for a form of "attention" that is "thorough" and "penetrative", and therefore also "wise". Example: explore the conditioned nature of phenomena, description of the process of mental development, understanding of dependent arising of each of the links, and performed the same role in relation to the awaking. To explore the connotations of yonisomanasikara, the present article will begin by examining the terms yoniso (The sense of going down to its origins and at the times can also convey the sense of proper or appropriate) and manasikara (To do or to make something in the mind) individually, followed by surveying passages that are of relevance to the implications of the expression yonisomanasikara, and to its importance in the thought world of the Pali canon. In all these cases, it was instrumental in arousing the wisdom that led to realization. Awaken on their own without being taught the way to liberation by other.

Harper and Stave, 2008 Understanding system structure requires an understanding of relationships and feedback. Although not significantly, this component. A crucial systems thinking talent is the capacity to separate these stocks, flows, and other factors and determine their function. Models, this component is unique. This component is the capacity to conceptually model various system components and approach the system from various angles. Through the use of numerous techniques including reduction, transformation, abstraction, and homogenization16, the performance of this function extends beyond stated system models and into the world of intuitive. Perceptual units can decrease the conscious accessibility of components, according to research (Poljac, De-Wit, & Wagemans, 2012). As a result, there should be greater room for interpretation because the mind has fewer specifics on each thing. This skill can also be thought of as the capacity to view a system from an alternative perspective, which gets rid of duplication and lessens complexity. Finally, a methodical test of the suggested definition is required. Because it has a clearly stated, understood, and disproportionate aim, it passes Part 1 of the criteria. It also moves through Section 2, where each of its components is thoroughly explained. This also occurs as a result of the system diagram's descriptions of element relationships and depth trends.

Systems Thinking Skills. The creation of the Education Superhighway (ESH) is used as an example to describe "systems thinking" and to highlight its significance in a recent article by

Vanessa Kirsch, Jim Bildner, and Jeff Walker in the Harvard Business Review titled "Why Social Enterprises Need Systems Thinking." The authors describe how ESH creator Evan Marwell increased the percentage of US school districts with access to 100 kbps to 30% by using systems thinking, research and analysis, communication, legislation, and five other strategies. 77% since 2013. It is difficult to find a concise definition of systems thinking. Barry Richmond first used the term "systems thinking" in 14 and based it on Ludwig Von Bertalanffy's general systems theory and cybernetics. Arnold and Wade (2015) primarily discuss elements (systems thinking traits), linkages (how actions relate to one another and/or feedback), and activity or objective. To "increase the ability to detect and comprehend systems, forecast their behavior, and make changes in them to accomplish desired results" is the common aim of systems thinking (Arnold and Wade, 2017). Permutations in favor of "systems thinking" are provided by Bosch et al. (2019): A way of seeing and talking about reality that helps us better understand and work with systems to influence our quality of life, a system for thinking about systems, a way of looking at, learning from, and understanding complex situations, and a new way of thinking about understanding and managing complex problems.

Consider the two different categories of researchers when considering systems thinking: traders and salespeople. Splitters are individuals who break a large object into small chunks for study. Lumpers are integrators who enjoy assembling components (Cabrera and Colosi, 2012). Being "oppressive" and accepting this dualism are not the goals of systems thinking (Schwandt and Ryan, 2018).

Social Dance Instruction.

Framework of Systems Thinking Skills and Social Dance Instruction.

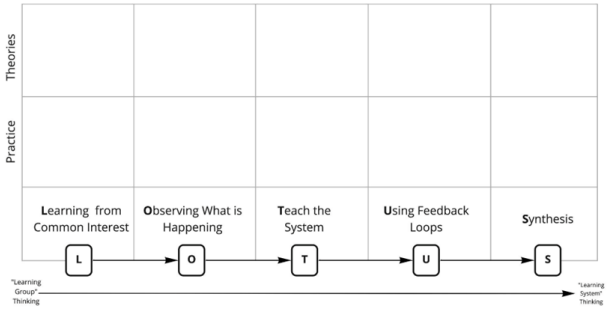


Figure 2 Apply for teaching method, Learning Environment, and Evaluation.

2 The purpose of applying

2.1 Framework play role, skill level, border,identifying learning domain.

2.2 Systems Thinking approach

In order to help social dance students enhance their systematic thinking abilities, this proposal takes a similar approach to using systematic thinking in instruction. Expected Outcomes A new remedy or set of remedies to an urgent societal concern must first be presented by a person or organization. We recommend that organizational transformation theories, business strategies,

and other basic resources mirror systems thinking, even though this may seem obvious. The capability to integrate the solution into the larger target system is the most crucial instrument in the arsenal of new system administrators.

Qualification

example Since "decisions themselves do not affect decisions," linear thinking is often referred to as "open loop" thinking. According to the linear thinking, the problem must be remedied, thus once the fix is implemented, the issue is resolved. Cause and effect are thought to be "close in time and space" according to linear thinking. According to Senge, a "impact" is a symptom or issue brought on by a deeper, unnoticed issue. Examples include diminishing attendance, ineffective discipleship, nonexistent missions, or decreased contributions.

Example Due to the fact that "decisions themselves do not effect decisions," linear thinking is also known as "open loop" thinking. According to the linear thinking, the problem must be corrected; thus, apply the remedy, and the problem is solved. Cause and effect must be "close in time and place," according to the linear thinking model. Senge clarifies that a "impact" is a symptom or issue brought on by a deeper, unrecognized issue, such as dwindling attendance, inadequate discipleship, nonexistent missions, or diminishing giving.

Table 1. Compares linear thinkers to system thinkers

Linear Thinking	**Systems Thinkers**
Break things into component pieces	Are concerned with the whole
Are concerned with content	Are concerned with the process
Try to fix symptoms	Are concerned with the underlying dynamics
Try to control chaos to create order	Are concerned with assigning blame Try to identify patterns
Care only about the content of communication	Try to find patterns amid chaos
Believe organizations are predictable and orderly	Care about content but are more attentive to interactions and patterns of communication
	Believe organizations are unpredictable in a chaotic environment

Lineara vs Sistemo-Penso. Fonto: Ollhoff kaj Walcheski, "Making the Jump to System Thinking", The Systems Thinker 17, n-ro 5 (junio/julio 2006), 10.

2.3 The Subject of Systems Thinking

The phrase systems thinking implies thinking about the world outside us and doing so my mean of the concept system (Systems Thinking and Practice (Checklar) 1981). In Donella Meadows book, Thinking in Systems (2008), the subject of systems thinking is defined as follows:

A system is a method of viewing the world, according to Weinberg (1975:51), and fever aims to change people's perspectives. He wants us to realize that everyone has a unique view on the world based on their experiences. Weinberg (1975:57) goes on to say that a system's reason for existing is what gives it that right. It's important to note that Weinberg authored seven books on the topic of computer programming before the book in question, including references in various

computer languages. The systemic method sees the system as a whole, made up of interconnected parts (Kramer and De Smit, 1977:10The unique configuration of the system's components is noteworthy. It is impossible to ignore the environment or how the system interacts with it. A system is defined as "a collection of two items that are related to each other in some way," according to Ackoff (1974:13). Examples include concepts (such as in a number system), things (such as a telephone system or the human body), or persons (such as in a number system). a social structure. The elements of a set and the set of elements have the following three features, according to Ackoff (1974:13), which means that the system is not indivisible and must be viewed as a whole.

1. The general characteristics or behavior of the set. For instance, an animal's overall performance benefits from all of its organs.

2. Each element's characteristics and behavior, as well as how they affect the total, are influenced by at least one other set of characteristics and behaviors. Therefore, no component affects the entire independently, and each component is impacted by at least one other component, according to University of Pretoria etd - Goede, R (2005)74. For instance, the lungs influence the behavior of the heart and how it affects the body.

3. The first two characteristics are shared by all conceivable subgroups of items in a set; each has a separate impact on the total. As a result, the whole cannot be split into separate components. The system cannot be broken down into separate, autonomous systems. For instance, the neurological, respiratory, digestive, and motor subsystems of an animal's body interact with one another and the rest of the body to function as a whole.

The concept of systematic survival is added by Checkland and Scholes (1999:19). They assert that the system must be able to endure environmental changes. Only a system with communication and control mechanisms that can adjust to environmental changes will be able to survive. The process by which the desired synergy is established amongst the components of the enterprise is called "connection and synthesis," which refers to the dynamic relationships between the many pieces of the total. This incorporates the notion of circularity, which highlights the necessity of thinking that is circular as opposed to linear. Similar to this, the idea of expression is connected to the synergistic outcomes that might happen when a system's components work together non-linearly. This frequently occurs at work as a result of organizational politics and conflicting goals. Systems-minded organizational leaders see this as a chance to enhance innovation and collaboration.

2.4 Applying

Systems by Classes There are several categories of systems, according to Checkland (1981:110), including natural systems, systems involving human activity, created physical systems, designed abstract systems, and transcendental systems. designing the educational process Natural systems are those that arise from the cosmos and take on their current form as a result of the forces and processes that operate there (Checkland 1981:110). A physical system that is formed is one that is made to serve a specific purpose, like a hammer. Because a system of human activity has identified a need for them, designed physical systems are there (Checkland, 1981:119). Poetry, philosophy, and other designed abstract systems are examples of the structured conscious work of the human mind. These abstract systems frequently result in physically constructed systems, like books and films. Human behavior is described by human

operating systems. Despite being less solid than the suggested systems, they are nevertheless readily apparent. Transcendent systems are unknowable systems. Training of teachers and instructional practices The educational system operates in interconnected systems with ongoing interactions. Teachers, educators, and leaders can progress toward adaptive techniques by mapping such complex systems. The main advantage is that educators will be able to react to ecosystem changes and be prepared to modify and adapt various aspects of their institution as needed. With this understanding, systems thinking offers teachers in their profession apparent benefits. It aids pupils in explaining complicated issues that are sometimes mistaken as simple ones because of linear thinking. The alternative developmental paths are displayed in accordance with the student's internal and external connections. This offers a substantial benefit by improving the teacher's capacity for change and helping them to accomplish the sustainability objective. Systems thinking can be successfully implemented and used to enhance teaching, albeit requiring certain abilities and a deeper comprehension of complexity and ambiguity.

2.5 Evaluation

Identify The Indicators And The Criteria five indicators consist of; 1) get the system, 2) listen to the systems, 3) find responsibility in the system, 4) use group dynamics and adjust the systems, and 5) go for good of the system.

Get the Beat of the System. Students learn to watch the system on how it behaves. If it a piece of music, dance or even everyday concerns like food prices and supply, learn it's beat. If the system is social (i.e., people), watching how it works. Getting the beat first before acting on changing the system. 2) Listen to the System Intelligence. The system is naturally intelligent. This skill allows student to encourage the forces and the structures to help the system run by itself. 3). Find the Responsibility in Systems. Students learn how systems create their own behaviour. In social dance, this is how the pair creates their own dynamics. Intrinsic responsibility is needed so pressure is not put on a part of system to maintain the system. 4). Use Dynamic, Self-adjusting Feedback. Students learn to utilise feedback being as one of the primary concepts in systems thinking. They learn how to handle uncertainties by relying on feedback rather than control of situations. 5). Go for Good of the Whole. Students learn to make decisions that is best for the the whole system. In social dance, the members of the system or the pair makes decision for the good of the pair. In life, make decisions that because of the few but for the whole.

Figure 3 summative and formative assessment throughout the learning process.

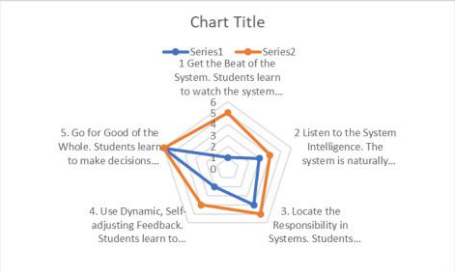
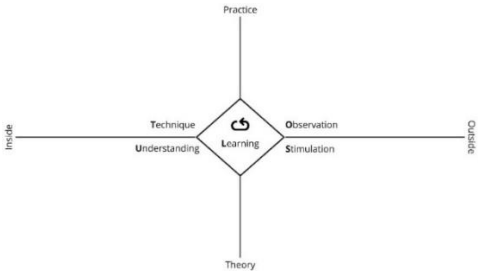


Figure 4 Learning about Social Dance



3 Conclusion

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References

[1] Chompoonut Songklang .(2014). Solid waste management behavior of students of Ban Na Dee - Sang Bong School, Tambon Phasuk, Kumphawapi District Udon Thani Province. Academic conference Sustainable Rural Development No. 4. Year 2014. “Rethink : Social Development for Sustainability in ASEAN Community”11-13 June 2014.

[2] Jirarak Boonyod. (2014). A Study of School Waste Management Guidelines Using the Process A-I-C : Case Study of Boonluea Wittayanusorn School Nakhon Ratchasima Province .Bachelor of Public Health Master of Arts Majoring in Environmental Health and Safety Management Faculty of Public Health Thammasat University.

[3] Thanongsak Padsin. (2018). People's Participation in Solid Waste Management of Kung Sawan Sub-District Community Kosum Phisai District MahaSarakham Province. Research report funded by the Research and Development Institute Mahasarakham Rajabhat University, fiscal year 2018.

[4] Salimar Keidklinhorm. (2019). Guidelines for people's participation in community solid waste management:Nakhon Si Thammarat Municipality. Master of Science (Environmental Management) Faculty of Environmental Development Administration National Institute of Development Administration.

[5] Songsak Walaijai. (2021). Solid waste management process with community participation. Wiang Phrao Subdistrict Municipality Phrao District, Chiang Mai Province. Master of Science degree Department of Social Development Sustainable. Office of Academic Administration and Development Maejo University.

[6] Paniphan Thepsorn(2017). Implementation of waste management policies of educational institutions in the province Chonburi. Master of Public Administration, Public and Private Sector Management Group.College of Public Administration Burapha University.

[7] Ninraphat Phromrit, Kanokrat Ratanaphan, Suwit Chitphakdi and Umaporn Muneenam (2021). Development of environmental education courses for solid waste management for grade level students Secondary School Year 1: Case Study of Sametjuan Wittayakom School Thung Yai District, Province

Nakhon Si Thammarat. Journal of the Institute of Agricultural Vocational Education. Year 5. No. 1 .January – June 2021.