

Analysis and Evaluation of Early-childhood Teacher Certification Legislation in Taiwan

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Abstract: The recent spurt in early-childhood education legislation is an indication of its importance in educational reform in Taiwan, and early-childhood teacher certification is prominently addressed in the current legislative initiatives. To improve the quality of early-childhood teachers – as emphasized in the K program in U.S.A. - a more complete certificate endorsement program for the teacher skills and knowledge is required. Early-childhood education law did not previously comprehensively address the early-childhood teacher certification; however, current legislative initiatives may endanger the existence of private preschools and kindergartens.

The objectives of this article are: (1) to analyze the current early-childhood education legislative initiatives, (2) to evaluate the impact of the early-childhood teacher certification legislation and (3) to summarize the results and provide suggestions for improving the quality of the early-childhood teacher.

This article utilizes documentary research and review of current legislative initiatives from several aspects, such as early-childhood teacher remuneration or wages, certification, legislation, promotion, kindergarten management, and human resources. The results suggest the following: (1) to legislate the wage initiative, and set up welfare and retirement systems for solving the problems of low wages of early-childhood teacher, (2) to establish a certificate endorsement program for early-childhood teachers, (3) to legislate "childcare and early-childhood law" and set up early-childhood teachers regulation, (4) to classify early-childhood teachers and assistants, and to institutionalize promotion road-maps, (5) to assist the establishment of private kindergarten, and (6) to evaluate and avoid a deficit in teachers material and human resources.

Keywords: legislation, early-childhood education, teacher certification

Introduction

Taiwan recently implemented a new initiative for integration of nursery and kindergarten for improving the quality of early-childhood education in schools. This article describes the early-childhood education initiative and examines evidences that such an effort can have a positive effect or negative effect on early-childhood teacher's quality. The contribution of early education teachers to children's well-being and school success is widely

recognized. Several decades of research have clearly demonstrated the short-term and long-term positive effects that high-quality early-childhood programs have on children's development. High-quality programs depend on teacher effectiveness (Hamre & Pianta, 2005).

To be effective, early-childhood teachers, along with obtaining qualified teaching education, must develop specialized child development knowledge, teaching skills, and good practices from experience. The key to sustaining teacher effectiveness and promoting continuous improvement is high-quality career professional development (Borko, 2004; Darling-Hammond & Bransford, 2005). In Taiwan, "Early-childhood education law" established in 1981 regulated the education of 4 to 6 year old children. The "rule of 12" dictates that the a kindergarten teacher should be a graduate of an early-childhood teacher education institution – however, those who graduated from a junior college with an associated department or from a senior high school with formal education credits and acquired the teacher qualification before the "Early-childhood education law" was established also qualified. The early-childhood education initiatives "rule of 27" dictates that the early-childhood teachers should be qualified by the teacher education law. An on-the-job early-childhood teacher can take refresher courses of at least 26 credits and 6 months practice over a period of 2 years. The ideal of having high quality early-childhood teachers is limited by the reality of insufficient qualified teachers.

Contemporary cerebral and neurological research infers that the experiences children have during the early years of their lives strongly influence their development throughout childhood, adolescence and their adult years. Effective teachers are the most critical factor in the quality of a child's education. The key to sustaining teacher effectiveness and supporting continuous growth is high-quality professional development. The policy of integration of childcare and early-childhood education had resulted in simplified regulation of early-childhood teacher's qualification by the ministry of education alone. Despite its critical importance, professional development for early-childhood teachers is inconsistent and fragmented. The field of early education lacks a common conceptual framework to organize and integrate teacher development experiences.

In Taiwan, the early-childhood education budget is only 2.3% of all the education budget. In addition, most kindergartens are private - and the government plans to close public schools in the future. This is against the trend of national free early-childhood education in Europe and U.S. - and it also blocks out children of poor families children from equitable educational facilities.

Early-childhood Teacher Education in Taiwan

As the teachers go, so goes the school. Certifications of nursery caregiver and early-childhood education teachers are under different standards and ministries. Due to integration of childcare and early-childhood education, certification became complicated and varied by new regulation. High quality teachers are necessary for high quality education, yet low wages of teachers made it difficult to meet the expectation of the children's parents. The early-childhood education initiatives "rule of 27" dictates that the early-childhood teachers should be qualified by obtaining 27 credits – with 26 credits possible from refresher courses along with 6 months of work experience. The government may be attempting to legalize on-the-job unqualified teachers to be qualified by this regulation. Current issues in early-childhood teachers education programs are: (1) 26 credits refresher courses and curriculums in university are controversial and impractical – along with the lack of systemic planning and curriculum design; (2) the only two possible promotions for early-childhood teachers are teacher and kindergartener (head of kindergarten); (3) high turn over rate exists among teachers.

Social education and character education

Besides that, the teacher education often lack social and character education. Most curriculums in kindergarten are primarily academic projects, such as language and mathematic for further examination in elementary school. In university teacher education programs, the teachers' educators often have lower status, power and research productivity as compared with professors in other departments. Teacher education programs are often disregarded and teacher education centers are controversial among professionals (Shulman, 1987).

Postmodern view

It is commonly accepted that a high-quality early education is one in which curriculum and teaching practices are developmentally appropriate (Charlesworth, 1998). Teachers with knowledge of child development and character can implement childhood education in an affirmative manner. The preparation of early-childhood professionals has been conceptualized as a program of study that involves learning about child development theory and research - while the curricula and teaching practices are improved by this knowledge (Bredekamp, 1996). With the globalization of economies, politics and cultures, up-to-date social esprit is characterized more by hybridity rather than similarity (Luke & Luke, 1998). As a result, there is increasing recognition of diversity and minority groups - and children are being raised in a range of family circumstances (Dau, 2001). Computers and the internet are transforming social relations and providing children and families with new means of communicating and learning. Many children have played computer and video games before

entering school – some even use mobile phones.

Due to these social changes, children from different backgrounds enter the classroom with a wide variety of experiences. Post-modern views of knowledge have not only accompanied these changing times but are also disrupting the taken-for granted relationship between child development knowledge and the preparation of early-childhood teachers (Zimiles, 2000). So the world of early-childhood teacher preparation has attempted to respond to these social and intellectual forces in two ways. First, researchers have suggested the inclusion of ideas and concepts drawn from other disciplines. In this way, teachers can be provided with an understanding of early education from historical, political, sociological, and philosophical perspectives (Silin, 1995). Recognition of the validity of practitioners' personal knowledge and the gap between child development research and classroom practice has also led teacher educators to use teachers' theories and research in their programs (Genishi, 1992). A second approach to reforming the teacher preparation curriculum has been to incorporate more contemporary knowledge and research from developmental psychology that describes children's development in context and from socio-cultural perspectives (Stott & Bowman, 1996).

Thus, where there has been reaction to the post-modern critique of the early-childhood knowledge base, it has been to add updated versions of child development theory and research, along with other disciplinary insights on children's learning (Stott & Bowman, 1996).

Evaluation of Early-childhood Education Initiatives

It is commonly accepted that a high-quality early education is one in which curriculum and teaching practices are developmentally appropriate. As a consequence, there is increasing recognition of diversity and minority groups, and children are being raised in a range of family circumstances. At the same time, accessible technologies such as the computer and the Internet are transforming social relations and providing children and families with new means of communicating and learning. Because of these social changes, children enter the classroom with a wide variety of experiences, making a focus on patterns of growth and what is developmentally appropriate increasingly difficult to discern, let alone apply.

Integration of Childcare and Early-childhood Education

Exemplary programs are those in which educators use their knowledge of patterns of growth in the early years, along with an understanding of individual children, their interests, and cultural backgrounds, to set up the environment and deliver learning experiences. The starting point for most early-childhood curriculum making is a professional understanding of

young children. The preparation of early-childhood professionals has been conceptualized as a program of study that involves learning about child development theory and research - and the curricula and teaching practices that are informed by this knowledge.

Whether one calls it child care, pre-kindergarten or preschool, early care and education (ECE) is a hot topic these day

Early-childhood Teachers' Wages

The average wage for qualified teacher is 27947.5 NT, and the average wage for unqualified teacher is 22507 NT. The demand for child care continues to grow, but child care workers' wages remain minimal. Various historical, regulatory, and cultural contexts also contribute to low wages, however. Because most child care workers are female, researchers often use a feminist-critical policy analysis lens to examine the gender aspects of these contextual factors. They argue that the gender-related issues within these contexts exacerbate the problem of low wages and also contribute to the intractability of the issue, particularly in terms of accessing policymakers' agendas.

The knowledge base associated with early-childhood teaching has changed rapidly in recent years. While teacher education programs have historically focused primarily on child development and the application of child development principles to curriculum and teaching, the current policy expectation that preschools become a part of formal schooling has created further demands

Certificate Endorsement System

In Taiwan, there are a total of 19,706 teachers in kindergarten of whom 58.37% are qualified. In private kindergarten, unqualified teachers are 54.25%. 67.76% of public kindergarten teachers have graduated from college; as compared to 22.95% of private kindergarten teachers – which is significant.

It is now widely recognized that qualified teachers are an essential component of preschool programs that result in improved outcomes for young children (Barnett, 2003; Whitebook, 2003). Each year thousands of preschool children attend pre-kindergarten and other early care and education programs. Parents, educators, and policy makers expect these programs to be good for our youngest citizens and, indeed, there is strong research evidence to suggest that these programs can have a positive impact on the lives of young children.

Children who are educated by teachers with both a bachelor's degree and specialized training in child development and early education have been found to be more sociable,

exhibit a more developed use of language, and perform at a higher level on cognitive tasks than children who are cared for by less-qualified adults (Bowman, Donovan, & Burns, 2001; Dwyer, Chait, & McKee, 2000).

The world of early-childhood teacher preparation has attempted to respond to these social and intellectual forces in two ways. The actual problem to be solved is not what to teach, but how to teach. First, in answer to what other knowledge teachers might need to acquire if they are to respond effectively to increasingly diverse student populations and contemporary social issues, several scholars have suggested the inclusion of ideas and concepts drawn from other disciplines. In this way, teachers can be provided with an understanding of early education from historical, political, sociological, and philosophical perspectives. Recognition of the validity of practitioners' personal knowledge and the gap between child development research and classroom practice has also led teacher educators to use teachers' theories and research in their programs.

The world of early-childhood teacher preparation, in general, is under-researched, and little available evidence exists to inform practice (Bredenkamp, 1996; Horm-Wingerd, Hyson, & Karp, 2000). It has been argued therefore that many teacher education programs are based more on ideology than on what is known about effective curriculum and pedagogy (Isenberg, 2000). The quality of any teacher preparation program tends to be characterized by two interrelated factors—the content of the curriculum and the available resources or capacity of an institution to provide that content through its faculty and structural characteristics. Considerable effort has been expended to improve the quality of early care and education programs. Quality improvement efforts have included funds to make facility improvements, purchase supplies, and support services for teachers that include mentoring and additional training. Early-childhood education initiatives have focused on improving teachers' education qualifications and providing teacher training. The question is whether these efforts to educate and train teachers are enough to improve the quality of teachers or whether more is needed to improve professional practices.

Therefore, policy recommendations concerning the preparation of early-childhood teachers (Hyson, 2003) propose that the training of students in teacher preparation programs include four general areas.

Initiatives Legislation

This prompted legislators to ask, "How can these preschools be held accountable without an avenue to collect student achievement data?" A related but perhaps more significant question is on the minds of early-childhood educators—"How can we best promote

improvements in teachers' practices and classroom quality?"

Over the past several decades, there has been a growing recognition of the benefits of high-quality early care and education (ECE), particularly in terms of improved academic and developmental outcomes for lower-income children (Barnett, 2002). Quality in ECE is related to how a program is structured and what type of experiences children have within those programs, but one of the most crucial variables is teacher education and training (Dwyer, Chait, & McKee, 2000). In short, teachers with a bachelor's degree (BA) in early-childhood education or a related field tend to have higher-quality classrooms (Burchinal, Cryer, Clifford, & Howes, 2002).

Kindergarten Management

In Taiwan, most kindergartens are private schools - in 1986, 76% kindergartens were private. Compared to the U.S. and France, where most kindergartens are public school, Taiwanese parents have to pay more for children to attend preschools. Currently, public kindergartens in Taiwan are increasing in numbers to nearly 40%, and national education policies are being extended to preschool children. As birth rates in Taiwan go down, population of children will decline and eventually half of private kindergartens will face difficult management situations with no students enrollment. Some of the common proposals for kindergartens continued survival are - smaller classes, English lessons, dancing and musical courses, and so on. The author provides suggests the following additional initiatives for kindergarten management: recognizing cultures differences, principles and methods, 5 Es model and high-quality early-childhood education program.

Cultures differences

Recognizing cultural differences may provide opportunities for educators to have discussions with families about their expectations for their children's development and behaviors in terms of practicing interdependence and independence. Acknowledging and reframing cultural expectations is a necessary bridge to partner with families of varied cultural backgrounds and to providing culturally relevant and meaningful curriculum. For example, comparing the data from Japanese and American early education settings showed differences in two of the areas examined: school and classroom environments and instructional strategies. For example, when comparing the physical environments, all classrooms had child-size furniture such as tables, desks and chairs, children's toys that seemed developmentally appropriate and some adult furniture such as chairs and a desk for the teacher; however, there were consistent differences between Japanese and American classroom environments. Japanese early education settings had more large open spaces such as open floor space in the classrooms and a school or center auditorium for regularly

scheduled large group meetings and ceremonies that included the participation of the children. In contrast, American classrooms were divided into learning centers such as art, drama, music, large motor skills, fine motor skills, library or reading, and math and science. Children in the American programs were given opportunities during free play to play individually or in self-selected small groups utilizing the various learning centers established by their teachers. (Nagayama, Gilliard, 2005)

Principles and methods

The principles of teaching in kindergarten include preparation, apperception, self-activity, interesting, adapting instruction to individual differences, and socialization. In addition, the principles of simultaneous learning, pattern or configuration learning and of mastering are also referenced by researchers. Much has been learned about the potential of early-childhood education from nations that have long invested in high-quality early care and educational programs. This knowledge is now being used by U.S. early-childhood advocates to help parents, policy makers, and others better understand children's vast learning potentials, to acknowledge the deep intellectual work of teachers, and to recognize the rights of parents to help determine the essential features of a challenging and beneficial early-childhood curriculum. Changing teachers' professional practices is a complex process.

Professional preparation that provides a solid understanding of what and how to teach is essential. Accountability initiatives focused on holding teachers responsible for the quality of their classroom can be a catalyst for improving professional practice, provided they are coupled with adequate training and support during the evaluation process. The question is whether or not changes in teachers' practices will be sustained, and if not, what is needed for positive change to continue. Many research studies on brain development have found that the brain is much more vulnerable to environmental influences than previously thought, and that early environmental influences on brain development are long lasting (Markezich, 1996). These studies emphasize developing effective early-childhood education programs because "rich" experiences produce "rich" brains. With the use of questioning and 5Es instructional model, teachers can lead children to exercise their innate curiosity, learn about the natural world, and develop their problem-solving skills. There are five phases in the 5Es Instructional model: Engaging, Exploring, Explaining, Extending, and Evaluating.

5Es model

Early-childhood teachers do not have to be expert science teachers. By applying these three strategies, the teachers can provide a rich environment where children can do science. The rich environment encourages rich experiences that promote brain development in the young child. The 5Es instructional model gives teachers an opportunity that can lead children

to exercise their innate curiosity, learn about the natural world, and develop problem-solving skills. This model of instruction was developed by the BSCS group (Biological Sciences Curriculum Study, 1989). There are five phases in the 5Es model (Carin, Bass, & Contant, 2003):

I. Engagement: Teachers engage students in questions about objects, organisms, and events in the environment, and probe background knowledge and conceptions.

II. Exploration: Students plan and conduct investigations to gather evidence to answer the questions.

III. Explanation: Building on students' explorations and explanations, teachers formally present labels, concepts, and principles. Students, guided by the teachers, use new knowledge to construct scientific explanations and answer initiating questions.

IV. Elaboration: students apply new understandings to new problems.

V. Evaluation: Teachers use formative and authentic assessment means to assess young children's new knowledge and abilities.

High-quality early-childhood education program

What are the attributes of a high-quality early-childhood education program worldwide? An group of experienced early-childhood educators that represent diverse international backgrounds attempts to respond to this question by examining six dimensions of quality set forth by the Association for Childhood Education International: (1) philosophies and goals, (2) high-quality physical environments, (3) developmentally appropriate and effective pedagogy and curriculum, (4) attention to basic and special needs, (5) respect for families and communities, (6) professionally prepared teachers and staff, and (7) rigorous program evaluation. (Jalongo, Fennimor, 2004)

Human Resources

A gradually decline in the number of children per family is inevitable for Taiwan's society. In 2006, there were 21,833 teachers and 224,219 students in kindergarten in Taiwan. In 1987, there were 366,154 children of 3 years old, but in 2005 there were 246,219 children aged 3. The fertility rate in Taiwan has already fallen to 1.2 births per woman and keep decreasing – ensuring that the country will inevitably encounter the issues of negative population growth and an aging population. We could estimate in 10 years, children aged 3 will below 200,000. Should we plan the early-childhood teachers and human resources in advance? How can we approach the recruitment and retention of early education teachers – suitably focused to assist the Taiwan's early-childhood educational strategy? This will have an impact not only on educational policy, but also on human resources management and teacher education policy. If one-third of the kindergartens close in ten years, what is the future of early-childhood teachers?

Let's look at the American's preschool teachers' situation. In America, for example, despite this demand for high quality teachers, the wide variation in state regulations regarding the baseline of education needed to be a preschool teacher (Ackerman, 2004) has resulted in a potential shortage of such teachers. Due to strict regulation, some teachers could not achieve the high qualifications. Nationally representative studies of the early-childhood workforce estimate that only 50% of the approximately 284,277 preschool teachers currently working in the United States have a bachelor's degree of some kind, and many of them do not have a teaching credential. (Saluja, Early, & Clifford, 2002). Moreover, even if teachers do have a teaching certificate, they may not have had the specialized training that is critical to being a knowledgeable early-childhood professional. For example, it has been argued that most early-childhood teacher preparation programs tend to convey outdated child development knowledge; therefore, early-childhood teachers often miscalculate the capability of young children (Bowman, Donovan, & Burns, 2001). It means the early-childhood teacher preparation programs are often out of date and need to be revised.

In the U.K, the "child care and play" work sector employs an estimated 275,000 paid staff across a wide range of settings, including day nurseries, pre-schools and playgroups, nursery and reception classes in schools, out of school and holiday schemes. Existing research has found child care providers experiencing problems both in recruiting staff and in retaining them - and recent studies suggest that such problems are increasing. A survey of nurseries found a third of providers had difficulties with staff retention, and two-thirds had recruitment problems. These studies have provided valuable data on the extent of recruitment and retention problems, but more exploration was required on the reasons for these difficulties, including whether employers' practices might be a factor. This required qualitative research to identify practices, experiences and views of employers and child care workers (Rolfe, 2005).

In the example of U.K., we could understand in the child care center, three issues have particular importance for retention: (1) induction and training; (2) management of staff; and (3) the nature of the work. Many employers believed that turnover has a simple explanation in low pay levels, yet research does not bear this out. Pay is likely to be less relevant for retention than for recruitment, since staffs are aware of low pay when they accept the job. So payment is not the main cause of retention. Moreover, the theory of 'compensating differentials' suggests that other factors can compensate and, in the child care center, contact with children is key. Other compensating factors might be expected to include conditions of work and workplace relations. These are poor in some parts of the child care sector, including the rapidly expanding private nursery sector, and may have a stronger influence on retention than employers are willing to accept: many of the providers visited by NIESR, in the

voluntary and private sector, had poor management systems and therefore were badly organized in relation to induction, staff appraisal, training and development. Staffs who are new to the sector may feel they are merely 'filling a slot', enabling the provider to meet requirements for staff/child ratios, rather than providing quality care.

When asked what they liked or disliked about their jobs, child care workers' responses confirmed employers' beliefs: the most valued feature of the work was the contact with children and the most negative aspects of the work were viewed as pay, status and hours. A number of writers on child care provision and the child care workforce have identified a need for greater professional recognition for workers in the sector. Employers have a crucial role to play in enabling this to develop, yet appear currently to provide insufficient support. Many child care providers expect to recruit only people living locally and therefore rely on word of mouth. It could be argued that they are merely being realistic in their expectations of who might apply.

How do providers recruit staff? Providers in all types of setting saw the field of potential recruits as small and most had a view of the 'type' of person they could recruit—female, living locally, and under 40. Informal approaches to recruitment were favored. Firstly, in advertising vacancies, word of mouth was frequently used and any advertisements were placed principally on local notice boards, in such places as school playgrounds, rather than in newspapers. However, it is clearly poor practice in terms of equal opportunities and may also be based on mistaken assumptions about who might be interested in working in the sector, including relatively untapped resources such as older workers. Employers did not appreciate that greater diversity in recruitment, particularly to include older workers and men, has the potential of reducing turnover, and in turn of improving the quality of child care. Moreover, they did not regard changing the current profile of the child care workforce as their own responsibility. Although national campaigns may increase interest among non-traditional recruits, change can only be achieved if employers adopt the aim of diversifying the workforce as their own, and recognize it as a key means of improving workforce quality. This, along with a serious commitment to training, with full support for workers wishing to develop their knowledge and skills, will ensure that the child care sector is able to expand, by meeting parents' demands for quality provision.

How can one build a stable child-care and early-education teachers workforce? In Taiwan, similar problems are apparent. Due to low wages and regulation, there is insufficient demand for high quality teachers. The main reason for falling birth rates in recent years has been a change in social values. To solve the resulting problems, it is necessary to adopt practical measures to encourage people to have children. Assistance should be provided to those who

wish to, but are unable to have children. A universal, diverse and convenient system of high-quality care and education services for infants and small children is needed to reduce the burden of parenthood.

How can teacher turnover be reduced? Many factors may be responsible for the high rates of turnover. Among these, one must consider the role of human resource practices. Poor staff management in the child care sector, especially among private providers, has been identified. Many providers had inadequate systems for training, giving staff folders and papers to read at home and only briefly guiding them through documents. When starting on the job, the staff would infrequently and briefly work under supervision and usually took on independent duties on the first day. For the new teachers, it may be difficult and frustrating on the first day on the job. This may be even more demanding for inexperienced staff and may be a factor in higher turnover among junior staff and those with shorter service (Rolfe, 2005).

Result

We have evaluated early-childhood education initiatives and examined much evidence whether such efforts can have a positive or negative effect on early-childhood teacher's quality. For better childhood education quality, the author proposes: (1) establishment of early-childhood education teacher quality control; (2) well-planned promotion of early-childhood education teacher; (3) evaluating the teacher education curriculum for social change; (4) that the government should assist in elevating the social status, welfare and wages of early-childhood education teachers; (5) further reform and evaluation of teacher education centers; (6) increase in early-childhood education budget; (7) that the government should assist private kindergarten in better management practices.

The differences between critics of the developmental knowledge base and current policy makers about the purposes of early education, and the current social and political context requires that early-childhood teachers respond effectively to the diverse methods of management and learning that they will encounter in their classrooms.

Conclusion

This paper reports on Taiwan's efforts to create a new system of preschool teacher certification and explores how current practices compare to national standards for high-quality teacher preparation. Policymakers and advocates will need to keep these in mind as they search for solutions to the problem of low wages of early-childhood teachers.

The results suggest the following: (1) to legislate the wage initiative, and set up welfare and retirement systems for solving the problems of low wages of early-childhood teachers, (2)

to establish a certificate endorsement program for early-childhood teachers, (3) to legislate "childcare and early-childhood law" and set up early-childhood teacher regulation, (4) to classify early-childhood teachers and assistants, and to institute promotion and career paths, (5) to assist the establishment of private kindergartens, and (6) to evaluate and avoid a deficit in teaching materials and human resources.

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