

# THE CURRENT AND DESIRABLE STATUSES OF THE INTERNAL QUALITY ASSURANCE SYSTEM OF THE CHILD DEVELOPMENT CENTER FOCUSING ON THE CONCEPT OF EXECUTIVE FUNCTIONS\*

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**Abstract:** The present research explored the current and desirable statuses of the internal quality assurance system of the child development center (CDC) with a focus on executive functions (EF) concept. The study population included 19,859 CDCs throughout the country which are under the local administrative organizations (LAO). The sample size of 392 CDCs was determined by using Yamane's sample size tables with a confidence coefficient of 95%. The questionnaire was used as a research tool. Statistical analysis presented frequency, percentage, mean, and standard deviation. The findings were as follows. 1) The overall current status of the CDC internal quality assurance system by EF concept was at high level ( $\bar{x} = 3.595$ , S.D. =0.837). For individual aspects of the CDC internal quality insurance, the educational quality development was at high status with highest current mean ( $\bar{x} = 3.662$ , S.D. =0.805), followed by internal quality evaluation ( $\bar{x} = 3.612$ , S.D. =0.854), and educational quality monitoring ( $\bar{x} = 3.510$ , S.D. =0.851), respectively. The analysis by EF concept indicated high level of the overall current status ( $\bar{x} = 3.595$ , S.D. =0.837). For individual aspects, the emotional control ranked first at high current status with highest mean ( $\bar{x} = 3.602$ , S.D. =0.835), followed by planning and organizing ( $\bar{x} = 3.596$ , S.D. =0.839), and working memory ( $\bar{x} = 3.590$ , S.D. =0.841), respectively. 2) The overall desirable status of the CDC internal quality assurance system was at high level with highest mean ( $\bar{x} = 4.274$ , S.D. =0.844). With individual aspects, the educational quality development ranked first at high level with highest mean ( $\bar{x} =$

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4.389, S.D. =0.711), followed by educational quality monitoring ( $\bar{x}$  = 4.281, S.D. =0.743), and internal quality evaluation ( $\bar{x}$  = 4.153, S.D. = 1.078), respectively. Following the EF concept, the overall desirable status was at high level ( $\bar{x}$  = 4.275, S.D. =0.844). For individual elements of EFs, the planning and organizing was at high level with highest desirable mean ( $\bar{x}$  = 4.278, S.D. =0.838), followed by emotional control ( $\bar{x}$  = 4.277, S.D. =0.840), and shifting by changing condition ( $\bar{x}$  = 4.271, S.D. =0.849), respectively.

**Keywords:** Internal Quality Insurance of Child Development Center, Executive Functions Concept, and Cognitive Functions.

## Introduction

### *Background and Significance of The Problem*

Brain development is considered a science in neurological study. Over the past decade, education sector has become alert to pay more attention to human brain development in early childhood period as it was said “Kindergarten age might even be too late” Brain development provides foundation for emotional, mental, social, intellectual, and learning development. Different theories related to brain development include such as IQ, EQ, SQ, MQ, RQ, as part of executive functions (EF) as an umbrella term encompassing higher order of brain functioning that control thought, decision, and action to pursue goal directed and persistent behaviors (Anderson, 2002). According to the widely used Behavioral Rating Inventory of Executive Functions (BRIEF-P) for early children aged 2-5 years, the 5 major skills as the main components of EF include 1) working memory; 2) inhibitory control; 3) shifting by changing condition; 4) motional control; and 5) planning and organizing. These skills are essential for individual development, setting goals, planning, and goal directed persistence. Accordingly, they are involved in brain development especially in the period from birth to 6 years of age during which the child’s brain develops greater than any other ages since it is the time synapses are formed with the connections among brain cells cited to be as many as 14,000 million cells. The wiring of brain cells, similarly to the connection between transistors in calculators, will multiple in both the forebrain and the hindbrain during the ages of 0-6 years (Masaru Ibuka, 2006). For the development of executive functions (EF) as the higher order cognitive process skills beginning at birth and continuing until death, the ages 3 – 6 years are marked as the most important for EF development (Center on the Developmental Child, 2011). Scientifically, the brain of children aged 3 years is ready for systematic learning in all aspects, the age at which is appropriate for brain development in fundamental building blocks such as emotions, senses, movement, self-perception, others-perception, including cognitive process development, for which instruction techniques are variably used by different ages. Educational provision should thus focus on the executive function concept as a learning tool to be augmented in learning activities since the early-year-level. The experiences built during this early stage of life will provide the foundation for future cognition and actions (Masaru Ibuka, 2006).

In education provision, the negligence of equipping children with critical thinking skills is to miss the golden chance to cultivate their “development of executive functions-EF” for it is essential that EF is established since early childhood. In brief, the lack of EF in human is the lack of ability to think critically, deliberate, determine what is right or appropriate but relying on emotion to lead the life, and act without discretion, hence often making mistakes in the conduct of life.

“Education standards of education institution” as the scripture for education provision is to be apprehended, implemented, and attained by all of the concerned sectors in education provision. To achieve this, EF should be the focus. This is in line with the Ministry of Education Ordinance on Systems, Criteria, and Methods of Education Quality Assurance B.E.2553 (2010), Section 1 General Information, Article 3 stating that the internal quality assurance system for the development of education quality and the development of “education standards” at every level consisting of 1) internal quality assessment; 2) monitoring of education quality; and 3) development of education quality.

The education quality assurance system acts as a key mechanism to facilitate the achievement of implementation based on the executive functions concept, while at the same time provides a solution to the lack of critical thinking among Thai children, and as a result effectively establishes Thai educational standards. The National education act B.E. 2542 and its amendment (No.2) B.E.2545, Article 48 prescribed that the head office and educational institutions set up their internal quality assurance systems which are considered to be part of the education provision process to be continuously implemented. In addition, an annual report is to be submitted to the head office and related agencies and accessible by the public. This is to ensure the development of education quality and standards, and to support external quality assurance.

Child Development Center (CDC) as a local educational facility provides child care and development along with the learning experiences for children 2 – 5 years of age. The CDC’s education provision follows the Early Childhood Education Curriculum B.E.2546 under the supervision of the Department of Local Administration (DLA), Ministry of Interior which oversees, promote, and support the nationwide 19,859 child development centers, with 43,378 caregivers and 1,078,751 early aged children under the service (Bureau of Local Educational Development and Coordination, 2013). It is the extended service into the community aiming at early childhood development in addition to the development of comprehensive preparedness and learning experiences for higher level of learning and happy living in the society.

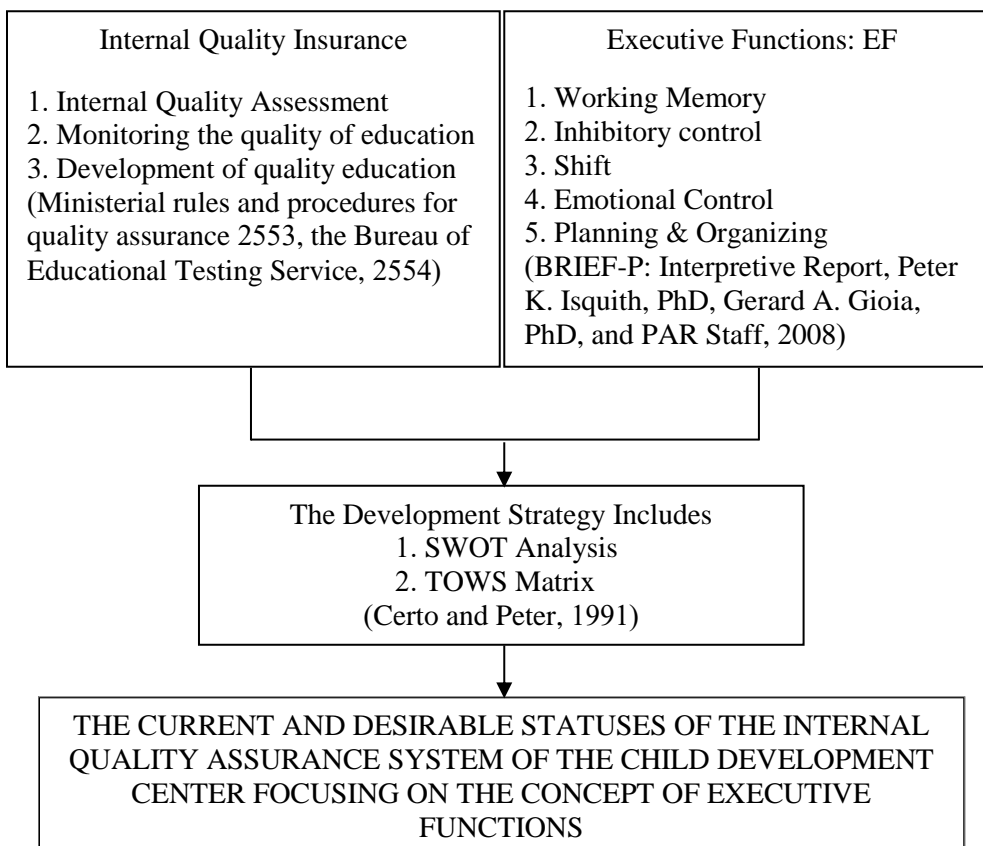
In the management of education provision, the CDCs all over the country as a supervisory unit and a starting point of educational quality development is required to be apprehensive and put the focus on executive functions embedded in child daily activities by adopting the internal quality assurance as a tool to develop children in the CDC to ensure that they are developed with quality, experiences, executive function skills that enable their learning in relation with physical, emotional, mental, and social development. The EF concept is thus at the heart of development in all aspects that grants the child’s successful learning and survival today and in the future. In this aspect, the researcher is interested to explore the “strategies to develop the

internal quality assurance system of the CDC with a focus on executive function concept” to leverage educational quality and for the ongoing development of educational quality according to the goals of educational reform.

### Objectives

This research aimed to explore the current and desirable statuses of the internal quality assurance system of the child development center with a focus on executive functions concept.

### Conceptual Framework



**Figure 1: Conceptual Framework of This Study**

### Research Methodology

The research population included 19,859 CDCs all over the country which are under the Local Administrative Organizations. The sample size was calculated using the Yamane’s formula (Yamane, 1973) with 95% confidence level (Confidence interval), at the level of error (e) +-5%, to obtain the sample of 392 CDCs. A systematic random sampling was employed using cluster sampling by geographical subdivision according to the number of CDCs by regions throughout Thailand as shown in Table 1.

**Table 1: Number and Percentage of the Sent and Returned Questionnaires of Cdc's Under the Local Administrative Organizations**

No.	Region	Number of CDCs throughout the Country	%	Number of Questionnaire (392 CDCs)	Informant (4 Persons from each CDC)
1	Northeastern	8,870	44	172	688
2	Northern	2,736	14	55	220
3	Central	3,709	19	74	296
4	Southern	2,414	12	47	188
5	Eastern	1,141	6	24	96
6	Western	989	5	20	80
Total		19,859	100	392	1,568

*Informants Consisted Of 2 Groups:*

1. The group of LAO head offices with the responsibility for the management of CDC for its standards and quality according to academic principles, laws and regulations, and related orders, which include:

- 1.1 A total of 392 LAO chief executives or its representative, one from each of the CDCs under LAO.
- 1.2 A total of 392 LAO's academicians, one from each of the CDCs under LAO.

2. The group of operating officers refers to the staff selected and appointed to work and take responsibility in supervising the CDC's practice and workers; manage child care and experience, and promote the learning development for young children's physical, emotional, mental, social, and intellectual preparedness. The group comprises:

- 2.1 A total of 392 heads of CDCs under TAO.
- 2.2 A total of 392 child caregivers, one from each of the CDCs under TAO.

The questionnaire contained 2 parts: 1) general information of respondents, and 2) respondent's opinion on the current and desirable statuses of the internal quality assurance system of the CDC with a focus on executive functions. The procedural steps of questionnaire construction included the followings. 1) Investigating documents, concepts, theories, and research pertaining the internal quality assurance of CDC that focuses on the executive functions concept, and making a synthesis on related research variables for constructing a questionnaire. 2) Bringing the variables synthesized from step 1 to construct a questionnaire for exploring the current and desirable statuses as for the research. 3) Having the constructed questionnaire reviewed by 5 specialists for its appropriateness of items and content validity, and determining the Index of Item-Congruence: IOC.

The questionnaire's IOC was obtained between 0.80-1.00 which was applicable to the samples. 4) Revising the questionnaire based on the specialist's comment, bringing it to a try-out in a population of 30 participants with similar characteristics of

the research samples. The examination for Cronbach's Alpha coefficient suggested 0.99 and 0.99 respectively for the current and desirable statuses of CDC internal quality assurance system; 0.96 and 0.97 respectively for the external environment of the current and desirable statuses. The result supported the item-objective congruence. The data analysis procedure employed descriptive statistics, i.e. frequency and percentage of respondents' general information, mean and standard deviation in the analysis of the current and desirable statuses of CDC internal quality assurance system focusing on executive functions concept.

## Research Result

The summary of research result was presented below.

**Table 2: General Information of Respondents**

Informants Background Information		LAO Chief Executive (N= 145)	Academic ian (N= 148)	CDC Head (N= 308)	Caregiving Teacher (N= 323)	Total (N= 924)	
						No.	%
Sex	Female	45	105	282	311	743	80.41
	Male	100	43	26	12	181	19.59
Age	< 31 yrs.	0	9	15	60	84	9.09
	31-40 yrs.	30	86	126	180	422	45.67
	41- 50 yrs.	55	46	118	78	297	32.14
	> 50 yrs.	60	7	49	5	121	13.10
Highest educational Attainment	Under Bachelor's degree	35	0	0	76	111	12.02
	Bachelor's degree	56	66	206	223	551	59.63
	Master's degree	51	82	102	24	259	28.03
	Doctoral degree	3	0	0	0	3	0.32
Work experience in CDC	< 11 yrs.	104	104	104	244	556	60.17
	11-20 yrs.	34	41	156	69	300	32.47
	21-30 yrs.	6	2	40	8	56	6.06
	> 30 yrs.	1	1	8	2	12	1.30
* Size of CDC	Small	32	28	89	108	257	27.81
	Medium	65	75	121	123	384	41.56
	Large	48	45	98	92	283	30.63

\* Small size with no more than 40 children under attendance / Medium size with 41 – 80 children under attendance/Large size with more than 80 children under attendance

Table 2 showed the number and percentage of respondents classified by informants including 145 LAO chief executives, 148 academicians, 308 CDC heads, 323 caregiving teachers, making a total of 924 informants. The dominant respondents were female (80.41 %), mostly aged between 31-40 years (45.67 %), and 41-50 years (32.14 %). The majority attained a bachelor's degree (59.63 %), followed by a master's degree (28.03 %). Most of them had less than 11 years of work experience in CDC (60.17 %), followed by 11-20 years (32.47 %). The CDCs were mostly in a medium size with 41-80 children under attendance (41.56 %), followed by a large size with more than 81 children under attendance (30.63%).

**Table 3: Current and Desirable Statuses of the CDC Internal Quality Assurance System Development with A Focus on EF Concept, by the Analysis of Overall Internal Environment**

Internal Quality Assurance System	Current Status			Rank	Desirable Status			Rank
	$\bar{x}$	S.D.	Level		$\bar{x}$	S.D.	Level	
Internal Quality Assessment	3.612	0.854	High	2	4.153	1.078	High	3
Setting up education standards by education institution	3.610	0.813	High	3	4.125	1.222	High	4
Making plan to develop education provision focusing on quality according to education standards of educational institution	3.756	0.829	High	1	4.038	1.287	High	5
Organizing administration and information systems	3.584	0.827	High	5	3.964	1.280	High	7
Implementing education development plan of educational institution	3.643	0.858	High	2	4.031	1.300	High	6
Following up on education standards at the educational institution level	3.551	0.846	High	6	4.253	0.897	High	3
Following up on education standards at the LAO head office level	3.546	0.878	High	7	4.305	0.783	High	2
Writing annual report of internal assessment	3.593	0.926	High	4	4.352	0.780	High	1
Monitoring education quality	3.510	0.851	High	3	4.281	0.743	High	2
Education quality development	3.662	0.805	High	1	4.389	0.711	High	1
Overall	3.595	0.837	High	2	4.274	0.844	High	1

Table 3 presented the current and desirable statuses of the CDC internal quality assurance system development focusing on EF concept, with the finding of

current status of mean at high level ( $\bar{x} = 3.595$ , S.D. = 0.837), and the desirable status of mean at high level ( $\bar{x} = 4.274$ , S.D. = 0.844).

With respect to the current status of CDC internal quality assurance system focusing on EF concept, the findings suggested the high level of education quality development with highest mean ( $\bar{x} = 3.662$ , S.D. = 0.805), followed by internal quality assessment ( $\bar{x} = 3.612$ , S.D. = 0.854), and monitoring of education quality ( $\bar{x} = 3.510$ , S.D. = 0.851), respectively.

For the desirable status of the CDC internal quality assurance system development with EF concept, the educational quality development was at high level with highest mean ( $\bar{x} = 4.389$ , S.D. = 0.711), followed by monitoring of education quality ( $\bar{x} = 4.281$ , S.D. = 0.743) and internal quality assessment ( $\bar{x} = 4.153$ , S.D. = 1.078), respectively.

**Table 4: Analysis of The Overall Current and Desirable Statuses with A Focus on EF Concept**

Component	Current Status				Desirable Status			
	$\bar{x}$	S.D.	Interpre tation	Rank	$\bar{x}$	S.D.	Interpret ation	Rank
1. Working memory	3.590	0.841	High	5	4.273	0.847	High	3
2. inhibitory control	3.594	0.836	High	4	4.273	0.848	High	3
3. Shifting	3.595	0.834	High	3	4.271	0.849	High	5
4. emotional control	3.602	0.835	High	1	4.277	0.840	High	2
5. Planning and organizing	3.596	0.839	High	2	4.278	0.838	High	1
Overall	3.595	0.837	High	2	4.275	0.844	High	1

According to Table 4, the analysis reported high level of overall current status ( $\bar{x} = 3.595$ , S.D. = 0.837) and high level of overall desirable status ( $\bar{x} = 4.275$ , S.D. = 0.844) of CDC internal quality assurance system development with a focus on EF concept. Considering the current status, the emotional control ranked first at high level with highest mean ( $\bar{x} = 3.602$ , S.D. = 0.835), followed by planning and organizing ( $\bar{x} = 3.596$ , S.D. = 0.839), and working memory ( $\bar{x} = 3.590$ , S.D. = 0.841), respectively. In terms of the desirable status, the planning and organizing ranked first at high level with highest mean ( $\bar{x} = 4.278$ , S.D. = 0.838), followed by emotional control ( $\bar{x} = 4.277$ , S.D. = 0.840), and shifting ( $\bar{x} = 4.271$ , S.D. = 0.849), respectively.

## Discussions

The findings were discussed by the research objectives as follows.

1. Based on the EF concept, the overall current status was at high level of mean for CDC internal quality assurance system. For individual aspects, however, the monitoring of education quality was found at the lowest level status. This may be explained that educational personnel at both the educational institution and head office levels were still lacked of a process to propose measures to accelerate educational quality development, lacked of their monitoring and evaluation of CDC implementation against the standards set by CDC. Rather, it was the daily-schedule-



operation without the targets, hence resulting in the lowest mean of educational quality monitoring.

The detailed analysis by the EF concept reported high level of mean for the overall current status but lowest mean for working memory. This may be related to the fact that early-aged children are more likely to rely mainly on emotion when it comes to decision making. Therefore, most activities are focused on child emotional control that inhibits their crying and fighting over things. As indicated in the research findings here, emotional control provided the highest mean. Once teachers can ensure children's emotional control, the planning and organizing for further processes are thus possible. Among the 5 aspects of EFs, 4 of them i.e. the control, planning, shift, inhibition involve "emotion" which requires "mindfulness" to control it, that is, allowing no emotion to lead actions. As a result, the working memory showed lowest mean as it depends on the ability to memorize and act upon the information received or the use of knowledge from previous experiences.

2. The overall desirable status showed high level of mean for CDC internal quality assurance system with the EF concept. For individual aspect, educational quality presented highest mean of desirable status. It is probably because of the head office's focus on education with its executive's vision and support of CDC. They employed learning network approach to develop education quality and promoted education personnel for continuous learning and enhanced knowledge. The Department of Local Administration (DLA) in collaboration with other educational institutions had implemented such as a technical cooperation project between the DLA and Suan Dusit University for personnel training since 2006 to present, with a total of 35,000 trainees (Office of Technical Cooperation Projects Coordination, 2016). Other trainings include the knowledge on early childhood, and administration conducted in various universities. The division of Non-Formal Education Promotion and Youth Activities Development, under the Department of Local Administration also organized annual seminars for capacity building.

The detailed analysis by the EF concept found highest mean for overall desirable status. For individual aspect, the planning and organizing was observed with highest mean of desirable status. With respect to the desirable status of CDC internal quality assurance system, educational quality development ranked first with highest mean as well, suggesting that the LAO's education personnel were ready to develop and make education progress. Consequently, the EF concept showed the highest mean for planning and organizing. For human, any action taken has to firstly focus on planning, setting goals, priorities, and steps of action plan. Along with this process, administration and management are needed to enable the achievement as planned. According to Payom Wongsansri (1999: 69), planning refers to a systematic attempt to make choice of the best approach for the future so that the organization attains the desirable outcome.

## **Conclusions**

The development of internal quality assurance system of child development center focusing on the concept of executive functions under the local administrative organization was found at high level in overall for both the current and desirable statuses. It can be compared to a human with good physical and mental health,

positive thinking with readiness for innovations, and open mind to accept reasons of others. As observed from the result, the mean of desirable status approached the highest level. The integration of EF concept into the internal quality assurance system is a positive need that aims to develop education provision for early age children as it is vital for brain development since childhood. It supports the findings here in individual aspect that education quality development was the most desirable status. Education quality development has a broad definition in the field of education profession. It is a key mission of educational institution to provide quality teaching and learning primarily targeting at learners. Therefore, any activity/project or innovation development has to reflect in the learners' outcome. Finally, successful implementation requires collaborative, effective, and systematic practice of all concerned; sharing, listening, and accepting opinions, selecting the best approach, collectively taking on the result, and readiness to extensively improve for better internal quality assurance system of the institution (Bureau of Educational Testing, Office of the Basic Education Commission, Ministry of Education, 2011: 1).

### **Recommendations**

Research should consider education personnel in specific position such as teacher assistant as an important cogwheel in the development of early childhood education. This group of personnel is usually lacked of opportunities to develop and less promoted since they are in a temporary employment of 1 or 4 year-term, hence without job security and constant development though they have to put effort and work with caregiving teachers or government teachers.

Research should focus on those CDC's government teachers at post instatement to explore if they are in development or creating local educational innovation, satisfied by parents and community, and utilize their professional knowledge for development.

Research should also look at parents (service users) or the transfer of children to higher level such as from CDC to kindergarten. Strategies for CDC internal quality assurance should be developed to ensure quality assurance of caregiving teachers and to build trust on teachers' capacity to move forward educational policy and reform to truly achieve the goals of government.

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