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Teacher beliefs and practices of kindergarten teachers in Hong Kong

Chi-hung Leung, The Hong Kong Institute of Education

Abstract

A key educational reform proposal made in 2000 is to build a new culture for quality early childhood education through upgrading professional competence. Teachers are an important element of high-quality, developmentally appropriate early childhood programs. The Teacher Beliefs and Practices Survey (TBS) based on 2009 NAEYC Developmentally Appropriate Practice (DAP) guidelines was used to measure kindergarten teachers' beliefs and practices in Hong Kong. Confirmatory Factor Analysis (CFA) is used to validate the Survey for the Hong Kong sample. Findings indicated that the three-factor model of TBS and four-factor model of Instructional Activities Scale (IAS) were fitted to measure Hong Kong samples. Quality of early childhood education has been enhanced with the strong agreement of the appropriate teaching beliefs and practices among kindergartens teachers in Hong Kong.

Introduction

Preschool education is an essential part of the educational system in Hong Kong. It is a part of daily life for five-year-old children (Wollons, 2000), and the transition from preschool to primary grades is also important for children (Graue, 2003; National Association for the Education of Young Children [NAEYC], 1996). High-quality early education produces long-lasting benefits for child development and later academic success (National Research Council, 2001; Peisner-Feinber, Burchnal, Clifford, Culkin, Howes, & Kagan et al., 2000; Reynolds, Temple, Robertson, & Mann, 2001).

Recently, the importance of high-quality kindergarten programs that "promote the physical, social, emotional, aesthetic, intellectual, and language development" (National Association for the Education of Young Children, 2009) for five-year-old children has been recognized by the policy makers.

There is an increasing demand from the public to improve the quality of early childhood education in Hong Kong (Chan & Chan, 2003). The Hong Kong Education Commission released an "education blueprint for the 21st century" in 2000, which presented a set of inform proposals for the education system in Hong Kong. In the document, early childhood education has been acknowledged as the foundation for life-long learning. A key reform proposal in this document is to begin the building of a new culture of quality in early childhood education through upgrading of professional competence of teachers and enhancing quality assurance mechanisms (Chan & Chan, 2003).

Kindergartens in Hong Kong

In 2009, there were 142,000 children enrolled in kindergartens (Hong Kong Government, 2010). In Hong Kong, kindergartens cater to children from three age groups: nursery classes for three year olds, lower kindergarten classes for four year olds, and upper kindergarten classes for five year olds. Child-care centres cater for children from four age groups: N1 for two year olds, N2 for 3 year olds, N3 for 4 year olds, and N4 for 5 year olds. Day crèches provide services for children younger than two years of age (Chan & Chan, 2003).

The education system has become highly competitive and because of the pressure for success in getting admissions in universities, there is tremendous pressure on kindergartens also to adopt formal academic curriculum as well as test-oriented and teacher-centered approaches. Kindergartens are now expected to prepare children to seek admission into

certain primary schools favored by parents because of their reputation for highly academic-oriented and difficult curriculum. These types of curriculum and teaching and learning approaches are inappropriate for young children, and can only result in loss of interest in learning (Chan & Chan, 2003). Rote-learning of actual knowledge, spelling of difficult English words, or composition of numbers are practices that do not nurture creativity and problem-solving skills, or interest in learning, which are more important for promoting children's balanced development and preparing them for life-long learning (Boulton-Lewis, 1994; Siraj-Blatchford, 1999). Therefore, greater consideration needs to be given to the quality of programmes provided to children, including issues of curriculum content, quality of learning experiences provided, patterns of staff-children interactions, and staff quality (MCrea & Piscitelli, 1991).

The Education Commission has proposed enhancing quality assurance through self-evaluation using certain performance indicators. In addition, it recommends the use of objective external evaluations of early childhood educational programs to be conducted by specialists, or institutions or the concerned regulatory bodies (Hong Kong Education Department, 2000).

DAP (Developmentally Appropriate Practice), developed by National Association for the Education of Young Children (NAEYC), has defined performance indicators to evaluate teachers' teaching beliefs and practices and provided a useful platform to Hong Kong early childhood sectors to evaluate their programmes.

Developmentally appropriate practice (DAP)

Developmentally Appropriate Practice (DAP) developed by the NAEYC has been an important guideline for early childhood programs in the U.S. since its inception in 1987. Charlesworth (1998) argued that DAP is designed for all children, with diverse socioeconomic status, culture, race, gender, age, or special needs. Elkind (1989) also stated that a challenging and developmentally appropriate learning environment would help children develop creative and critical thinking abilities. Studies have demonstrated the DAP in enhancing children's learning and development, children in DAP classrooms had better grades in sience and in physical and social skills (Marcon, 1993) and applied knowledge skills (Huffman & Speer, 2000).

Teachers are an important component of high-quality, developmentally appropriate early childhood programs. According to NAEYC and National Association of Early Childhood Specialists in State Departments of Education (NAECS) (NAEYC, 2003), teachers are the key to the implementation of high-quality curriculum and assessment systems in early childhood programs. They are decision-makers in the classrooms and their role is critical in supporting children's development and learning (Bredekamp & Copple, 1997). Early childhood teachers should be knowledgeable about issues related to child development and learning, uniqueness of individual children, and the social and cultural context when making decisions about their practices (Bredekamp & Copple, 1997). The Association of Childhood Education International (1986) also advocated developmentally appropriate kindergartens staffed by teachers who are knowledgeable in child development, and who listen thoughtfully to children, regularly assess children's interests, needs, and skill levels, design positive learning environments, help children establish their self-esteem, utilize a variety of instructional approaches, and provide varied experiences for kindergarten children.

Because the teacher is crucial in implementation of the developmentally appropriate approach, teachers' attitudes and beliefs about classroom practices are important. Research has shown that teachers' developmentally appropriate beliefs and practices influence not only program quality but also children's learning outcome. McCarty, Abbott-Shim, and Lambert (2001) found that teachers in low quality classrooms tended to have more inappropriate

beliefs and practices than teachers working in high quality classrooms. Jones and Gullo (1999) found that teachers' developmentally appropriate beliefs and practices were associated with children's positive social skills ratings, but not academic achievement. However, there is still some demands from the parents to adopt academic curriculum as well as test-oriented and teacher-centered approaches in some kindergartens in Hong Kong. Research findings indicate that teachers' beliefs and how they related to their practices of their beliefs are important issues in the delivery of early childhood education (Rusher, McGrevin, & Lambiotte, 1992).

Purposes of DAP

The two purposes of DAP are: (a) enhancing the quality of early educational experiences of young children by using developmentally appropriate activities, materials and expectations in early childhood educational programs (Bredekamp, 1987); and (b) balancing academic instruction in early childhood programs with other social, emotional and physical development aspects (Bredekampy & Copple, 1997).

Measurements of developmentally appropriate practice (DAP).

The measurements of developmentally appropriate practices included two scales, the Teacher Beliefs Scale (TBS) measuring teachers' teaching beliefs and the Instructional Activities Scale (IAS) measuring teachers' teaching practices, developed by Charlesworth et al. (1991) based on the NAEYC guidelines (NAEYC, 2009).

The TBS contains one question about ranking of factors for teachers' decision making and 42 items (27 developmentally appropriate and 15 inappropriate items) of beliefs about kindergarten practices. On the other hand, there are 18 developmentally appropriate and 12 inappropriate practices items in the IAS. Both the Beliefs and Instructional Activities scale are 5-point Likert scales.

The internal consistency of the Teacher Beliefs scale and the Instructional Activities scale were found to be acceptable, with Cronbach's alpha of 0.86 and 0.79 against the recommended level alpha >.70 (DeVellis, 2003; George & Mallery, 2003). High correlation was found between participants' developmentally inappropriate practices scores and classroom observation scores. Moreover, teachers' self-reported beliefs scores were significantly higher than practice and classroom observation scores. The construct validity was determined through exploratory factor analysis; results indicated that the three-factor solution (DAP, DIP, and Context Appropriate Practices) could engender the most meaningful factors of the Teacher beliefs Scale in Kim's study (2005). On the other hand, the four-factor solution (DAP Activities, DAP Principles, DIP Activities, and DIP Classroom Management) was best for the Instructional Activities Scale. Kim (2005) concluded that the Teacher Beliefs and Practices Survey could be a promising measure for critically examining teachers' beliefs about and practices of DAP.

DAP in Asian countries

Several studies about early childhood teachers' beliefs and practices in Korea have been conducted by Suh (1994), Shim and Herwig (1997), and Kim, Kim and Maslak (2005). Suh (1994) compared beliefs and values about public kindergarten programs and practices of Korean kindergarten parents, teachers and principals. The sample included 280 parents, 179 kindergarten teachers, and 148 principals from three provinces in Korea. The kindergarten teachers valued the importance of affective development, play, social skills development, motor skill development, child selected activity, and parent involvement in public kindergarten more than the parents and principals. Further, kindergarten teachers showed higher agreement with developmentally appropriate practices compared with parents and principals. In addition, kindergarten teachers with early childhood education backgrounds had

stronger developmentally appropriate beliefs and values than teachers with elementary education background. The level of education also influenced teachers' knowledge about developmental appropriateness. It was found the higher the teacher education level was, the stronger was the developmental appropriateness knowledge.

Shim and Herwig (1997) examined the beliefs and practices of early childhood teachers in public and private programs in Korea. The sample included 54 child care teachers, 58 private kindergarten teachers, and 45 public kindergarten teachers. The results revealed that child care, public kindergarten, and private kindergarten teachers in Korea demonstrated a high desire to follow DAP, but were low on developmentally appropriate teaching.

Kim, Kim and Maslak (2005) investigated Korean kindergarten and child care teachers' understanding and use of DAP. Study participants included 211 kindergarten teachers and 208 child care teachers. Kindergarten teachers reported stronger agreement with DAP and more frequent use of appropriate activities than child care teachers. Reported inappropriate beliefs and practices were two important contributors for the significant differences in responses of kindergarten and child care teachers.

Taiwanese early childhood education scholars have also examined the extent of acceptance of DAP by early childhood teachers. Yang (1997) compared the beliefs of parents, teachers and principals regarding DAP using the Teacher Beliefs Scale of the Teacher Questionnaire developed by Charlesworth et al. (1991) based on the NAEYC 1987 guidelines. 57 kindergarten principals, 70 kindergarten teachers, and 59 parents of 5-year-olds participated in the study. Overall, kindergarten parents, teachers and principals showed positive acceptance of DAP in this study.

Lin (2004) examined Taiwanese early childhood teachers' beliefs about DAP curriculum. 559 teachers, administrators, and caregivers of 3-6 year-old children participated in the study. The participants' beliefs about curriculum were obtained by using the Teacher Beliefs Scale developed by Charlesworth et al. (1993). The results indicated that Taiwanese early childhood teachers had stronger beliefs toward DAP than inappropriate practices. However, there were 7 items on which the teachers did not show consistency with DAP philosophy. These items were: evaluating performance on worksheets and workbooks, classroom activities responsive to individual differences in development , allowing children to cut their own shapes, plan their own creative activities, using workbooks and ditto sheet, using teachers' authority through punishment and/or reprimands to encourage appropriate behavior, and forming letters correctly on a printed line.

Liu (2007) examined DAP beliefs and practices of public and private kindergarten teachers in the U.S. and Taiwan. 205 Taiwanese public kindergarten teachers, 172 Taiwanese private kindergarten teachers, 54 US public kindergarten teachers, and 57 US private kindergarten teachers participated in the study. The results indicated that both the U.S. and Taiwanese kindergarten teachers endorsed DAP beliefs to a large extent and conduct DAP activities regularly in their classrooms at the same time they valued some DIP beliefs and conducted DIP activities but to a lesser extent. The study served as a starting point for further cross-cultural studies on DAP between the US and Taiwanese early childhood educators.

The above literature review clearly shows that NAEYC's DAP has become a paradigm for early childhood education since its inception in 1987. Comment that the model supports the Education Commission's proposal to enhance the quality of ECE and teacher competence in Hong Kong. The Education Commission has proposed making the curriculum focus on well-balanced development of children in early childhood education for 10 years. The Hong Kong Institute of Education (HKIED) first offered the 3-year part-time Bachelor of Education (BEd) programme for in-service kindergarten teachers in 1999, and the 4-year full-time programme for pre-service kindergarten teachers in 2005, in order to provide quality training in early childhood education to both in-service and pre-service teachers, to enable them to

meet the new challenges. In 2007, Liu found that teachers with higher early childhood education qualifications held strong beliefs about developmentally appropriate practices (DAP) and lesser beliefs about developmentally inappropriate practices (DIP) in Taiwan. The current study set out to review kindergarten teachers' beliefs and practices based on DAP in Hong Kong.

Many measurement methods have been developed to quantify early childhood educators' DAP beliefs and practices. However, the Teacher Beliefs and Practices Survey (Burts et al., 2000) was not psychometrically adequate due to the limited sample size (Liu, 2007). Therefore, the confirmatory factor analysis was also recommended for use. Secondly, several cross-cultural studies on DAP between Asian countries and U.S. have shown that some items in the scales were not consistent with the DAP philosophy. Therefore, the present study is also valuable for comparing the items in scales used with Taiwanese and Korean samples to see any intra-cultural differences. Secondly, it may further develop the work of Liu to better identify the psychometric properties of the Teacher Beliefs and Practices Survey. Finally, both scales (TBS and IAS) have provided a platform to investigate whether teaching beliefs have consistency with teaching practices among kindergarten teachers in Hong Kong.

Methods

Participants

157 full time pre-service BEd (ECE) students of the four-year BEd (Full Time) programme (155 females and 2 males) and 126 part time BEd (ECE) in-service students of the three-year BEd (Part-time) prorgamme (all females) were invited to participate in this study. All participants were clearly informed about the research and asked to sign the research consent for the study.

Instruments

The Teacher Beliefs and Practices Survey (3-5 year olds) designed by Burts et al. (2000), based on Developmentally Appropriate Practice (DAP) guidelines National Association for Education of Young Children was used to collect data (Bredekamp & Copple, 1997). The survey included a teacher demographic questionnaire, Teacher Belief Scale, and Instructional Activities Scale. Teachers' educational background, teaching experience, and current teaching position information was also collected.

There are 43 items in the Teacher Beliefs Scale (TBS) (1 ranking question, 27 items of developmentally appropriate beliefs, and 15 items of inappropriate beliefs). The first question in the scale asked teachers to rank the order of influence of parents, school system policy, principal/director, teacher self, state regulations, and other teachers on their decision-making regarding how they plan and implement their programs. The remaining 42 questions of the TBS examined teachers' beliefs about teaching kindergarten programs. The Instructional Activities Scale (IAS) contained 30 items (18 items of developmentally appropriate practices and 12 items of developmentally inappropriate practices for kindergartens). The IAS examined the teachers self-reported frequency of appropriate and inappropriate practices that occur in their classrooms. Both TBS and IAS scales used 5-point Likert scales. The anchors of the Teacher Belief Scale are: 1 = Not at all important, 2 = Not very important, 3 = Fairly important, 4 = Very important, and 5 = Extremely important. For the Instructional Activities Scale (IAS), the anchors were: 1 = Almost never (less than monthly), 2 = Rarely (monthly), 3 = Sometimes (weekly), 4 = regularly (2-4 times a week), and 5 = Often (daily).

Kim (2005) reported the TBS has three factors: Beliefs about Developmentally Appropriate Practices (DAPB) (items 3, 4, 5, 8, 9, 12, 13, 16, 18, 21, 22, 23, 25, 26, 28, 29, and 33), Beliefs on Developmentally Inappropriate Beliefs (DIPB) (Items 2, 7, 10, 11,14, 15,

17, 19, 20, 24, 29, 31, 40, 41, and 42), and Attitudes toward Family, Culture, and Inclusion (FCI) (Items 6, 27, 30, 32, 34, 35, 36, 37, and 38). The internal consistency and reliability coefficients (Cronbach alpha) of these three factors were .85, .82, and .81 in Kim's study (2005) which had a sample size of 375 US teachers. He also found that IAS had four factors: DAP Principles (Items 3, 8, 19, 21, 23, 26, 28, 29, and 30), DAP Activities (Items 1, 2, 4, 5, 6, 7, 9, 24, and 25), DIP Activities (Items 10, 11, 12, 13, 14, 15, 16, 17, and 20), and DIP classroom Practices (Items 18, 22, and 27). The Cronbach alpha for the four factors were .82, .76, .73, and .59, respectively.

Procedure

Both TBS and IAS are self-reported questionnaires. Both pre-service and in-service teachers were asked by the researcher to complete the questionnaire in the class within 15 minutes. Before working on the Confirmatory Factor Analysis (CFA) model, skewness and kurtosis were used to examine the normality of the data; values for all data were in the range of -0.74 to 0.81. The data were considered to be normally distributed; some statisticians suggest a threshold of ±1 as indicative of departure from normality (George & Mallery, 2003; Morgan, Griego, & Gloeckner, 2001). SPSS 18.0 was used to conduct the above analysis.

Confirmatory Factor Analysis (CFA) was used to test whether the pattern for a particular factor of teachers' beliefs and practices fits significantly for the Hong Kong samples. Multi-samples modeling is used to compare the fit of two different models (in-service and pre-service kindergarten teachers), and to decide whether a complicated model gives significantly better description of data than a simple model. AMOS 18.0 is employed to perform the CFA.

Results & Discussion

CFA models of both TBS and IAS

Mean responses, standard deviations, and correlations among items of both TBS and IAS are presented in the Tables 6 - 9. Goodness-of-fit for the three factor model of TBS and four-factor model of IAS (Burts, 2000) were evaluated using maximum likelihood estimation procedures in AMOS.

Three-factor model of Teacher Beliefs Scale (TBS)

The three factor model of TBS (Burts, 2000) statistically fit the results of Hong Kong samples, χ^2 = 169.74, df = 149, and p >.05. The indexes of the model were shown to conceptually fit and acceptable, with the comparative fit index (CFI) = 0.98, RMR <.05, and RMSEA <.05 (Figure 1). However, the number of items of the TBS was reduced to 19 from the original 42 items used by Kim. 23 items were identified as redundant after performing the CFA in the present model. The three-factor model still fitted to measure the HK samples. The items in the new model are similar to Lin's model of Taiwanese samples (2007).

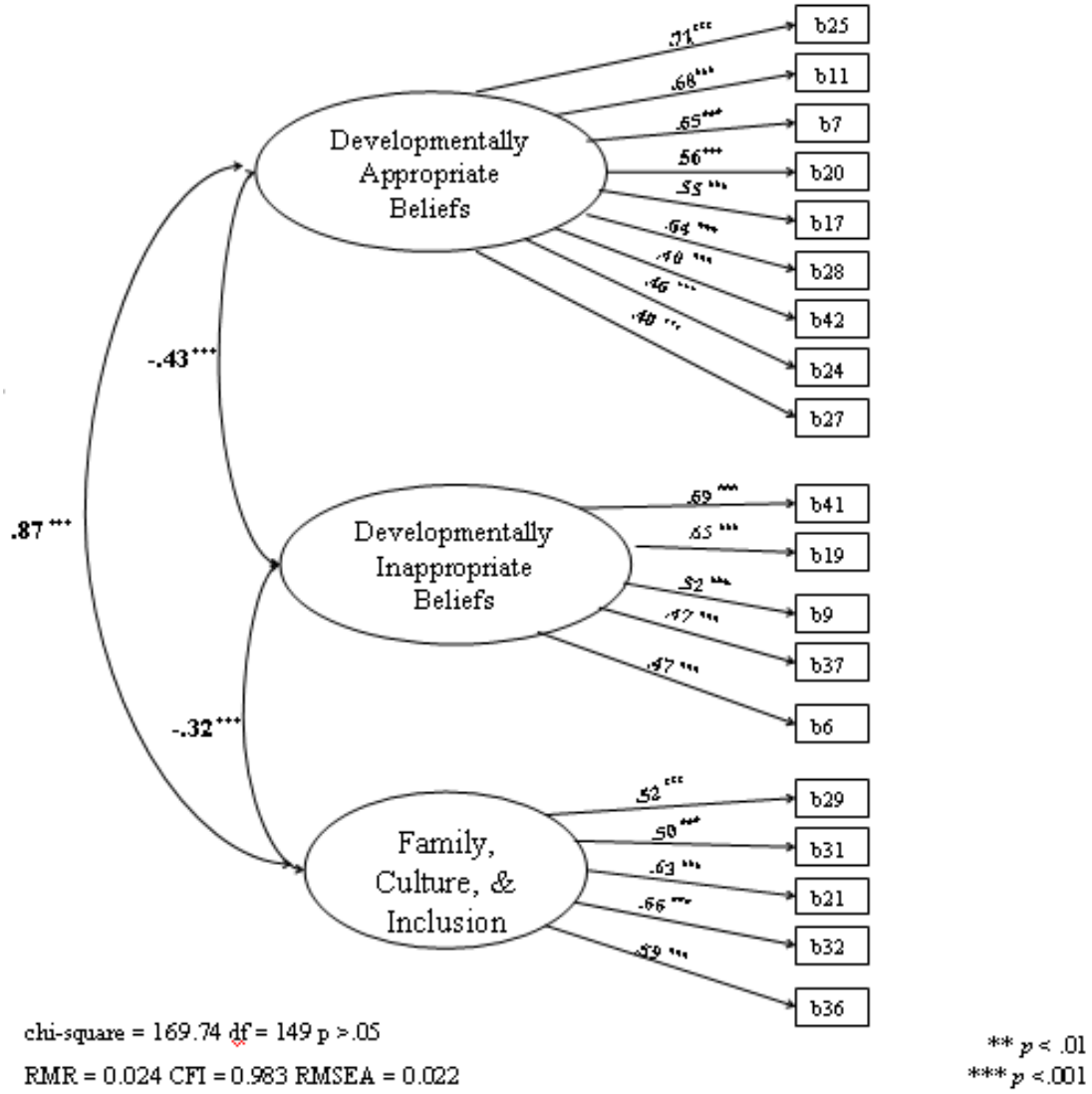

Figure 1. Three- factor model of TBS for Hong Kong samples

Developmentally appropriate beliefs (DAPB).

Items 2, 3, 4, 8, 12, 15, 21, 22 and 23 were deleted in the model since the respondents thought these items, related to individual differences, creativity, and extension of play session, are not important teacher beliefs. The deletion of items was determined by the modification indices greater than 4.0 (Hair, et al., 2006). The respondents focused more on teacher-oriented principles than child-oriented principles, like item 11 **"**Instruction in letter and word recognition is _____ in preschool." (Table 1). For instance, item 11 with the highest mean of 4.49 among all DAPB items (Table 6).

Developmentally inappropriate beliefs (DIPB).

Items 1, 10, 13, 14, 16, 18, 23, 28, 30, 39 and 40 were not included in the new model. They are all about planned curriculum and activities, pre-designed writing and reading activities, and collective classroom teacher behavior (e.g., talk to the whole class). The respondents didn't think these were inappropriate beliefs. However, item 37 "It is _____ that services (like speech therapy) be provided to children with special needs in the regular education classroom by specialist within the context of typical daily activities" was included. This may be because this service will affect their daily teaching schedule (Table 2).

Family, culture and inclusion (FCI).

Items 5, 26, 33, 34, 35, and 37 were deleted from the model. Two items, 21 "It is _____ for teachers to allocate extended periods of time for children to engage in play and projects" and 31 "It is _____ for parents/guardians to be involved in ways that are comfortable for them", were added. The deleted items related to cultural diversity, parents' involvement in evaluation, and teachers' professional training (Table 3).

This may be because Hong Kong is a unilateral culture as nearly 98% of the HK population is Chinese. Teachers may not be aware of the phenomenon of cultural diversity in Hong Kong. For parents' involvement in school, teachers would invite parents to observe their children in class. However, they did not want to solicit and incorporate parents' knowledge about their children for assessment, evaluation, placement and planning since most kindergartens in Hong Kong are supported and run by religious bodies or academic organizations. Teachers may think this would affect their teaching schedules, courses planning, and especially the school's education philosophy.

Four-factor model of the Instructional Activities Scale (IAS)

The four-factor model of IAS also statistically fitted the Hong Kong samples with χ^2 = 151.23, df = 129, and p >.05. The indexes of the model were shown to conceptually fit and were acceptable by the comparative fit index (CFI) = 0.92, RMR <.05, and RMSEA <.05 (Figure 2). However, the number of items in the IAS was reduced to 18 items from the original 30 items. 12 items were identified to be redundant in the present model. The original four-factor model(Burts, 2000) still fitted to the measure of teachers' practices of Hong Kong samples.

Developmentally appropriate practices activities: In-service teachers had significantly higher scores than pre-service teachers in items 8, 9, 24 and 25. They are all about classroom activities, like motor skills, play activities and arts works. This may be because these works are easily evaluated and reflected in their learning process. Items 1, 4, 6, and 7 were deleted. The HK respondents did not think practicing writing, block building, and experiments with writing were important to appropriate activities (Table 4).

Developmentally inappropriate practice activities.

Items 10, 11, 13, 16, 17 and 20 were deleted. All these were about pre-planned activities, practicing writing, and teacher oriented behavior. Item 4 was added in the subscale considered as inappropriate behavior. This is consistent with results of DAPP (Table 4).

Developmentally inappropriate classroom activities (DICA).

Items 22 and 27 were deleted as they were about the use of time outside of class. The respondents did not think these were inappropriate classroom activities. Item 7 about "Teacher-directed behavior …"and Item 4 "Experiment with writing …" were added to the DICA instead. Teachers thought these constituted the inappropriate classroom activity.

Developmentally inappropriate classroom practices (DICP).

Items 22 and 27 were deleted as they were about the use of time outside of class. The respondents did not think these were inappropriate classroom activities. They thought teacher-directed behavior was inappropriate instead, since item 17 was added.

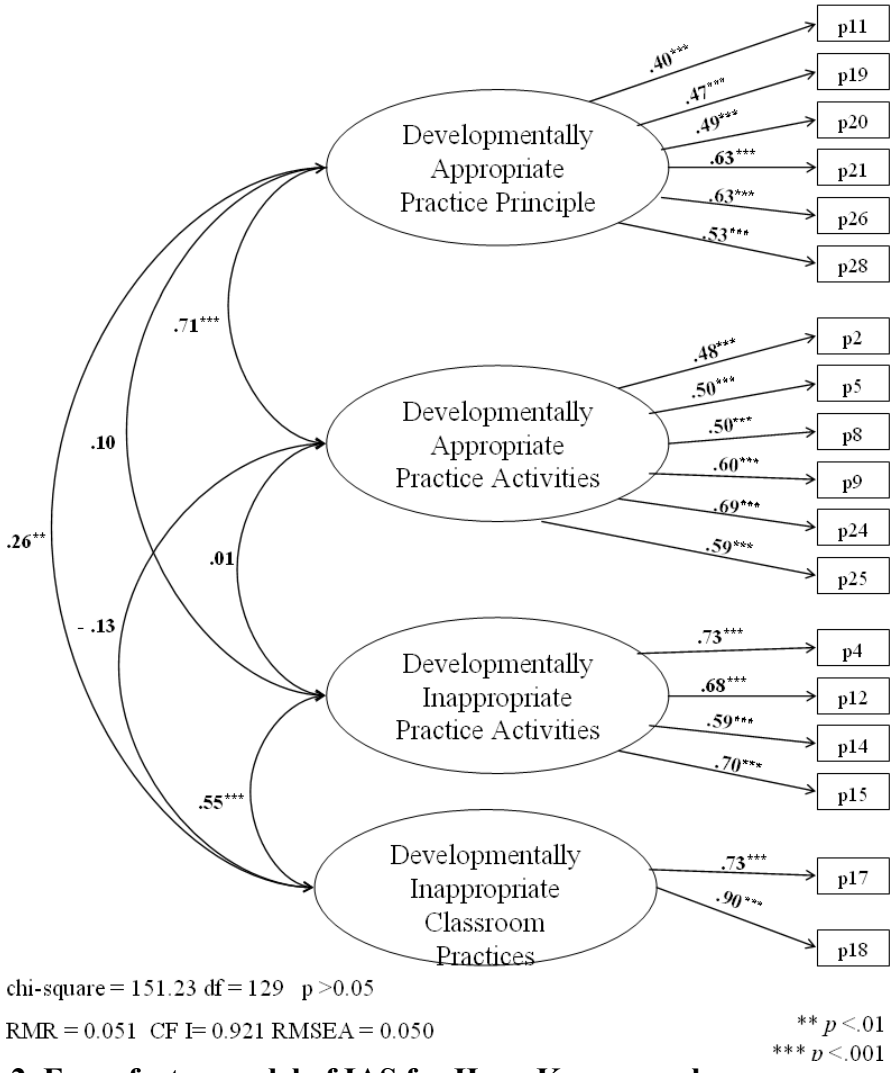

Figure 2. Four- factor model of IAS for Hong Kong samples

Research Implications

Enhancing the Quality of Early Childhood Education

Quality of early childhood education might have been enhanced with the strong agreement on appropriate teaching beliefs and practices among kindergarten teachers in Hong Kong. McCarty, Abbott-Shim and Lambert (2001) found that teachers in high quality classrooms tended to have more appropriate beliefs and practices. This may also reflect the effectiveness of education reform in early childhood education sector, especially in upgrading professional competence (Chan & Chan, 2003). Balanced social, emotional and intellectual development (NAEYC, 2009) has been promoted through adding "teacher-child interactions to help develop children's self-esteem and positive feelings toward learning", "reading stories daily to children" and "providing many daily opportunities for developing social skills (i.e. cooperating, helping, talking) with peers in the classroom" to teaching appropriateness.

Teacher-oriented beliefs and practices.

Even though teachers have tried to create more opportunities to develop students' interest and context, most of the activities are planned by the teachers, like "teachers planned to extend the period of play"…., "teachers move among groups and individuals to offer suggestions …" (Table 1), and "do planned movement …" (Table 4) are included in

developmentally appropriate beliefs and practices. The teachers may think that teacher-planned and -directed activities are good for students' learning. They allowed student-initiated activities with teachers' guidance and advice. Teacher-oriented beliefs and practices not only focus on students' classroom learning activities, but also on their social skills development (e.g., provide many daily opportunities for developing social skills). On the other hand, rote-learning of actual knowledge, spelling of difficult English words, or composition of numbers (Boulton-Lewis, 1994; Siraj-Blatchford, 1999) are considered as inappropriate teaching beliefs and practices.

Beliefs & practices consonance.

Teachers' beliefs (DAPB) and practices (DAPP) are consistent, i.e. what they believed in DAPB was what they practice DAPP in the classroom, especially in practicing teaching skills. Rusher, McGrevin and Lambiotte (1992) indicated teachers' beliefs and how they related to their practices were important issues in the delivery of quality early childhood education. For instance, teachers believed it's important to facilitate student learning in class, like moving among groups to give suggestions, to plan activities, and to read stories daily to children. It's consistent with what they provide by way of planned activities, such as drawing, painting, and working in different ability groups.

Limitations

Subjects

Only year 2 of both full-time and part-time BEd students were invited to participate in the study, which means the sample was not large enough to be generalized to draw a conclusion for the entire Hong Kong, even though the Hong Kong Institute of Education is the largest provider of training and programs for teachers in early childhood education in Hong Kong. It is suggested that data be collected from senior students, such as final year students and students from other institutions.

Design

A cross-sectional design may not really reflect the beliefs and practices of kindergarten teachers since beliefs and practices may be changed over time or with more training in education. It is suggested to use a longitudinal design to examine their teaching beliefs and practices over a period of time.

Recommendations

Curriculum Design

Li (2006) reported that the daily schedule of most preschools in Hong Kong consisted of seven major sessions – assembly, class teaching (carpet time), group activity time, tea break, music and physical movement, and pack-away time. With this schedule, it is hard to squeeze more free time for both teachers and students to facilitate quality teacher-child and child-child interaction. Therefore, kindergarten curriculum planners should consider introducing a schedule where there is more free time for social interaction, like small talks corner for children. For BEd students, the Institute could offer some modules about "Play" and "Creativity" to help student-teachers organise play and creativity activities for preschoolers.

Teachers

Li's study (2003) indicated that teachers' perceptions of student learning focused only on the achievement of academic outcomes, such as "children would give correct answers to questions" and "how many vocabulary words they have learnt in class". The situation has been improved as the present study shows that teachers now generally provide more activities to develop children's social skills in the present study. They encourage children's learning

about social skills or about life gratification. However, the activities are still governed by the teachers. It is suggested that more child- initiated activities be encouraged.

Conclusion

With the strong agreement on selected appropriate teaching beliefs and practices, quality of early childhood education in Hong Kong has been enhanced in the last few years. Teachers' professional competence has been upgraded with more developmentally appropriate beliefs and practices identified. Compared with Kim (2005), teachers have identified far more developmentally appropriate items than inappropriate items. Teachers have provided a variety of activities to enhance teacher-child interaction, self-esteem, and social competence instead of just academic-oriented activities such as rote-learning and spelling of difficult English words. This study also implies that the declared objective of the Education Commission to ensure well-balanced development of young children has been achieved primarily by the teachers, with quality teacher training provided by the Hong Kong Institute of Education.

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Table 1
Comparison of DAPB in Kim (2005) and in this study

Developmentally Appropriate Beliefs (DAPB)	
Kim (2005)	Present study
2. To plan and evaluate the curriculum, teacher observation is _____.	
3. It is _____for activities to be responsive to individual children's interests.	
4. It is _____ for activities to be responsive to individual differences in children's levels of development.	
7. It is _____ for teacher-child interactions to help develop children's self-esteem and positive feelings toward learning.	7. It is _____ for teacher-child interactions to help develop children's self-esteem and positive feelings toward learning.
8. It is _____ for teachers to provide opportunities for children to select many of their own activities.	
11. Instruction in letter and word recognition is _____ in preschool.	11. Instruction in letter and word recognition is _____ in preschool.
12. It is _____ for children to create their own learning activities (e.g., cut their won shapes, decide on the steps to perform an experiment, plan their creative drama, art, and computer activities).	
15. A structured reading or pre-reading program is _____ for all children.	
17. It is _____ for the teacher to move among groups and individuals offering suggestions, asking questions, and facilitating children's involvement with material, activities, and peers.	17. It is _____ for the teacher to move among groups and individuals offering suggestions, asking questions, and facilitating children's involvement with material, activities, and peers.

Table 1 (Continued)
Comparison of DAPB in Kim (2005) and this study

20. It is _____ for teachers to develop an individualized behavior plan for addressing severe behavior problems.	20. It is _____ for teachers to develop an individualized behavior plan for addressing severe behavior problems.
21. It is _____ for teachers to allocate extender periods of time for children to engage in play and projects.	
22. It is _____ for children to write by inventing their own spelling.	
24. It is _____ to read stories daily to children, individually and/or on a group basis.	24. It is _____ to read stories daily to children, individually and/or on a group basis.
25. It is _____ for children to dictate stories to the teacher.	25. It is _____ for children to dictate stories to the teacher.
27. It is _____ for children to see and use functional print (telephone book, magazines) and environmental print (cereal boxes, potato chip bags).	27. It is _____ for children to see and use functional print (telephone book, magazines) and environmental print (cereal boxes, potato chip bags).
28. It is _____ to provide many daily opportunities for developing social skills (i.e., cooperating, helping, talking) with peers in the classroom.	28. It is _____ to provide many daily opportunities for developing social skills (i.e., cooperating, helping, talking) with peers in the classroom.
32. It is _____ for strategies like setting limits, problem solving, and redirection to be used to help guide children's behavior.	
42. It is _____ to plan activities that are primarily just for fun without connection to program goals.	42. It is _____ to plan activities that are primarily just for fun without connection to program goals.

Table 2

Comparison of DIPB in Kim (2005) and this study

Developmentally Inappropriate Belief (DIPB)	
Kim (2005)	Present study
1. As an evaluation of children's progress, readiness or achievement test are _____.	
6. It is _____ that each curriculum area be taught as separate subjects at separate times.	6. It is _____ that each curriculum area be taught as separate subjects at separate times.
9. It is _____to use one approach for reading and writing instruction.	9. It is _____to use one approach for reading and writing instruction.
10. Instruction in letter and word recognition is _____ in preschool.	
13. It is_____ for children to work individually at desks or table most of the time.	
14. Workbooks and/or ditto sheets are _____ in my classroom.	
16. It is _____ for the teacher to talk to the whole group and for the children to do the same things at the same time.	
18. It is _____ for teachers to use treats, stickers, and/or stars to get children to do activities that they don't really want to do.	
19. It is _____ for teachers to regularly use punishments and/or reprimands when children aren't participating.	19. It is _____ for teachers to regularly use punishments and/or reprimands when children aren't participating.
23. It is _____ for children to color within pre-drawn forms.	
28. It is _____ to provide many daily opportunities for developing social skills (i,e., cooperating, helping, talking) with peers in the classroom.	
	37. It is _____ that services (like speech therapy) be provided to children with special needs in the regular education classroom by specialist within the context of typical daily activities.
39. It is _____ to provide the same curriculum and environment for each group of children that comes through the program.	
40. It is _____ to focus on teaching children isolated skills by using repetition by recitation (e.g., reciting ABCs).	
41. It is _____ to follow a prescribed curriculum plan without being distracted by children's interests or current circumstances.	41. It is _____ to follow a prescribed curriculum plan without being distracted by children's interests or current circumstances.

Table 3
Comparison of DIPB in Kim (2005) and this study

Family, Culture and Inclusion (FCI)	
Kim (2005)	Present study
5. It is _____ for activities to be responsive to the culture diversity of students.	
	21. It is _____ for teachers to allocate extended periods of time for children to engage in play and projects.
26. It is _____ that teachers engage in on-going professional development in early childhood education (e.g., attend professional conferences, read professional literature)	
29. It is _____ that books, pictures, and materials in the classroom include people of different races, ages, and abilities and both genders in various roles.	29. It is _____ that books, pictures, and materials in the classroom include people of different races, ages, and abilities and both genders in various roles.
31. It is _____ for parents/guardians to be involved in ways that are comfortable for them.	31. It is _____ for parents/guardians to be involved in ways that are comfortable for them.
	32. It is _____ for parents/guardians to be involved in ways that are comfortable for them.
33. It is _____ for teachers to integrate each child's home culture and language into the curriculum throughout the year.	
34. It is _____ for teachers to solicit and incorporate parent's knowledge about their children for assessment, evaluation, placement, and planning.	
35. It is _____ for establish a collaborative partnership/relationship with parents of all children, including parents of children with special needs and form different culture groups.	
36. It is _____ for the classroom teacher to modify, adapt, and accommodate specific indoor and outdoor learning experiences for the child with special needs as appropriate.	36. It is _____ for the classroom teacher to modify, adapt, and accommodate specific indoor and outdoor learning experiences for the child with special needs as appropriate.
37. It is _____ that services (like speech therapy) be provided to children with special needs in the regular education classroom by specialist within the context of typical daily activities.	

Table 4
Comparison of DAPP and DAPA in Kim (2005) and this study

Developmentally Appropriate Practices Principles (DAPP)	
Kim (2005)	Present study
3. Have their work displayed in the classroom	
8. Do planned movement …	8. Do planned movement …
	11. Work in assigned ability-level groups
19. Have the opportunity to learn …	19. Have the opportunity to learn …
	20. Receive rewards as incentives to participate …
21. See their own race, culture, language reflected …	21. See their own race, culture, language reflected …
23. Experience parents reading stories …	
26. Solve real math problems using real objects …	26. Solve real math problems using real objects …
28. Engage in experiences that demonstrate…	28. Engage in experiences that demonstrate…
29. Work with materials that have been adapted…	29. Work with materials that have been adapted…
30.Do activities that integrate multiple subject…	
Developmentally Appropriate Practices Activities (DAPA)	
Kim (2005)	Present study
1. Build with blocks	
2. Select from a variety of learning areas …	2. Select from a variety of learning areas …
4. Experiment with writing…	
5. Play with games, puzzles, …	5. Play with games, puzzles, …
6. Explore science material …	
7. Sing, listen, and/or move to music	
9. Use manipulative…	9. Use manipulative…
24. Engage in child-chosen, …	24. Engage in child-chosen, …
25. Draw, paint, work with clay, …	25. Draw, paint, work with clay, …

Table 5
Comparison of DIPA and DIPPA of Kim (2005) and this study

Developmentally Inappropriate Practices Activities (DIPA)	
Kim (2005)	Present study
	4. Experiment with writing…
10. Use commercially-prepared phonics activities	
11. Work in assigned ability-level groups	
12. Circle, underline, and/or mark items on worksheets	12. circle, underline, and/or mark items on worksheets
13. Use flashcards with ABCs, sight words, and/or math facts	
14. Participate in rote counting	14. Participate in rote counting
15. Practice handwriting on lines	15. Practice handwriting on lines
16. Color, cut, and paste pre-drawn forms	
17. Participate in whole-class, teacher-directed instruction	
20. Receive rewards as incentives to participate in classroom activities in which they are reluctant participants	
Developmentally inappropriate classroom practices	
	17. Participate in whole-class, teacher-directed instruction
18. Sit and listen for long periods of time until they become restless and fidgety	18. Sit and listen for long periods of time until they become restless and fidgety
22. Get placed in time-out (i.e., isolation, sitting on a chair, in a corner, or being sent outside of the room)	
27. Get separated from their friends to maintain classroom order	

Table 6

Mean and standard deviation of items of the Teacher Beliefs Scale

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
M	2.97	4.39	4.63	4.39	3.99	2.69	4.45	4.24	2.20	3.41	4.49	4.53	3.13	2.91	3.78	3.49	4.3	3.71	2.27	4.15	4.10
SD	.97	.57	.55	.56	.66	.79	.63	.58	.94	.78	.59	.60	.88	.74	.81	.81	.68	.75	.84	.67	.63

	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
M	3.01	2.81	4.06	4.53	4.17	4.10	4.46	3.94	4.13	4.10	4.12	3.72	3.70	3.69	4.32	2.62	3.72	3.50	2.39	2.38	4.11
SD	.94	.89	.67	.65	.69	.62	.60	.70	.67	.63	.61	.77	.71	.69	.64	.89	.75	.80	.87	.94	.80

Table 7
Correlational matrix of items of the Teacher Beliefs Scale

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	—																				
2	-.06	—																			
3	-.04	.35*	—																		
4	-.03	.37*	.46**	—																	
5	-.11	.28**	.26**	.57**	—																
6	.29**	-.21**	-.12	-.17*	-.10	—															
7	.01	.38*	.50	.36**	.23**	-.04	—														
8	-.01	.22*	.25**	.32*	.36**	-.06	.38*	—													
9	.26**	-.19**	-.19**	-.13*	-.14*	.29**	-.24**	-.15*	—												
10	.19**	.03	.01	-.01	-.07	.15**	.12*	-.04	.15*	—											
11	.05	.31**	.38**	.43**	.24**	-.08	.52**	.38**	-.16**	.21**	—										
12	-.02	.27**	.34**	.39**	.31**	-.14*	.44**	.39**	-.19**	.06	.67**	—									
13	.16**	-.04	-.02	.01	.14*	.22**	-.12*	-.02	.26**	.12*	.03	.05	—								
14	.29**	-.09	-.07	-.07	-.10	.35**	.06	-.07	.13*	.43**	.10	.06	.22**	—							
15	.10	.22**	.18**	.09	.08	.08	.30**	.06	.02	.27**	.29**	.23**	.08	.30**	—						
16	.12*	-.09	-.01	-.05	-.01	.21**	-.03	-.03	.24**	.14*	.05	-.01	.18**	.12*	.07	—					
17	-.02	.18**	.30**	.19**	.17**	-.17**	.35**	.22**	-.22**	.13*	.36**	.37**	-.06	.09	.21**	.02	—				
18	.11	.01	.06	.06	.11	0	.05	.17**	.08	.13*	.25**	.25**	.07	.07	.11	.07	.26**	—			
19	.12*	-.33**	-.22**	-.18**	-.16**	.28**	-.28**	-.17**	.36**	.13*	-.22**	-.19**	.30**	.28**	-.04	.14*	-.24**	-.02	—		
20	.05	.20**	.20**	.19**	.19**	-.12	.39**	.16**	-.14*	.15*	.39**	.36**	-.12*	.10	.23**	.02	.36**	.09	-.25**	—	
21	-.05	.20**	.19**	.28*	.29**	-.12*	.31**	.39**	-.17**	.03	.40**	.33**	-.01	-.01	.19**	-.07	.30**	.23**	-.15*	.34**	—

Note. * $p < .05$, ** $p < .01$.

Table 7 **(Continued)**

Correlational matrix of items of the Teacher Beliefs Scale

	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
22	—																				
23	.12	—																			
24	.04	.10	—																		
25	.03	0	.34**	—																	
26	.10	.02	.23**	.27**	—																
27	.17**	.04	.25**	.22**	.27**	—															
28	0	-.08	.31**	.45**	.38**	.30**	—														
29	.18**	.05	.31**	.30**	.28**	.30**	.39**	—													
30	-.09	.01	.26**	.29**	.34**	.24**	.40**	.30**	—												
31	.06	.06	.18**	.31**	.28**	.19**	.30**	.24**	.37**	—											
32	.05	.06	.30**	.44**	.32**	.34**	.38**	.36**	.48**	.48**	—										
33	.15*	.05	.20**	.22**	.23**	.29**	.33**	.42**	.35**	.27**	.42**	—									
34	.06	.01	.22**	.25**	.16**	.29**	.32**	.30**	.23**	.22**	.37**	.45**	—								
35	-.01	.06	.25**	.12*	.14*	.26**	.13*	.16**	.17**	.10	.17**	.17**	.19**	—							
36	.03	-.03	.26**	.41**	.25**	.28**	.35**	.29**	.36**	.21**	.47**	.35**	.34**	.23**	—						
37	.11	.20**	-.07	-.10	-.10	.02	-.09	-.06	-.07	.02	-.07	-.07	-.01	.04	-0.1	—					
38	-.03	.11	.20**	.16**	.01	.19**	.12*	.08	.18**	.08	.18**	.20**	.18**	.13*	.12*	.17**	—				
39	.08	.18**	.08	0	-.01	.09	.05	.12*	.13*	.17**	.16**	.17**	.23**	.09	0.1	0.1	.40**	—			
40	.13*	.32**	.08	.03	-.03	.09	-.06	.02	.02	.01	-.03	-.01	.04	.17**	0	.32**	.18**	.25**	—		
41	.10	.33**	-.07	-.18**	-.18**	-.03	-.22**	-.04	-.14*	-.03	-.15*	-.04	.01	.05	-.13*	.37**	.14*	.26**	.50**	—	
42	-.02	-.17**	.24**	.38**	.20**	.22**	.39**	.22**	.24**	.19**	.29**	.19**	.13*	.12*	.32**	.01	.18**	.10	-.04	-.17**	—

Note. * $p < .05$, ** $p < .01$.

Table 8

Mean and standard deviations of items of the Instructional Activities Scale

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
M	3.76	4.02	4.08	3.50	3.74	3.05	3.82	3.95	3.73	3.27	2.97	3.43	3.34	2.87	3.33	3.36	3.54	3.57	2.07	3.28	2.88
SD	.85	.80	.75	1.05	.84	.93	.83	.86	.90	.96	1.08	1.05	.96	1.07	1.31	.98	.86	.87	.92	.82	1.01

	22	23	24	25	26	27	28	29	30
M	2.68	2.28	3.56	3.79	3.29	2.75	2.92	3.45	3.67
SD	.87	1.03	.84	.83	.91	.97	.94	.78	.76

Table 9

Correlational matrix of items of the Instructional Activities Scale

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	—																				
2	.36**	—																			
3	.07	.23**	—																		
4	.16**	.12	.07	—																	
5	.38**	.28**	.22**	.11	—																
6	.13*	.28**	.31**	-.04	.32**	—															
7	.09	.22**	.30**	-.10	.15*	.27**	—														
8	.25**	.25**	.14*	-.06	.18**	.19**	.57**	—													
9	.59**	.32**	.15**	.03	.45**	.23**	.31**	.42**	—												
10	.09	.08	.21**	.35**	.22**	0.09	.15*	.13*	.20**	—											
11	.15*	.14*	.08	.02	.15**	.29**	.19**	.19**	.24**	.20**	—										
12	.05	.03	0	.50**	.08	-.07	-.04	-.02	.04	.40**	.12*	—									
13	.03	-.01	.07	.33**	.15*	.06	.15*	.11	.16**	.55**	.24**	.61**	—								
14	-.01	-.10	.02	.45**	-.01	-.03	-.15**	-.09	.02	.35**	.13*	.44**	.47**	—							
15	.03	.05	.10	.57**	.12*	-.06	-.10	-.04	-.05	.26**	-.02	.47**	.34**	.40**	—						
16	.16**	.09	-.02	.24**	.11	.07	.04	.06	.20**	.28**	.19**	.29**	.28**	.31**	.09	—					
17	.07	-.02	-.15*	.33**	-.04	-.22**	-.20**	-.03	-.03	.13*	-.16**	.30**	.18**	.27**	.28**	.31**	—				
18	.05	.03	-.02	.38**	-.02	-.25**	-.17**	-.07	-.05	.19**	-.12*	.34**	.21**	.29**	.35**	.30**	.68**	—			
19	.08	.03	.11	.06	.12*	.22**	.05	.05	.14*	.07	.28**	-.01	.09	.08	.06	.05	-.15*	-.20**	—		
20	.16**	.23**	.26**	.08	.18**	.24**	.22**	.25**	.28**	.14*	.17**	.08	.17**	.09	.04	.12*	-.01	0	.26**	—	
21	.15*	.17**	.20**	.01	.22**	.28**	.20**	.12*	.27**	.14*	.19**	-.03	.11	.05	-.09	.06	-.16**	-.15*	.34**	.36**	—

Note. * $p < .05$, ** $p < .01$.

Appendix D (Continued)

Correlational matrix of items of the Instructional Activities Scale

	22	23	24	25	26	27	28	29	30
22	—								
23	.18**	—							
24	-.16**	.25**	—						
25	-.18**	.02	.49**	—					
26	-.04	.25**	.40**	.34**	—				
27	.29**	.21**	-.10	-.13*	-.01	—			
28	.11	.23**	.30**	.23**	.33**	.04	—		
29	-.02	.07	.17**	.19**	.17**	0	.29**	—	
30	-.12*	.20**	.42**	.37**	.32**	-.10	.26**	.33**	—

Note. * $p < .05$, ** $p < .01$.