

The Needs for Developing the Management of Universal Design for Learning (UDL) to Promote Children's Holistic Development in Private Kindergartens

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Abstract

Due to the lack of effective frameworks for implementing inclusive education in early childhood education in Thailand, this research aimed to, first, study the current and desirable levels of practice regarding the management of Universal Design for Learning (UDL) to promote children's holistic development in private kindergartens and, second, to identify needs for developing the management of UDL to promote children's holistic development in private kindergartens. The research employed Block Two: Inclusive Instructional Practices from the Three-Block Model of UDL Katz (2012) as its conceptual framework. The research informants obtained through purposive sampling were 379 administrators, heads of the academics, and teachers from 20 private kindergartens in Bangkok. A survey with the IOC value of 0.67–1.00 was used to obtain data. Basic statistics used to analyze data included frequency, percentage, mean, standard deviation, and Modified Priority Needs Index (PNI_{modified}). The findings were as follows:

1. The overall current level of practice regarding the management of UDL to promote children's holistic development in private kindergartens was at a moderate level. In contrast, the overall desirable level of practice was reported at an extremely high level.

2. The three dimensions of UDL that showed the highest level of need for developing the management of UDL to promote children's holistic development in private kindergartens were flexible groupings/co-operative learning ($PNI_{\text{modified}} = 0.450$), student choice ($PNI_{\text{modified}} = 0.398$), and discipline-based inquiry ($PNI_{\text{modified}} = 0.381$), respectively.

The research findings suggested that private kindergartens had a high level of need to develop UDL to promote children's holistic development, specifically in terms of inclusive instructional practices.

Keywords: Educational Management; Universal Design for Learning; Holistic Development; Early Childhood Education; Private Kindergartens

Introduction

The experiences of which children encounter during the earliest years of life determine their holistic development and subsequent lifelong learning (Yoshikawa & Kabay, 2015). Therefore, when practitioners set a goal to develop children holistically, the 'whole' child is taken into consideration to ensure that all areas of development are promoted simultaneously (Brodie, 2018). These areas of development have been categorized into four domains by the Ministry of Education (2017): physical, cognitive, social, and emotional. By promoting all developmental domains holistically through meaningful learning opportunities, evidence has shown that children feel more motivated to learn (Hall, 2014); develop better communication and social skills (Weiss, 2011); and become active learners (Mahmoudi et al., 2012). These important children outcomes urgently call for a high-quality early childhood program that celebrates the uniqueness of every child and seeks to nurture children in all dimensions of their development to help them reach their full potential.

To support children to reach their full potential, the Thai government announced the National Education Plan for the Year 2017–2036 and proposed inclusive education as one of the mechanisms to achieve high quality in their early childhood education services (Ministry of Education, 2017). However, inclusive education in Thailand has been placed within the special-education discourse, where its primary concern is to promote the rights of certain groups of learners, most prominently children with disabilities (Vorapanya & Dunlap, 2012). Such practice, unfortunately, leaves out the much-needed ethos regarding the well-deserved rights of children with other needs to be accepted and cherished by society, such as giftedness, interests, aspirations, abilities, ethnicities, languages, religions, cultures, genders, and socioeconomic statuses (Ainscow & Miles, 2008). This misconception of inclusive education, in turn, reveals Thailand's lack of effective educational frameworks for implementing full inclusion to meet the needs of all children in general education settings (Klibthong and Agbenyega, 2020; Vorapanya & Dunlap, 2012).

Due to the practitioners' misconception of inclusive education and the lack of effective pedagogical tools to address the less visible needs of children, one-size-fits-all approaches to pedagogy are often chosen as "go-to" modes of delivery (Westbrook et al., 2013). However, according to Cade et al. (2021), the misguided view of implementing the traditional one-size-fits-all approach in early childhood classrooms not only forces children through developmental stages too quickly and cause them emotional distress, but is also at the expense of the holistic approach to learning. As a result, children's outcomes were found to be of the lowest score (94.87%) in the third round of the national quality assurance in 2021 compared to the other two criteria, which are administrative processes (97.30%) and child-centered pedagogies (95.95%) (ONESQA, 2022). These existing problems further underline the country's urgency to explore priority needs for the future development of an effective educational framework for inclusive education in early childhood settings.

In response to the lack of prescribed frameworks for effective early childhood classroom practices and the growing need to promote children's holistic development, Katz (2012) developed the Three-Block Model of Universal Design for Learning (UDL) to assist school administrators and teachers in promoting children's outcomes within their own contexts. It is based on the theoretical foundation that school experiences should be accommodating and tailored to each student's needs (Katz, 2012). As the model has been designed to offer flexible learning opportunities that are responsive to all individual differences, it is believed that employing the model in early childhood educational settings would increase the effectiveness of the programs and children's holistic outcomes (Katz, 2013).

To lay a foundation for future pilot programs, gaining insight into the gaps between current and desirable levels of practice regarding the management of UDL in private kindergartens may reveal the needs for developing UDL to support children's holistic development in private kindergartens. Such insights are not only believed to help inform policymakers about the legal and practical obstacles in which teachers and administrators are currently facing but also for informing school administrators about the needs of their teachers that must be addressed before implementing UDL in private kindergartens.

Research Purposes

1. To study the current and desirable levels of practice regarding the management of UDL to promote children's holistic development in private kindergartens.

2. To identify needs for developing the management of UDL to promote children’s holistic development in private kindergartens.

Literature Review

1. Private Kindergartens in Thailand

All private general–education kindergartens in Thailand follow the National Early Childhood Curriculum, which aims to develop children from birth through age six holistically and individually through age–appropriate practices (Ministry of Education, 2017). The Early Childhood Curriculum B.E. 2560 not only values the importance of the child’s socio–cultural context but also promotes professional practices that recognize the child’s age, ability, interest, and individual differences. This is in line with the international goal of the World Bank organization, whose ‘Learning for All’ agenda in its *Education Strategy 2020* announced inclusive education as a means to secure education, which will contribute to children’s holistic wellbeing and productive societies (World Bank, 2011).

As governments around the world locally translated this international agreement, inclusive education in Thailand, unfortunately, took its form as special education, which was built on the psycho–medical model of abnormality where behaviors that fall out of the ‘norms’ as abnormal and needed to be ‘fixed’ or ‘eliminated’ (Rieser, 2001). In contrast to the psycho–medical model, which believes that behaviors that fall outside the norms need to be fixed, more recent studies have affirmed that all students naturally differ to varying degrees and require some form of special individualized support that allows them to reach their full potential (Hettleman, 2013). With Thai policymakers and educators struggling to translate inclusive education policies into effective practices, there is thus a call for an educational framework that embraces the individual differences of every student regardless of their differences and promises equity in all mainstream classes.

2. Universal Design for Learning

CAST (2018) developed UDL as a framework to improve and optimize teaching and learning to ensure that all learners have access to participate in meaningful and challenging learning opportunities in ways that fit their learning styles. There are three main principles of UDL – *i.e.*, *Representation, Action and Expression, and Engagement* (CAST, 2018). However, the original model by CAST specifically aimed at aiding teachers in their preparation of lesson plans, pedagogies, teaching resources, and assessments that can accommodate various needs in classrooms but its application for administrative practices beyond the classrooms was still unclear (Dalton, 2017).

3. The Three–Block Model of Universal Design for Learning

To provide an administrative framework for the implementation of UDL at all levels of practice, Katz (2012) developed the Three–Block Model of UDL to assist school administrators and teachers in promoting children’s outcomes within their own contexts. Built on the original design of UDL by CAST (2018), the model expanded on the three UDL principles that heavily focus on differentiation to include both social and academic aspects of the classroom. It organizes the UDL theory and practices into three blocks of practice: Creating the Community, Inclusive Instructional Practice, and Systems and Structures. Ultimately, the model aims at meeting the needs of all diverse learners in inclusive settings through administrative and pedagogical frameworks that offer authentic, differentiated learning experiences (Katz, 2013).

Recently, research has provided strong evidence that implementing the Three–Block Model of UDL can lead to significant increases in children’s motivation, engagement, self–concept, sense of belonging, and prosocial skills across age groups (Katz & Porath, 2011; Glass, 2013, Katz, 2013; Katz et al., 2019). Ultimately, it has been found that planning teaching through the model has helped to increase teachers’ job satisfaction and self–efficacy (Katz, 2014).

To focus on inclusive instructional practices, Block Two of the model identifies step–by–step guidelines for pedagogical planning that allow for student choice so that children are able to develop conceptual understanding and access activities in ways that work for them Katz (2012). It consists of integrated curriculum, student choice, flexible groupings/co–operative learning, differentiated instruction, differentiated assessment, assessment for learning, technology, discipline–based inquiry, meta–cognition, backward design, and social & academic inclusion of children with exceptionalities.

Conceptual Framework

This quantitative research employed Block Two of the Three–Block Model of Universal Design for Learning (UDL) from Katz (2012) and the framework for children’s holistic development from the National Early Childhood Curriculum B.E. 2560 by the Ministry of Education (2017).

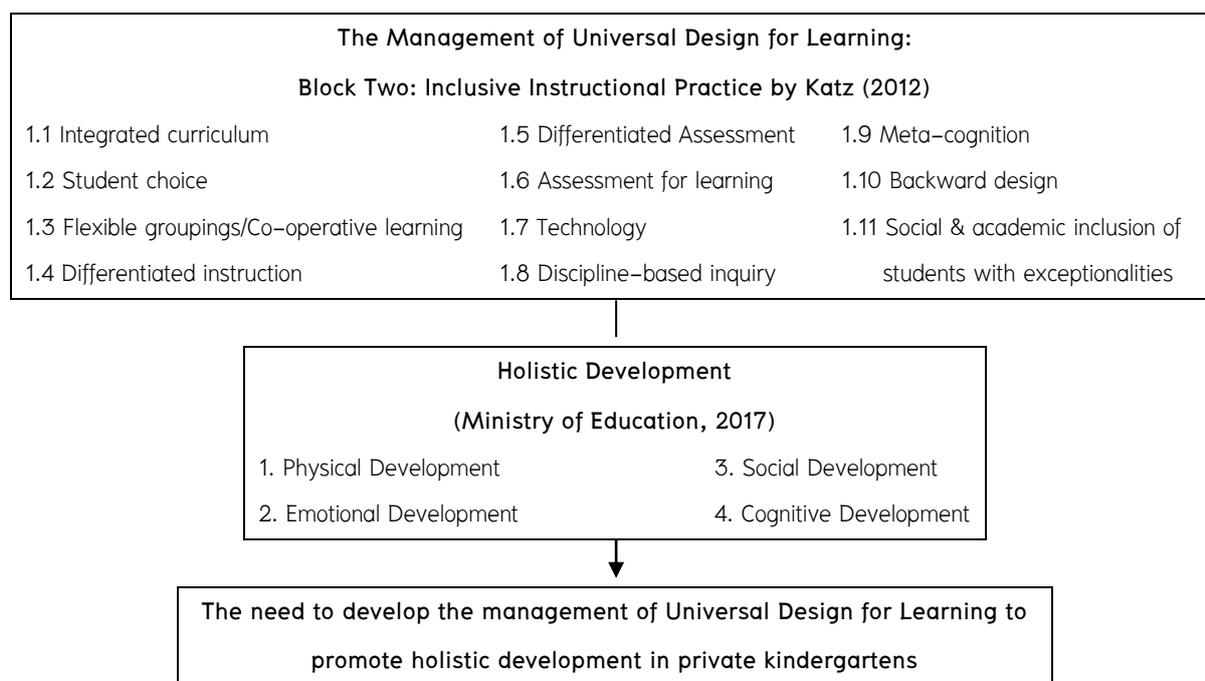


Figure 1 Conceptual Framework

Research Methodology

1. Research Population and Sample

This quantitative research was performed in Bangkok, Thailand. The research population was 581 private kindergartens in Bangkok. Twenty private kindergartens in Bangkok categorized as middle-sized schools that offer the general-education curriculum were selected through a random sampling method. Once the schools had been randomized, a selective sampling method was used to identify 339 teachers, 20 administrators, and 20 heads of academics as research informants from the selected schools.

2. Research Instrument

Based on the results of the literature review, a survey was developed by the researcher to examine the current and desirable levels of practice regarding the management of UDL to promote children's holistic development in private kindergartens. The survey had two versions: 1) the school administrator and the head of the academics version; and 2) the teacher version. Both versions were written in Thai. The first part of the survey examined the general information of each informant in the form of checklists. The second part of the survey examined the management of UDL to promote children's holistic development in private kindergartens using a five-point Likert scale. In both versions of the survey, there were 138 identical items that were grouped into 11 main questions.

To obtain the content validity of the research instruments, three experts with an expertise in early childhood education reviewed the research instrument to generate the Item Objective Congruence (IOC) value. Questions that received an IOC value between 0.67–1.00 were deemed valid. Out of 138 items, two items received an IOC value of 0.67, and 136 items received an IOC value of 1.00. Thus, all items were deemed valid.

Once the research instrument was satisfactorily revised, it was then used in a tryout for a reliability test by 30 private kindergarten teachers and administrators that were not research informants. Cronbach's alpha coefficients of 0.980 were found for both sets of the survey.

3. Data Collection

The following steps showed the process of collecting data:

1. The researcher requested letters from the Department of Graduate Studies, Chulalongkorn University, to assess the survey's content validity and collect data.
2. The researcher brought the surveys to the sampled private kindergartens in Bangkok and distributed the surveys to the selected teachers and administrators both in person and via email.
- 3) The researcher collected and checked the completion of the returned surveys herself. Out of 450, 392 sets of the survey were considered applicable. This accounted for 87%, which was sufficient for data analysis.

4. Data Analysis

Once the data had been collected, the statistics used to analyze data were frequency, percentage, mean, standard deviation, and Modified Priority Needs Index (PNI_{modified}) to compare the levels of current and desirable management of UDL in private kindergartens.

Results

To study the current and desirable levels of practice and needs for the management of UDL to promote children's holistic development in private kindergartens, the findings of the survey were shown as follows:

Table 1 The Current and Desirable Levels of Practice and Needs for the Management of UDL to Promote Children’s Holistic Development in Private Kindergartens

Management of UDL to promote holistic development	Current practices			Desirable practices			PNI modified	Ranking of Needs assessment
	M	S.D.	level	M	S.D.	level		
Integrated Curriculum	3.47	0.89	Moderate	4.75	0.49	Extremely high	0.369	5
Student choice	3.41	0.86	Moderate	4.77	0.48	Extremely high	0.398	2
Flexible groupings /								
Co-operative learning	3.27	0.95	Moderate	4.75	0.51	Extremely high	0.450	1
Differentiated Instructions	3.62	0.84	High	4.83	0.42	Extremely high	0.334	9
Differentiated Assessment	3.52	0.80	High	4.81	0.45	Extremely high	0.365	6
Assessment for Learning	3.52	0.88	High	4.78	0.47	Extremely high	0.357	7
Meta-cognition –								
Assessment as learning	3.64	0.84	High	4.72	0.55	Extremely high	0.295	11
Technology	3.55	0.92	High	4.71	0.56	Extremely high	0.329	10
Discipline-based Inquiry	3.44	0.95	Moderate	4.75	0.49	Extremely high	0.381	3
Backward Design	3.50	0.91	High	4.75	0.51	Extremely high	0.356	8
Social & Academic								
Inclusion of Students with Exceptionalities	3.45	0.90	Moderate	4.74	0.52	Extremely high	0.375	4
Average total	3.49	0.89	Moderate	4.76	0.50	Extremely high	0.360	

From Table 1, the overall current state of practice regarding the management of UDL to promote children's holistic development in private kindergartens was at a moderate level ($\bar{x} = 3.49$, $SD = 0.89$). On the other hand, the overall desirable state of practice regarding the management of UDL to promote children's holistic development in private kindergartens was at an extremely high level ($\bar{x} = 4.76$, $SD = 0.50$).

When considering each dimension individually, it appeared that the Integrated Curriculum ($\bar{x} = 3.47$, $SD = 0.89$), the Student Choice ($\bar{x} = 3.41$, $SD = 0.86$), the Flexible Groupings/Co-operative learning ($\bar{x} = 3.27$, $SD = 0.95$), the Discipline-based Inquiry ($\bar{x} = 3.44$, $SD = 0.95$), and the Social & Academic Inclusion of Students with Exceptionalities ($\bar{x} = 3.45$, $SD = 0.90$) dimensions showed moderate levels of current practice, whereas the Differentiated Instructions ($\bar{x} = 3.62$, $SD = 0.84$), the Differentiated Assessment ($\bar{x} = 3.52$, $SD = 0.80$), the Assessment for Learning ($\bar{x} = 3.52$, $SD = 0.88$), the Meta-Cognition – Assessment as Learning ($\bar{x} = 3.64$, $SD = 0.84$), the Technology ($\bar{x} = 3.55$, $SD = 0.92$), and the Backward Design ($\bar{x} = 3.50$, $SD = 0.91$) dimensions showed high levels of current practice. As for the desirable state of practice, the results showed extremely high levels of desirable practice across every dimension of the management of UDL.

In terms of the Modified Priority Needs Index (PNI_{modified}) of the management of UDL to promote children's holistic development in private kindergartens, the dimension that showed the highest level of need is Flexible Groupings/Co-operative learning ($PNI_{\text{modified}} = 0.450$), followed by Student Choice ($PNI_{\text{modified}} = 0.398$), Discipline-based Inquiry ($PNI_{\text{modified}} = 0.381$), Social & Academic Inclusion of Students with Exceptionalities ($PNI_{\text{modified}} = 0.375$), Integrated Curriculum ($PNI_{\text{modified}} = 0.369$), Differentiated Assessment ($PNI_{\text{modified}} = 0.365$), Assessment for Learning ($PNI_{\text{modified}} = 0.357$), Backward Design ($PNI_{\text{modified}} = 0.356$), Differentiated Instructions ($PNI_{\text{modified}} = 0.334$), and Technology ($PNI_{\text{modified}} = 0.329$), respectively. The dimension that showed the lowest level of need is Meta-cognition – Assessment as learning ($PNI_{\text{modified}} = 0.295$).

Discussion

By examining the current and desirable levels of practice regarding the management of UDL to promote children's holistic development in private kindergartens, it was found that the overall current level of practice was at a moderate level. In contrast, the overall desirable level of practice was at an extremely high level. Such findings indicated a strong desire from private kindergarten teachers and administrators to implement UDL to promote children's holistic development. This is in

line with the study by Agbenyega and Klibthong (2015), who also found positive attitudes and a desire to support full inclusive education in private kindergarten practitioners, given that they were adequately trained and supported by school administrators to meet the needs of all children. According to Leatherman (2007), having administrators who prioritize inclusion and provide the necessary support for teachers was important for teachers' positive views of inclusion and feelings of self-efficacy.

While many of the UDL practices proposed by Katz (2012) mimic the early childhood education practices prescribed by the National Early Childhood Curriculum B.E. 2017, however, the current level of practice was reported at a moderate level. This is supported by the claim by Vorapunya and Dunlap (2012), who viewed inclusive education in Thailand as a slow educational mechanism being decelerated by policy implementation hurdles, insufficient knowledge, and the lack of governmental support. For example, providing universally designed and inclusive education can be costly because they require coherent policies, competent administrators, knowledgeable teachers, well-equipped classrooms, accessible buildings, and user-friendly infrastructure (Bualar, 2015). Furthermore, with private kindergartens currently facing a severe financial crisis due to low birth rates, many administrative mechanisms may be suspended to lower the costs, which may adversely lead to problems commonly found in private kindergartens. These may include unrealistic workload, ineffective professional development programs, low incentives, poor facilities, and lack of financial support for classroom resources (Therapee, 2008). Therefore, regardless of the reportedly strong desire to implement UDL in private kindergartens, it is vital that existing obstacles at all layers of practice need to first be considered and eliminated before enacting the model.

When considering each dimension of UDL to promote children's holistic development, the results indicated that the top three dimensions of UDL that showed the highest levels of priority need for development were flexible grouping/co-operative learning, student choice, and discipline-based inquiry. At the heart of UDL is a democratic classroom culture that allows children to take ownership of their learning and to develop pro-social problem-solving skills through hands-on, co-operative learning (Katz, 2012). This type of learning is believed to encourage children's autonomy and sense of belonging, which are integral to an individual's development of intrinsic motivation and self-efficacy (Katz & Porath, 2011). As children become intrinsically motivated and empowered, they assume a degree of social responsibility, as they recognize how their contributions, either positive or negative, affect others in the community.

Consistent with the research findings, a body of evidence of practice in private kindergartens in Thailand may be explanatory to the reported three dimensions that showed the highest levels of priority needs for development. Firstly, it is common to witness more individualistic and less group learning in Thai early childhood classrooms as co-operative learning requires extensive preparations and planning (Cohen et al., 2004). This has been supported by Vorapunya and Dunlap (2014), who found that Thai teachers reported feeling incompetent and having inadequate knowledge to fully support children with diverse needs in the same setting. Secondly, adherence to the Thai values of obedience, harmony, and respect for authority can potentially create tension with the teaching of democracy, critical thinking, student choice, and autonomy (Boontinand, 2015). This suggests that there might be gaps in teachers' and administrators' confidence, knowledge, and skills in applying democratic pedagogies in schools, indicating that there are obstacles to promoting a democratic school culture at both knowledge, skill, and value levels. Lastly, teachers and parents of kindergarten children tend to place a high value on academic success over kindergartens that promote personal joy and creativity through hands-on, discipline-based inquiries (Lui, 2020). Collectively, this body of evidence confirms that the priority needs to develop flexible grouping/co-operative learning, student choice, and discipline-based inquiry in private kindergartens may not only stem from teacher factors alone but also from the ineffectiveness of the interconnected layers of the whole-school administrative system.

Knowledge

The identified gaps between the current and the desirable practices of UDL to promote children's holistic development in private kindergartens have suggested a practice model for implementing UDL in private kindergartens in Thailand.



Figure 2 A model of practice for the implementation of Universal Design for Learning in private kindergartens

1. Effective school-wide administrative systems are vitally needed in private kindergartens before UDL is implemented to ensure effective practices at all levels. These administrative systems may include coherent inclusive school policies, evidence-based strategies, recruitment programs, budgetary support, infrastructure improvement, and partnerships with the community.

2. Personalized professional development programs that aim to change teachers' attitudes toward inclusive education and increase their knowledge about differentiating instructions are also essential to successfully implement UDL in private kindergartens.

3. Elements of inclusive instructional practices of UDL appear to already be present in the current practices of private kindergartens. However, their effectiveness can be improved through school-wide administrative systems and professional development programs.

4. Children's holistic development can be assumed to be an outcome of effective school-wide administrative systems, professional development programs, and instructional practices.

Based on the research findings and the outcomes of the literature review that revealed extremely high levels of need for the management of UDL along with existing obstacles at private kindergartens, this model of practice had been suggested for guiding private kindergarten teachers and administrators through their planning of system-wide UDL within their own contexts. It offers three layers of managerial practices, from school-wide administrative systems, professional development programs to inclusive instructional practices. From this model, children's holistic development is viewed as the ultimate outcome of all layers of managerial processes and practices.

Conclusion

This research studied the priority needs for developing the management of UDL to promote children's holistic development in private kindergartens. The outcomes revealed that the current practices in private kindergartens resembled elements of UDL at a moderate level. In contrast, the level of desirable practices of UDL was reportedly extremely high. The three elements of UDL that showed the highest needs for development were flexible groupings/co-operative learning, student choice, and discipline-based inquiry, respectively.

Recommendations

1. Recommendations for Research-based Practices

Based on the research findings that found the current practices in private kindergartens to resemble elements of UDL at a moderate level, along with the identified needs to develop inclusive instructional practices in private kindergartens, the following recommendations are provided to inform practitioners for research-based practices.

1.1 Private kindergarten administrators should form whole-school strategic plans to promote UDL as the main practical framework by allocating sufficient funds to teaching and learning resources, classroom equipment, facilities, and teachers' incentives.

1.2 Private kindergarten administrators should develop effective personalized professional development programs that focus on educating teachers about teaching children with diverse needs as well as cultivating positive attitudes toward inclusive education and children's autonomy.

1.3 Private kindergarten heads of the academics should re-evaluate teachers' workloads to allow more time for curriculum planning, classroom management, and professional development.

1.4 Private Kindergarten teachers should offer more opportunities for more co-operative learning and encourage children to monitor their own learning in classrooms by continuously observing each student's needs and planning lessons ahead of time.

2. Recommendations for Future Research

2.1 This research employed the Three-Block Model of UDL by Katz (2012) as its framework. However, the research only studied Block Two: Instructional Practice of the model. It is thus recommended that future researchers examine all three blocks of the model in order to gain a more complete understanding of its impact on children's holistic development.

2.2 UDL is a relatively new concept that has not been widely introduced to Thailand's education field. Therefore, it may be wise for future researchers to examine kindergarten teachers' understanding of the concept so that data can be used to inform policymakers and school administrators when planning for future directions.

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