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The Mediational Style of Caregivers/Teachers on Nurturing Children to Become Continuous Learners in Literacy

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Abstract

This study was designed to examine the state of specific aspects of the mediational process in the traditional ways of language teaching in early childhood education. The researcher applied the Mediated Intervention for Sensitizing Caregivers/teachers (MISC) as a method for analyzing behaviors of children and caregivers/teachers in their existing interaction and teaching practices. The main framework of MISC includes elements of focusing, affecting, expanding, rewarding, and regulating, which was developed upon Feuerstein's (1988, 1991) notions of Mediated Learning Experience and rooted in Vygotsky's and his followers' theoretical ideas. MISC was introduced to Singapore by Professor Pnina Klein whose work has been supported by international organizations such as World Health Organization (WHO) and The United Nations International Children's Fund (UNICEF). MISC is acknowledged as not confining to cultural context and has been widely practiced in Israel, as well as in USA, Portugal, Ethiopia, Norway, Sweden and Indonesia. Videotape analyses of adult-child interaction in a local childcare center were conducted to identify criteria of significant incidence behaviors based on the elements of MISC. The compatible features of MISC were examined with the ongoing educational program and traditional ways of teaching. Findings add value to both pre-and in-service staff trainings applying a context free and cross subject content model. It stands a better chance of sustaining the long-term effects on caregivers'/teachers' behaviors in facilitating children's continuous learning, which indeed, is Singapore striving to produce developing learners to meet the demands of global community.

Research Background

Singapore is widely recognized education system for having produced high levels of achievement among its students (Kelly, Mullis, & Martin, 2000; Smith, Kelly, Mullis, I. V. S., & Martin, 2000; TIMSS, 2003, 2007). Rote learning and a hierarchical system have contributed to this excelling student performance, however these methods are now considered to be less suitable. The changing education frame is now driven by global imperatives which emphasize creativity and innovativeness. The Prime Minister Lee Hsien Loong (2004) has stressed that Singapore must continue to restructure and upgrade because of ferocious competition in such worldwide trends.

New school policies and pedagogy with a greater balance has been afforded to teaching approaches. Students have also been given greater empowerment to initiate their own learning and initiatives, which support learning outcomes for all students through a wide spectrum of learning activities. For example, the government's encouragement for teachers to promote student's thinking dispositions (i.e. "Teach Less; Learn More") mandates a new curriculum intervention, including the teaching of critical thinking, information technology skills, and national education (Koh, 2004).

As a result of these policy changes, teachers are increasingly becoming aware of the need to help mediate their students learn to adjust to the rapidly changing world. This world is mediated to children through the process of teachers matching what they intend to mediate with the children's responses. Through mediations, the world is transformed by a network of cultural transmissions into one in which things have meaning, importance, and relevance to future as well as past experiences.

Rationale for the Study

Child development is a process of change that they learn to master increasingly complex levels of movement, thinking, feeling and socialization. Development is a journey of discovery through the senses, in which the child takes in and thereby creates, establishes and confirms connections and paths in the brain. It is a multi-faceted and multi-dimensional process involving aspects of health, nutrition, hygiene, emotion and intellect. It is also a dynamic process. Along with the dynamic process of development, researchers have confirmed that young children learn most effectively when they are engaged in interaction rather than in merely receptive or passive activities (Bruner, 1999; Wood & Bennett, 1999). They are most likely to be strengthening their natural dispositions to learn when they are interacting with adults, peers, materials, and their surroundings in ways that help them make better and deeper sense of their own experience and environment. Interaction that arises in the course of such activities provides contexts for much social and cognitive learning.

Adult-child interactions are of central importance and that quality care of young children should consist of a mental diet including warmth, nurturance, and stability (Klein, 2006; Shonkoff & Phillips, 2000). In other words, infants and young children require adult mediation in order to develop the potential to benefit from new experiences. Among those adult caretakers, teachers' specific activities have been found that relate to their students' mental development concurrently and predictively (Klein, 1988, 1996; Tzuriel, 1996, 1999; Wachs, 1992). One approach that may be taken to the development of cognitive skills is the Mediated Learning Experience (MLE) approach (Feuerstein, Feuerstein, Falik, & Rand, 2002; Feuerstein, Klein, & Tannenbaum, 1991; Feuerstein, Rand, Hoffman, & Miller, 1980).

Based on Feuerstein's MLE, Klein (1988, 1991) developed the Mediational Intervention for Sensitizing Caregivers (MISC) model to promote a sound, facilitative caregiver-child relationship. The model has been widely used in early childhood studies. The applicability of this model has also been used as a research tool enriching the literature on human interaction in many research studies other than early childhood education (Lifshitz & Klein, 2007). This study is a follow-up as the MISC model presented in Singapore years ago for further exploration on its application in local schools.

Purpose

The main purpose of this study was to investigate the state of specific aspects of the mediational process in the traditional ways of language teaching in early childhood education. The Mediational Intervention for Sensitizing Caregivers/teachers (MISC) was applied as a method for analyzing behaviors of children and caregivers/teachers in their existing interaction and teaching practices. The compatible features of MISC were also examined with the ongoing educational program and traditional ways of teaching. The nature of this study was empirical and exploratory as the researcher of this study was invited by a local organization to collect preliminary data in its childcare center which contributes to in-service staff training program. However, follow-up studies may be conducted following the results of this study to further investigate long-term effects of identified mediational behaviors on their potential for children to learn from new experiences.

Theoretical Background

According to Feuerstein and colleagues, an individual's level of cognitive functioning is directly linked to the quality and quantity of Mediated Learning Experiences (MLE) he or she has received (Feuerstein et al., 1986). Mediated learning is the process by which a mediator organizes and interprets the world to a child. By formulating, choosing, focusing and generating feedback regarding experiences with the surroundings, the mediating adult creates the environmental milieu for the child to explore and to learn. When an individual gives meaning to events, helps children select relevant from irrelevant variables, assists in abstracting rules for regularly occurring phenomena, and generally attempts to develop children's abilities to think, that individual is engaged in mediate learning.

Vygotsky (1978) explores the mediated activity by emphasizing the role of the other individual as a mediator of meaning. An illustrative example of this is the development of indicatory gesticulation in the child. According to Vygotsky, gesture first appears as a natural attempt to grasp an object. The grasping movement is interpreted by an adult as a gesture; thus the human meaning of the natural act is supplied by the adult to the child. Accordingly, the address of the movement changes from that of the object to that of a human subject. Movement itself becomes transformed and reduced; it starts as a grasping attempt and becomes a real gesture. Later, such gestures are internalized and become children's inner commands to themselves. The meaning of one's own activity is thus formed by mediation through another individual (Kozulin & Presseisen, 1995).

The ultimate goal of mediated learning is to make the child sensitive to learning through direct exposure to stimuli and to develop in the child's cognitive prerequisites for such direct learning. Mediation assumes that instruction is more concerned with going beyond the information given, with connecting the present with both the past and the anticipation of the future, than with mastering specific bits of here-and-now data (Perkins & Salomon, 1988).

Based on Feuerstein's theory, Klein (1988, 1991) developed the Mediational Intervention for Sensitizing Caregivers (MISC) model to promote a sound, facilitative caregiver-child relationship. The MISC represents the developmental mediation approach, which is based on an integration of contributions from three major theoretical frameworks: (a) An eco-cultural

approach. This highlights caregivers' objectives of child rearing, long-term educational view of goals, ideal child, ideal parent etc. (b) A developmental approach. Growth and development are viewed as a dynamic process in which both child and adult are playing a major role affecting each other and the environment. (c) A mediational approach. Based on the theory of cognitive modifiability and Vygotsky's theory, several basic characteristics of adult behavior that are necessary to create experiences of mediated learning for young children are identified and empirically defined (Klein & Rye, 2004).

The essence of the MISC lies in the sensitization to and raising of consciousness regarding key issues in the relationship that try to raise adult's awareness on their own basic philosophy of child rearing/education, their perceptions of their children, children's emotional and cognitive needs, and the criteria of mediation in practice. Klein (2000) proposes five typical mediational behaviors of the MISC:

- Focusing (intentionality and reciprocity): Acts aimed at directing towards focusing an individual's attention to something or someone;
- Affecting (mediation of meaning): Behaviours that express excitement, appreciation or affect, in relation to the person in the interaction, objects or processes;
- Expanding (transcendence): Verbally or nonverbally transcending the concrete immediate context of the interaction; attributing past and future needs to the present situation through comparison, clarification and explanation;
- Rewarding (mediated feelings of competence): Mediating feelings of competence, identifying components of behaviour contributing to that success;
- Regulating: Behaviours that model, demonstrate and/or verbally guide actions of specific requirements of a task, or to any other cognitive process required prior to overt action.

The components of mediational behavior may sometimes define variedly in different studies. For example, Frank, Stolarski and Scher (2006) used Lidz's (1991) rating system which consists of 11 components: Intentionality, Meaning, Joint Regard, Psychological Differentiation, Task Regulation, Praise and Encouragement, Contingent Responsivity, Affective Involvement, Transcendence, Challenge and Change. And in Lifshitz & Klein's (2007) study of paraprofessionals, they extended these parameters to another 10 sub-parameters, including regulating behavior and ordering behavior, to adapt to the environment of adolescents and adults with ID.

Applying the MISC model on family research, it was found that the factors of quality mediation predicted cognitive outcome measures up to four years of age better than did the children's own cognitive test scores in infancy, or other presage variables related to pregnancy and birth histories or to mothers' education (Klein, Weider, & Greenspan, 1987). Similar findings were also reported for a sample of very low birth weight infants (Klein, Raziell, Brish, & Birenbaum, 1987). Inter-correlations between mothers' mediational behaviors on children were significant over time in studies of low socio-economic status (SES) American (Klein, Weider, & Greenspan, 1987) and Israeli (Klein, 1988) mother-infant samples. In terms of parent-child mediated learning interaction, it has been found that the child's cognitive modifiability was predicted by MLE interactions in a structured but not in a free-play situation. Mediation for transcendence

(e.g., teaching rules and generalizations) appeared to be the strongest predictor of children's cognitive modifiability (Berhanu, 2006; Tzuriel, 1999; Tzuriel & Weiss, 1998).

The MISC model has also been used with populations of children with special needs including infants with Down's Syndrome (Klein & Arieli, 1997; Klein & Rosenthal, 1999), deaf children (Chiswanda, 1999), as well as on young gifted children (Klein, 1992). The model has also applied to explore the mediated learning experience among three generations (Isman & Tzuriel, 2008) as well as mediation between paraprofessionals and individuals with intellectual disability (Lifshitz & Klein, 2007).

Research Method

This study was based in a childcare centre in Singapore where the center catered to mainly low income families. The centre is sponsored by Yayasan MENDAKI, a Malay/Muslim organization. Yayasan MENDAKI is a self-help group dedicated to the empowerment of the disadvantaged through excellence in education. The organization was set up 24 years ago by Malay/Muslim Community leaders in partnership with the government. The researcher of this study was approached to help the center with staff professional development. Parents were informed and consent forms of participation were obtained.

The researcher spent a school term time establishing the relationship with the center staff and children followed by field notes taking and videotaping in the 2nd year. The researcher participated in the center's daily routine in observing teacher-children behaviors as they naturally occur in varied units of instruction. On-site observation was frequently interrupted and had to shift dates due to absence of teacher and center events. Intense communication and consultation were also needed due to different beliefs of staff. Teacher turning-over rate was usually high in local childcare centers while the study was carried out. Absence rate of children was also very high. The class was mixed with children from age 5 to 7. Because of those unexpected conditions as well as the cultural difference (the researcher is a Taiwanese), the researcher mainly focused on the meditational process of teachers applying the MISC model. Observation records and interpretation were triangulated with teachers.

There were 12 observations cross 6 months on the same teacher and group of children. The length of each unit ranged from 25 to 32 minutes, according to its pose in the natural field. Six observations were selected which the unit theme is related to literacy. In order to cross-check observation findings, two raters observed the videotapes together and discussed for consistent definition on each category. After the inter-rater agreement reached to the .90 level, the video was then rated independently for the presence or absence of each behavior according to the following rules:

- The behaviors in each tape were mutually exclusive with no overlap among criteria.
- The length of each event varied, depending on the specific behavior.
- The interaction 'event' might contain one or more criteria.
- The total frequency with which each mediation behavior occurred across all events in the videos was then calculated.

In line with Klein's (1992, 1996) definition of mediation of meaning, the five parameters of Focusing, Affecting, Expanding, Rewarding, Regulating serve as the main components in categories. Besides, another seven parameters were extended and developed as results of analyzing contents of the videotapes, including Behavior Management, Student Questioning, Student Responding, Teacher-student Interaction, Teacher Preparation, Teacher Other Activities, and Student Other Activities. After reviewing the videos along with the other observer, these 12 observation parameters are categorized into the following three types of parameters:

Teacher related parameters: (a) Behavior Management: Teacher re-directs student's behaviors, corrects seat arrangement; (b) Teacher Preparation: Teacher prepares teaching and learning materials; (c) Teacher Other Activities: Teacher responds to students' non-learning content related questions.

Student related parameters: (a) Student questioning: Student asks questions related to learning content; (b) Student responding: Student responds to teacher's content related activities; (c) Student Other Activities: Student's not related content behaviours.

Teacher-student interaction: (a) Student responds to any five of MISC main components presented by teachers; (b) Teacher responds to student's questions regarding learning content.

Findings

The occurrence of teacher and children's behaviour in the mediational process was tabulated in Table 1. It was obvious that teacher's focusing behaviour was observed more frequently than the other four major components in the interaction. Although the percentage of this behaviour varied from 8.93% to 29.09% due to different contents and activities in each unit, it was still the prime behaviour among the five major features in the MISC. For example: teacher initiated the question as "what is the day of today... children...all of you...?" and called out children's names. Such a mediational behaviour is in the preliminary level of MISC to prepare children for a variety of higher order perceptions and elaborations. This finding indicated that teacher's mediational style was more toward regulating children's behaviours as focusing children's attention to something or someone.

The other four components comprised of less than 10% in the mediational process. Expanding and Rewarding were found to be most predictive of cognitive performance of children in Kline's studies (Klein, 1996; 2006). In this study, however, these two components had not occurred frequently, which could prevent young children benefiting from effective learning experience. In sum, this whole picture may indicate that teacher was energized to act but had not been prepared to provide meaning sequences of mediation.

Teacher-student Interaction occurred most frequently, except in #5 and #3. This interaction mostly reflected children's responding to any five of MISC main components presented by the teacher and teacher's responding to student's questions regarding learning content. When considering the observation described above, the interactions were still devoid of teaching behaviours involving opportunities for choice making, encouraging with explanation, with almost no experiences of cognitive expanding, and also lack of affecting that express excitement,

appreciation or affect, which would play an important role in motivating for learning and for internalizing learning and remembering.

There were some other interesting phenomena observed in the field that may distort somewhat on reports described above. In session 3, Student Other Activities occurred highly frequent across these parameters and sessions. In that typical session, children behaved restlessness and roughhouse with each other, and less questioning behavior from the children. And teacher's higher managed behavior was also observed in that particular session, with less focusing behavior. The ecological variation happened in session 5 too. Teacher performs focusing behaviour most often. Corresponding with this phenomenon was students' less questioning and Teacher-student Interaction behaviours.

Table 1: Twelve Mediation Parameters (in percentage)

# of video date	#1 9/11	#2 9/17	#3 9/24	#4 9/25	#5 10/2	#6 10/9	Total
Focusing	13.04	11.73	8.93	14.07	29.09	25.37	16.96
Affecting	--	0.56	--	0.50	--	--	0.22
Expanding	2.97	7.26	--	7.04	6.06	4.48	4.92
Rewarding	2.90	1.12	5.36	3.02	3.03	3.73	3.17
Regulating	1.45	--	1.79	0.50	0.60	0.78	0.77
Behavior Management	15.94	11.17	17.86	8.04	12.12	10.45	12.14
Teacher Preparation	11.59	1.12	1.19	1.51	0.60	0.75	1.86
Teacher Other Activities	1.48	6.70	10.71	4.52	4.24	1.49	5.36
Teacher-student Interaction	20.29	29.05	16.07	23.62	13.33	25.37	21.44
Student Questioning	5.80	11.73	1.79	4.02	7.88	2.99	5.80
Student Responding	20.29	7.26	10.12	23.62	19.39	24.63	17.07
Student Other Activities	4.34	12.29	26.19	9.55	3.63	--	10.28

With regard to the interesting ecological phenomenon, correlations among the 12 behavior parameters indicated that Behavior Management, Teacher Other Activities, and Student Other Activities have highest correlations with each other (c.f., Table 2). Based on the result of statistical analysis, Student Other Activities and Teacher Other Activities have almost identical appearance in each session. The highly close relationship is also reflected in teacher's Behavior Management. It seems predictable as a vicious circle happened in the classroom.

Table 2: Correlations among Mediated Parameters (selected)

	Behavior Management	Teacher Other Activities	Student Other Activities
Behavior Management	1	.931**	.877*
Teacher Other Activities	.931**	1	.963**
Student Other Activities	.877*	.963**	1

Discussion

In recent years, young children have increasingly been placed in the childcare center or kindergarten and provided with adequate educational programs for their cognitive and social-emotional development. Attention also pays on the quality of such arrangement as advanced theory of child development and intervention applied in the field. In the present study, the aim was to examine the relationship between the mediating behavior of caregivers and the responses of young children attending the childcare center. Mediation is conceptualized as a cluster of variables that reflected aspects of the climate in the classroom. The recording of teacher–students interactions in their natural context carries many advantages and analyses of teacher and children’s behavior in the field disclose what is happening in the natural situation.

The findings of this study based on on-site and video-tapping observation would bring insight on teacher and teaching performance in terms of children’s development and growth. The most notable results of this study reveal that teacher tends to mediate intentionality (i.e. focusing). It is obvious that the teacher makes great efforts focusing on learning content, but fail to notice the essence of mediation experience that go beyond the information given. Generally, the teacher uses the mediation of transcendence infrequently and rarely provides mediation of competence and reward, especially in the explicit verbal form of a direct reward. Even the low frequency of encouraging but without explanation fulfils only the superficial goals of the interaction and prevents children from learning the reason for their success (Klein, 1992). More emphasis is placed on the accomplishment of actual acts with little room for making errors. The mediation of regulation of behavior is done with a more commanding and direct manner. The overall picture of the mediational process in this classroom indicates that there is still a disparity between the mediational teaching style expressed and traditional way of teaching in schools.

Although Lidz (2003) takes a more flexible view of mediation in practice, she indicates that not all components of mediation need to be present in order to establish an interaction as a Mediated Learning Experience, and does not give precedence to specific components. And varying degrees of appearance of each component will be seen in various aspects of the setting. However, the lack of behaviors reflecting transcendence and rewarding in the current study poses a conceptual problem from the point of view of the Feuerstein framework of thought. It might be corresponded with what Klein (1986) has observed in different cultures. She identified two general forms of mediation: a western, analytic style and a traditional, holistic style. The later approach is typically used in the so-called traditional societies where most learning occurs

decontextualised, not explored beyond the immediate context. In other words, children experience direct learning strategies rather than mediated learning, of which might counteract with the western kind of school learning that requires experiences in analytic mediation.

When reflecting from the other side, a vivid picture appeared that children were energetic in responding with high percentage of occurrence. They were eager to respond and took some actions. But children also engaged in many other activities that were not directly related with learning content. Following students' noisy tumult and wriggling, teacher's management of children behaviours often appeared instantly. Hence, the high frequencies on Teacher-Student Interaction were mostly comprised of orders and instructions, being devoid of encouragement for an enjoyable and positive interaction. The infrequent occurrence of expanding, rewarding, and affecting provide a poor 'mental diet' for young children, and prevent them benefiting from any learning experience.

Findings revealed a certain amount of mediation happened in the classroom. However, the setting or situation may inhibit the elicitation of some other specific elements. For example, the components of expanding and affecting may require a longer observation time and tend to be elicited only in the typical activities. Although there appears different profile from what described in the literature, the MISC model has its validity and can serve as a tool for enriching awareness and modifying the ability of teacher daily activities.

Limitations & Implications

A number of limitations of the present study need to be further addressed. Firstly, this preliminary study used limited sample of interactions in one classroom. With ample data, the transactional nature of the teacher-student interchanges might be revealed conspicuously in the whole process. Thus, generalization should therefore be regarded with caution. Another limitation was that the objective of the study was to focus on the group setting and tap the overall classroom climate, individual variability within the group was not analyzed. Clearly, children's behavior varied across individuals and also situations. In the future study, it would be meaningful to include personal level of analysis for deeper understanding of changes and challenges in their learning experiences.

In conclusion, we suggest that the model of MISC has its applicability in family and education field. The model has its potential value in exploring the actual state of affairs in classroom. The continued investigation of mediation skill as a marker of the quality of the educational setting is a worthwhile endeavor. Further promising approaches might include intervention using experimental and control groups to evaluate the relative impact of teacher's different mediation strategies on children's cognitive development. Inclusion of multiple levels of variables, such as person, process and context variables ecologically will allow an examination of the bidirectional nature of the caregiver-child effects. Longitudinal studies investigating the effect of the MISC approach on the behavioral, cognitive and emotional skills of young children could also strengthen its argument.

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