Sys Rev Pharm 2020;11(11):891-912
A multifaceted review journal in the field of pharmacy

Setting the Goals for Early Childhood Development of Their Desirable Characteristics Standards and Their Creative Thinking Abilities on Physical, Emotional, And Social Developments' Specifications in The Child Development Centers (CDCs)

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Abstract

Designing quantitative method for survey the variables correlation analysis of the local administrative organizations', headman villages', educational CDC committees', children's parents, the CDCs' administers, and teachers' and caregivers' perceptions were administered to a sample size of 300 educational personnel of 20 Child Development Centers in the Northeastern of Thailand for the setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs). Modified the 40-items *Questionnaire on Desirable Characteristics Standard* (QDCS) in four scales are the dependent variables and responses of 69% were predicted. Designing the 24-item *Creative Thinking Ability Questionnaire* (CTAQ) in 4 scales: Originality, Flexibility, Fluency, and Elaboration scales are independent variables and outcomes of 56% were expected in six research questions were associated. These instruments are valid and reliable at the better level (α-reliability = 0.80-0.89). Using the grand mean scores of the four scales of the CTAQ and for each scale of the QDCS; physical, emotional, social, and intelligence cognitive development standards were correlated with positive directly correlation ($p<.05$), coefficient regression and multiple correlations are positive relative significantly ($p<.05$). The coefficient determination predictive values (R^2) indicate that of 66%, 51%, 41%, and 42% of the variances in physical, emotional, social, and intelligence in cognitive development characteristics' standards for setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities in the Child Development Centers (CDCs), respectively.

Keywords: Early childhood development, desirable characteristics standards, creative thinking ability, physical development, emotional development, social development, specifications, the Child Development Centers (CDCs), Local Administrative Organization, and variable correlation analysis

Introductions

Early Childhood

Early childhood, defined as the period from birth to eight years old, is a time of remarkable growth with brain development at its peak [1]. All children ages of 0-5 years are progressively cared for through quality ECD services and in protective and nurturing family environments [2]. During this stage, children are highly influenced by the environment and the people that surround them. UNESCO's approach is reinforced in the Education 2030 agenda and in particular in target 4.2 of Sustainable Development Goal 4 which aims to 'By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education [1].'

Early childhood – the first months and years of life – is the most important period of development in a child's life. It is a time of rapid brain development, language, social, emotional, sensory and motor development. It is when the foundation for that development and for lifelong learning is set. With this one-time-only window of opportunity, early childhood development and investment must be a priority of every family and the nation [2].

Early childhood care and education (ECCE)

Early childhood care and education (ECCE) is more than preparation for primary school. It aims at the holistic development of a child's social, emotional, cognitive and physical needs in order to build a solid and broad foundation for lifelong learning and wellbeing. ECCE has the possibility to nurture caring, capable and responsible future citizens [1]. Early Childhood Care and Education (ECCE) is the foundation of lifelong learning. UNESCO Bangkok is fully committed to supporting Member States' efforts to expand and improve comprehensive ECCE that will optimize the potential of young children in the Asia and Pacific region [3].

UNESCO Bangkok's ECCE program is dedicated to advocating, building partnerships, providing technical assistance, researching, and implementing capacity development projects in the region. Abundance of evidence highlights that providing quality early childhood care and education (ECCE) is fundamental to children's life-long success. The statement identified increasing investment in ECCE as a priority action and suggested to come up with innovative modality for financing ECCE [4]. Thailand has recognized an importance of early childhood development for a long time. Early childhood is the foundation for all subsequent developments and sustainable development of human quality in a long run. Family acts as the main anchor of child development. The community and society play an active role in child rearing in all stages [5].

Early childhood in Thailand

In Thailand, many children lack appropriate care and stimulation. A large number of parents, especially fathers, do not engage in learning activities with their young children. Access to children's books – which is crucial for the child's learning and imagination – is limited, especially in the poor households. Although participation in early childhood education makes a huge difference in a child's development, around 15 per cent of children aged 3-5 years are not attending an early childhood education programme. For those who have received early learning experiences are not receiving the quality services in order to allow them to reach their full potentials [2].

UNICEF Thailand worked with policy makers across the Ministry of Education, Ministry of Public Health, Ministry of Interior, and within the National Early Childhood Development Committee on developing the National Early Childhood Development Plan [6]. This included advocacy on nutrition, parenting, the quality of services and skills of early childhood development (ECD) professionals using the MICS data to ensure an equity focus and specific indicators tracking access to services for disadvantaged children, including children with disabilities, migrant children and children from poor families. UNICEF provided technical support for coordinating inputs from relevant ministries [7].

Early childhood education administration and management

The following agencies in charge of early childhood development for children in 0-5 age group are explained as below:

1. **Ministry of Education:** It is directly responsible for policy on development of education provision, educational quality and teaching and learning with the aim of developing children as a perfect human in various aspects – physical, emotional, mental and social.
2. **Ministry of Public Health:** It provides services: parent preparation; pregnant care; mother and child health care – physical, mental and nutritional; vaccination to produce immunity to disease; Iodine supplementation, E.Q. and I.Q. enhancement.
3. **Ministry of Social Development and Human Security**: It provides assistance to poor family and children, disabled children, and orphans.
4. **Ministry of Interior:** LAOs are responsible for 17,821 early childhood development centers and prepare budget for remunerations of babysitters, materials, lunches, supplementary food (milk), etc.
5. **Ministry of Culture:** Religious institutions, with parents' participation, hold religious activities for children.
6. **Ministry of Labor:** It promotes development of laborers' children.
7. **Prime Minister's Office:** The Border Petrol Police Bureau promotes development of pre-school children living in borders of Thailand.
8. **The Institute for Gifted and Innovative Learning:** It plays a key role in establishment of knowledge and understanding about a comprehensive approach to instruction using current research from neuroscience (Brain-Based Learning – BBL).
9. **Book for Children Foundation:** It produces books for children and launches campaign for parents and teachers to encourage children to love reading.

Furthermore, there are other foundations and private agencies concerned such as Thai Breastfeeding Centre who promotes breastfeeding newborn baby to 2-year-old children, Children Museum and various NGOs [8].

Main policies concerning early childhood care and education

Early childhood care and education was also an important issue stipulated in the National Education Plan and the National Education Development Plan. Moreover, there are at least three main policies that support the development of education for pre-primary children [9].

1. **Long-Term Policy and strategy for Early Childhood Care and Development (0-5 Age Group) 2018-2022:** It focuses on development with quality and to the best potentiality of children aged 0-5. Family acts as a main anchor of child rearing. It also promotes encouragement of participation among all segments of society in providing children with pleasant services and environment relevant to localities and conducive to early childhood development. The mentioned policy is composed of 3 main strategies:
   1) Strategies for Strengthening Early Childhood Development,
   2) Strategies for Strengthening Parents and Persons Concerned for Early Childhood Development, and
   3) Strategies for Strengthening the Environment Conducive to Early Childhood Development.
2. **Regulation of the Office of the Prime Minister on Early Childhood Care and Development B.E. 2561 (2018):** It establishes a committee entitled ''National Committee

for Early Childhood Care and Development.'' The committee consists of the Prime Minister acting as Chairperson, the Minister of Education as First Vice-Chairperson. The Ex- officio members include Permanent Secretary of the ministries concerned Scholar members with expertise in the fields of early childhood education, public health, psychology, etc.

3. **The 15-year Free Education**: Although the National Education Act stipulated that the state shall provide at least 12 years of basic education, which is of quality and free of charge, the government's policy was to provide 15-year free education which covers also pre-primary education. The free education was meant to offer children free textbooks, uniform, tuition, teaching equipment and child development activities, demonstrating the government's high commitment to the development of early childhood by giving them more opportunity to equally receive education.
4. **Policy on a Love of Reading Enhancement for Young Children:** The policy was endorsed in 2018 by the National Committee for Early Childhood Care and Development. This policy encourages all segments in society to recognize an importance of love of reading beginning from young children. The activities include storytelling and book reading as well as promoting participation of parents and persons concerned in storytelling and reading together with their children.

Depending on data during 1986-2010, the number of pre-primary children receiving education kept increasing steadily. Beginning in 2010 when 2,869 out of 2,456,432 children of 2-3 years of age or only 0.1% registered in early childhood care center or kindergarten 1, the number increased into 42% in 2017. Besides for kindergarten, 781,531 out of 1,247,506 children of the age group received pre-school or kindergarten year 3 (5 years old), which accounted for 62.6%, the figures in 2017 indicated that out of 1,065,114 children, 975,580 children or 91.6% registered in kindergarten [10].

However, some children are still left behind and lack opportunity of receiving the services. This problem may arise from nurturing by family, financial insufficiency, sickness, disability, as well as transportation inconvenience particularly in remote areas or geographical limitation. Thai government realized its responsibility for solving this problem in order to provide pre-primary education to all Thai children in accordance with the EFA goal [11].

Thai's vision government for early childhood

Early childhood education curriculum aims to develop all children to have quality and continuous development of physical, emotional, mental, social and intellectual development. To have been organized a happy and age-appropriate learning experience for having life skills and acting according to the philosophy of sufficiency economy, being a good person, having discipline and a sense of being Thai. Through cooperation between educational institutions, parents, families, communities and all parties involved in child development [12].

Desirable specification standards for early childhood

The change on economy, society and the progress on information technology; the Constitution of the Kingdom of Thailand 2017; the 20-Year National Strategy (2017-2036); the twelfth National Economic and Social Development Plan (2017-2021); the National Plan of Education (2017-2036); Strategy Goals of Educational Reform in the second decade (2009-2017) and the National Strategy Plan in Early Childhood (2017-2021) contribute to the important 21 century skills which are important to set the goals for early childhood development in concordance with all change [12].

Early Childhood Education curriculum set 12 desirable characteristics standards as follows:

1. Physical development consists of 2 standards:
   - Standard 1: The body grows with age and enjoys good habits.
   - Standard 2: Big and small muscles are strong, can be used fluently and Harmonize
2. Emotional development consists of 3 standards:
   - Standard 3: Have good mental health and happiness
   - Standard 4: Appreciation and expression in art, music and movement.
   - Standard 5: Have morality, ethics and good mind.
3. Social development consists of 3 standards:
   - Standard 6: Having life skills and acting according to the philosophy of sufficiency economy.
   - Standard 7: Love nature, environment, culture and Thai
   - Standard 8: Coexist with others happily and act as a good member of Democratic society With the King as Head of State
4. The development of intelligence consists of 4 standards:
   - Standard 9: Use language suitable for age-appropriate communication
   - Standard 10: Have the ability to think that is fundamental to learning.
   - Standard 11: Imagination and creativity
   - Standard 12: Have a good attitude towards learning and have the ability to seek knowledge. Suitable for age

The Ministry of Education continuously instituted a policy to develop early childhood education by appointed the committee to consider and revise the Early Childhood Curriculum in order to be in compliance with the change. The Early Childhood Curriculum 2017 is the curriculum for educational institutions, early childhood development institutions and all related institutions. All those should apply this curriculum to be the outline and direction for developing the educational institution curriculum with efficiency and meet the criterion of Early Childhood Curriculum B.E. 2560 which aims to develop children's physical, emotional, social, and cognitive development, also be a good member and discipliner, be mindful of Thainess and be responsible to self, society, community, and nation in the future [12].

The classroom learning environments at the CDCs

Defining the classroom or the CDCs environment in terms of the shared perceptions of the stakeholders, local or the CDCs' administrators, educators, teachers, caregivers, or children parents, and personnel in the communities have the dual advantage of characterizing the setting through the eyes of the participants themselves and capturing data which the observer could miss or consider unimportant. They are at a good vantage point to make judgments about classrooms because they have encountered many different

learning environments and have enough time in a class to form accurate impressions. Also, even if teachers are inconsistent in their day-to-day behaviour, they usually project a consistent image of the long-standing attributes of classroom environment [13]. It is useful to distinguish classroom or classroom-level environment from the CDCs environment, which involves psychosocial aspects of the climate of whole CDCs [14]. The CDCs climate research owes much in theory, instrumentation and methodology to earlier work on organizational climate in business contexts [15].

A well-arranged environment should enhance children's development through learning and play. The way the physical environment is designed and configured influences how children feel, act, and behave. The physical environment allows growth and development through activities and materials in defined play areas [16]. Play lay is very significant for a child during the early childhood years. Therefore, knowledge of the development of different types of play gives educators and parents a foundation for proper teaching strategies. However, a safe environment encourages exploration and play behaviors in young children. Therefore, a safe environment is very important for teachers of young children and child care centers. When parents bring their children to a child care center, they expect them to be safe. They assume the playground, equipment, toys, and other materials will be safe for children to use and that teachers will carefully supervise their activities [17].

Learning environments are nurturing spaces that support the development of all young children. They include classrooms, play spaces, areas for caregiving routines, and outdoor areas. Learning environments are well-organized and managed settings. They offer developmentally appropriate schedules, lesson plans, and indoor and outdoor chances for choice, play, exploration, and experimentation. Learning environments include age-appropriate equipment, materials, and supplies. They integrate home cultures and are flexible to support the changing ages, interests, and characteristics of a group of children over time. In home-based programs, the learning environment includes the home, community, and group socialization spaces [18].

Methodology

Designing the Child Development Centers' classroom learning environments for setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications were associated. Using the questionnaires for assessing.

Research Questions

The overall aim of this study was to describe the determinants and effects of personnel's perceptions of the desirable characteristics standards and their creative thinking abilities in the Child Development Centers (CDCs) in Northeast Region of Thailand, in order to improve of the performances of early childhoods in their desirable characteristics standards. Modified the Questionnaire on Desirable Characteristics Standard (QDCS) and the Guilford Creative thinking Ability Questionnaire (GCTAQ) had not been used in the Child Development Centers (CDCs) before this study; therefore, the validity of these instruments formed the focused of the first and second research questions.

Research Question 1: Is the Questionnaire on Desirable Characteristics Standard (QDCS) a valid and reliable instrument for use in this research study?

Research Question 2: Is the Questionnaire on the Creative thinking Ability Questionnaire (CTAQ) a valid and reliable instrument for use in this research study?

It was consider important to associations between the educational personnel's perceptions for setting the goals for early childhood development of their 12-desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications on classroom environment inventories in the Child Development Centers (CDCs) in Northeast Region of Thailand. This formed the focus of research question third, fourth, fifth, and sixth.

Research Question 3: What associations are there between the educational personnel's perceptions of their early childhoods' physical development desirable characteristics standards and their creative thinking abilities toward the CDCs?

Research Question 4: What associations are there between the educational personnel's perceptions of their early childhoods' emotional development desirable characteristics standards and their creative thinking abilities toward the CDCs?

Research Question 5: What associations are there between the educational personnel's perceptions of their early childhoods' social desirable characteristics standards and their fluency creative thinking abilities toward the CDCs?

Research Question 6: What associations are there between the educational personnel's perceptions of their early childhoods' intelligences desirable characteristics standards and their creative thinking abilities toward the CDCs?

Research Procedures

Designing to develop the desirable characteristics of preschool children based on Thai education was investigated. Because Thai early childhood education curriculum promoted desirable characteristics of preschool children for early childhood with qualities of the Child Development Centers should be standardized [19]. To develop children to be persons with good characteristics and able to live happily in Thai society should begin with the development that following as the Constitution of the Kingdom of Thailand 2017; the 20-Year National Strategy (2017-2036); the twelfth National Economic and Social Development Plan (2017-2021); the National Plan of Education (2017-2036); Strategy Goals of Educational Reform in the second decade (2009-2017) and the National Strategy Plan in Early Childhood (2017-2021) contribute to the important 21 century skills and creative thinking abilities that indicate of the Early Childhood Education curriculum set 12 desirable characteristics standards [12] as follows:

Step I: To describe of the physical development consists of 2 standards: Standard 1: The body grows with age and

enjoys good habits, and Standard 2: Big and small muscles are strong, can be used fluently and harmonize.

The term "gross motor" development refers to physical skills that use large body movements, normally involving the entire body. In the sense used here, gross means "large" rather than "disgusting." [20]. Between ages 2 and 3 years, young children stop "toddling," or using the awkward, wide-legged robot-like stance that is the hallmark of new walkers. As they develop a smoother gait, they also develop the ability to run, jump, and hop. Children of this age can participate in throwing and catching games with larger balls. They can also push themselves around with their feet while sitting on a riding toy [20]. Also at this age (3 to 4 years), children develop better upper body mobility. As a result, their catching and throwing abilities improve in speed and accuracy. In addition, they can typically hit a stationary ball from a tee with a bat. As whole body coordination improves, children of this age can now peddle and steer a tricycle. They can also kick a larger ball placed directly in front of their bodies [21].

Step II: To investigate the emotional development consists of 3 standards: In terms of early childhoods who are developed of their emotional development consists of 3 standards: Standard 3: Have good mental health and happiness; Standard 4: Appreciation and expression in art, music and movement; and Standard 5: Have morality, ethics and good mind.

What is *Social and Emotional Development* for early childhoods? Children grow and develop rapidly in their first five years across the four main areas of development. These areas are motor (physical), communication and language, cognitive, and social and emotional. Social and emotional development means how children start to understand who they are, what they are feeling and what to expect when interacting with others. It is the development of being able to: Form and sustain positive relationships; Experience, manage and express emotions; and Explore and engage with the environment [22].

Positive social and emotional development is important. This development influences a child's self-confidence, empathy, the ability to develop meaningful and lasting friendships and partnerships, and a sense of importance and value to those around him/her. Children's social and emotional development also influences all other areas of development [22]. Don't forget, if you have concerns about a child's development and think a child might need extra help to learn and grow, don't hesitate to refer a child.

Step III: To examine the social development of early childhood in the CDCs, focused on the third social development consists of 3 standards: Standard 6: Having life skills and acting according to the philosophy of sufficiency economy; Standard 7: Love nature, environment, culture and Thai; and Standard 8: Coexist with others happily and act as a good member of democratic society with the king as head of state were assessed.

As with emotional development, both internal and external variables can affect young children's self-concept. For example, a child's temperament can affect how they view themselves and their ability to successfully complete tasks. Children with easy temperaments are typically willing to try things repeatedly and are better able to handle frustrations and challenges. In contrast, children with more difficult temperaments may become more easily frustrated and discouraged by challenges or changes in the situation [23].

Peers also have an impact on young children's self-concept. Young children who have playmates and classmates that are usually nice and apt to include the child in activities will develop a positive self-image. However, a young child who is regularly left out, teased, or bullied by same-age or older peers can develop low self-esteem. For more on how to positively impact a young child's emotional and self-identity development, please see the article on Parenting Skills for the Preoperational Stage [23].

Externally, role models and the environment will also influence how children react to the world emotionally. Bronfenbrenner's ecological theory discusses micro, meso, and macro-level influences. During early childhood, the immediate, or micro, level of a child's environment consists of family and direct caregivers such as teachers and babysitters [24]. Children with caregivers who show warmth, compassion, understanding, as well as genuine concern and help toward others will also learn to show empathy and pro-social behavior during later childhood, adolescence, and adulthood.

Children who witness caregivers modeling mostly angry, punitive, and cold emotional responses will struggle more to develop empathy and prosaically behavior. In terms of a macro-level influence, the child's nation of residence can also affect his or her emotional development. A child growing up in a peacetime country may develop more positive emotional responses and skills than a child growing up in a war-torn country governed by martial law [25].

Step IV: To discuss of the development of intelligence of early childhood that consists of 4 standards: Standard 9: Use language suitable for age-appropriate communication; Standard 10: Have the ability to think that is fundamental to learning; Standard 11: Imagination and creativity; and Standard 12: Have a good attitude towards learning and have the ability to seek knowledge suitable for age. The view of discontinuity and reorganization was initially challenged during the 1980s and 1990s, with repeated findings showing that discrete indices of attention, memory, and speed of encoding or processing were modestly but significantly correlated with more mature forms of intelligence and were sensitive to other markers or manipulations of cognitive risk or benefit [25].

Step V: Modified the questionnaire for setting the goals for early childhood development of their desirable characteristics standards on their physical, emotional, and social developments' specifications in the Child Development Centers (CDCs): This questionnaire is prepared to assess a Sub-district Administrative Organization, a Headman, a Representative of the Educational Committee of the Child Development Center, a Child Development Center Administrator, and teachers and Caregivers of their perceptions to their setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs) that

modified on 40 items in four strands on 12 desirable characteristics standards. It called: The Questionnaire on Desirable Characteristics Standard (QDCS).

Surprisingly little work has been done in pre-primary education centers which is parallel to the traditions of classroom environment research at the secondary and primary school levels. Consequently, the QDCS was developed for use in the 20-Child Development Centers throughout 20 Province in Northeast Region of Thailand. The final form of the QDCS contains forty strand scales in 40 standardized items on 12 Desirable Characteristics Standard; each scale consists of 10 items. Each item has five responses by Likert's scales [26], such as; Strongly Agree (SA, scoring is 5), Agree (A, scoring is 4), Neither Agree Nor Disagree or Neutral (N, scoring is 3), Disagree (D, scoring is 2), and Strongly Disagree (SD, scoring is 1),) and the polarity is reversed for approximately half of the items (as reported in Table 1). Please circle surrounding the number of 5, 4, 3, 2, and 1 if your perceptions are correctly for your opinions [12], [21], [22], [23].

Step V: Because of the 12 adapted version desirable characteristics standards that they are focused on a child skill, attitude, physical, emotion, social, and development intelligences. It is too difficult to design the instruments for measuring the context as above. However, the research team would be selected the research instrument for testing the teachers and caregivers who are the most participation in children with the creative thinking of Guilford (1950[30], 1967[31], 1980[32]) and Chantala, Ponkham, and Santiboon (2017)[33] in four scales, each scale consist of six items, the total as 24 item.

Historical of creative thinking, Guilford (1950) [30] was an early proponent of the idea that intelligence is not a unitary concept. Based on his interest in individual differences, he explored the multidimensional aspects of the human mind, describing the structure of the human intellect based on a number of different abilities. His work emphasized that scores on intelligence tests cannot be taken as a uni-dimensional ranking that some researchers have argued indicate the superiority of some people, or groups of people, over others. In particular, Guilford showed that the most creative people may score lower on a standard IQ test due to their approach to the problems, which generates a larger number of possible solutions, some of which are original [31]. Guilford's work, thus, allows for greater appreciation of the diversity of human thinking and abilities, without attributing different value to different people (Guilford, 1980) [32]. In this research study, an adapted version of creative thinking skill test of his work in students' intelligence and creativity to the 24-item Creative Thinking Ability Questionnaire (CTAQ) in 4 scales of originality, flexibility, fluency, and elaboration ability scales were modified from the original of Guilford Divergent Theory [33]. Table 2 shows the 24-item Creative Thinking Ability Questionnaire (CTAQ) in 4 scales, namely *Fluency Thinking* (the ability to produce great number of ideas or problem solutions in a short period of time); *Flexibility Thinking* (the ability to simultaneously propose a variety of approaches to a specific problem); *Originality Thinking* (the ability to produce new, original ideas); and *Elaboration Thinking* (the ability to systematize and organize the details of an idea in a head and carry it out) were built. Each scale consists of 6 items and the five response alternatives are: Strongly Agree (SA, scoring is 5), Agree (A, scoring is 4), Neither Agree Nor Disagree or Neutral (N, scoring is 3), Disagree (D, scoring is 2), and Strongly Disagree (SD, scoring is 1),) and the polarity is reversed for approximately half of the items (as reported in Table 2).

Sample size

The sample size consists of the educational personnel who are the persons related to the Child Development Centers (CDCs) in the Northeastern Region, totaling 20 Provinces, 1 center each.

1. A Sub-district Administrative Organization
2. A Headman
3. A Representative of the Educational Committee of the Child Development Center
4. A Child Development Center Administrator
5. A Representative of the Children Parents of the Child Development Center
6. And 10-Teachers and Caregivers at the Child Development Center

A Child Development Center was administered of 15 personnel who are the participated into administrative and management for each CDC. Selecting the 20 CDCs for each province in the Northeastern region that is totalized as 300 personnel as the sample size and details in Table 3.

Research Instruments

Modified research methodology with the survey and variable quantitative correlation analysis with the independent and dependent variables were associated. Using the two research instruments for assessing the educational personnel who were the 300 participations' personnel in the 20 Child Development Centers at each province in the Northeastern region were selected.

Research Instruments

1. The Questionnaire on Desirable Characteristics Standard (QDCS)

Modified by the Early Childhood Education curriculum set 12 desirable characteristics standards as follows to the 40-item *Questionnaire on Desirable Characteristics Standard* (QDCS) in four scales, each scale consists of 10 item, namely;

1.1 *Physical Development Characteristics' Standard* (PDCS) scale, this scale is covered 2 standards: Standard 1: The body grows with age and enjoys good habits, and Standard 2: Big and small muscles are strong, can be used fluently and harmonize in order to the thinking theory of Oswalt, A. (2515) [21] on early childhood physical development to gross and fine was built to the 10 items.

1.2 *Emotional Development Characteristics' Standard* (EDCS) scale, this scale consists of 3 standards: Standard 3: To have good mental health and happiness; Standard 4: Appreciation and expression in art, music and movement; and Standard 5: Have morality, ethics and good mind in according to modify the thinking theory of Oswalt, A. (2515) [22] on early childhood emotional and social development: identity and self-esteem was built.

1.3 *Social development Characteristics' Standard* (SDCS) scale, consists of 3 standards: Standard 6: Having life

skills and acting according to the philosophy of sufficiency economy; Standard 7: Love nature, environment, culture and Thai; and Standard 8: Coexist with others happily and act as a good member of Democratic society With the King as Head of State on early childhood emotional and social development: emotional expressiveness and understanding that this scale through into the theory standard thinking of Oswalt, A. (2515) [23] on early childhood emotional and social development: emotional expressiveness and understanding was added.

1.4 *Development of Intelligence in Cognitive Standard* (DICS) scale, this scale consists of 4 standards: Standard 9: Use language suitable for age-appropriate communication; Standard 10: Have the ability to think that is fundamental to learning; Standard 11: Imagination and creativity; and Standard 12: Have a good attitude towards learning and have the ability to seek knowledge. Suitable for age, that according to the theory standard thinking of Oswalt, A. (2515) [24], [25], [26] on early childhood cognitive development: introduction [24], early childhood cognitive development: intuitive thought [25], and early childhood cognitive development: language development [26].

Each scale consists of 10 items and the five response alternatives are: Strongly Agree (SA, scoring is 5), Agree (A, scoring is 4), Neither Agree Nor Disagree or Neutral (N, scoring is 3), Disagree (D, scoring is 2), and Strongly Disagree (SD, scoring is 1), These four mean scores' scales of the 40-item *Questionnaire on Desirable Characteristics Standard* (QDCS) were design on the dependent variables.

2. The Creative Thinking Ability Questionnaire (CTAQ)

The 24-item *Creative Thinking Ability Questionnaire* (CTAQ) in 4 scales, namely;

2.1 Originality Creative Thinking (OCT) ability scale: the ability to produce new, original ideas,

2.2 Fluency Creative Thinking (FuCT) ability scale: the ability to produce great number of ideas or problem solutions in a short period of time.

2.3 Flexibility Creative Thinking (FxCT) ability scale: the ability to simultaneously propose a variety of approaches to a specific problem).

2.4 Elaboration Creative Thinking (ECT) ability scale: the ability to systematize and organize the details of an idea in a head and carry it out was built.

Each scale consists of 6 items and the five response alternatives are: Strongly Agree (SA, scoring is 5), Agree (A, scoring is 4), Neither Agree Nor Disagree or Neutral (N, scoring is 3), Disagree (D, scoring is 2), and Strongly Disagree (SD, scoring is 1), and these four mean scores' total scales of the 24-item *Creative Thinking Ability Questionnaire* (CTAQ) were design on the independent variables.

Data analysis

On the research questions 1 and 2, using the Loading Factor Analysis, Circumplex Nature by Pearson Correlation and Internal Consistency (Cronbach Alpha Coefficient) Reliability are confirmed [35].

This formed the focus of research question third, fourth, fifth, and sixth are associated with the simple and multiple correlation, standardized regression correlation, and determination predictive values are assessed [35].

Results

The results of this section reviews the remarkable progress in conceptualizing, assessing and investigating the determinants and effects of physical, emotion, social and psychological aspects for setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs) that following as the early childhood curriculum 2017 according to the five Ministries in Thailand. The validation of two research instrument scales is discussed. Assessment instruments for in the Child Development Centers' environments are considered. Consideration is given to teachers' and caregivers use of physical indoor and outdoor developments for early childhood environmental instruments of their desirable characteristics standards and their creative thinking abilities in practical attempts to improve their own Child Development Centers (CDCs). Using administrators', a headman villages', the representative the CDC committees', representative the CDCs' children's parents', and teachers and caregivers' perceptions to study the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs) are set.

Research Question 1: Is the Questionnaire on Desirable Characteristics Standard (QDCS) a valid and reliable instrument for use in this research study?

The results given in Table 3, 4, and 5 shows that on average item means for each of the four QDCS scales, that they contain ten items, so that the minimum and maximum score possible on each of these scales is 10 and 50, respectively. Because of this difference in the number of items in the four scales; *Physical Development Characteristics' Standard* (PDCS), *Emotional Development Characteristics' Standard* (EDCS), *Social development Characteristics' Standard* (SDCS), and *Development of Intelligence in Cognitive Standard* (DICS) scales. The average item mean for each scale was calculated so that there is a fair basis for comparison between different scales. These means were used as a basis for constructing the simplified plots of significant differences between forms of the QDCS were analyzed with Factor Loading [36], Intercorrelation Circumplex Nature [37] scales, Internal Consistency (Cronbach Alpha) Reliability are assessed, respectively.

The Factor Loading Analysis for the 40-item QDCS

The QDCS forms were subjected to separated principal components factor analyses (with varimax rotation) involving personnel's scores. The factor structure that emerged replicated, to a large extent [37]. To conduct a Factor Analysis, this procedure is intended to reduce the complexity in a set of data, so we choose ''Data Reduction'' from the menu. And the choice in this category is ''Factor,''

for factor analysis. Table 1 list the items which were found to have factor loading greater than 0.30 (which is the minimum value conventionally accepted as meaningful in factor analysis) [38].

Factor extraction involves making a choice about the type of model as well the number of factors to extract. Factor rotation comes after the factors are extracted, with the goal of achieving simple structure in order to improve interpretability.

% of variance is the amount of variance that is shared among a set of items. Items that are highly correlated will share a lot of variance.

Eigenvalues represent the total amount of variance that can be explained by a given principal component. They can be positive or negative in theory, but in practice they explain variance which is always positive, and represent the amount of variance in each item that can be explained by the principal component.

On the whole, it appears that the items had factor loadings greater than 0.30 with their a priori scales, and hence, the results lend support to the factorial validity of the QDCS.

Intercorrelation Circumplex Nature Analysis

The present of this research study is to describe the Circumplex of Personality Metatraits (CPM), a proposal based on the knowledge gathered in the research tradition and solving some problems raised both in psycholexical and psychometric approaches. According to the model, metatraits can be described within a circumplex that is organized by two ways orthogonal dimensions were analyzed with Pearson' Correlation [39].

The results in Table 4 are reported the circumplexes were graphed to identify items with loadings on multiple traits (blended items), and to determine whether removing these items changed four-factor model trait intercorrelations. This test has yet to be applied to personality empirical perceptions' data via Pearson's correlation [40] and to be the adaptive humor styles and maladaptive humor styles possess similar interpersonal content when conceptualized as directed at both self and others in interpersonal contexts significant, relatively [41].

Internal Consistency Cronbach Alpha Coefficient Reliability Analysis for the QDCS

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability [42]. A ''high'' value for alpha does not imply that the measure is unidimensional. Internal consistency ranges between negative infinity and one. Coefficient alpha will be negative whenever there is greater within-subject variability than between-subject variability. Very high reliabilities (0.95 or higher) are not necessarily desirable, as this indicate that the items may be redundant [43] as reported in Table 5.

As reported in Table 5, the reliability coefficients for the different QDCS ranged from 0.845 (Development of Intelligence in Cognitive Standard-DICS) scale to 0.888 (*Emotional Development Characteristics' Standard*-EDCS) scale. Using the individual personnel's as the unit of analysis. The scale means ranged from 3.625 (DICS scale) to 4.180 (PDCS scale) (means average scores ranged from minimum as 1to maximum as 5) on the QDCS Form. The item means ranged from 36.250 to 41.800 (minimum score as 10 and maximum score as 50). Standard deviations from item means ranged from 5.143 to 5.556. The variance values ranged from 26.452 to 32.710. The F-test analysis indicate that of the significant as .001 ($p<.01$) all of four scales.

As reported in Figure 6, the determination efficient predictive value (R^2) indicates that of 69% [43] of the 300-educational personnel and the local administrative organizations who are expected and predicted of the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities in their physical, emotional, and social developments' specifications in the 20-Child Development Centers on the 2-physical development characteristics' standard, 3-emotional 3-development characteristics' standards, and 4-social development characteristics' standards are set and provided, respectively.

On the whole, the results suggest that the QDCS is a reliable instrument for use to set the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs). A more positive in the Child Development Centers to be present in Figure 6 was compared.

Research Question 2: Is the Questionnaire on the Creative thinking Ability Questionnaire (CTAQ) a valid and reliable instrument for use in this research study?

Similarity, The results given in Table 6, 7, and 8 shows that on average item means for each of the four CTAQ scales, that they contain ten items, so that the minimum and maximum score possible on each of these scales is 6 and 30, respectively. Because of this difference in the number of items in the four scales; Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales. The average item mean for each scale was calculated so that there is a fair basis for comparison between different scales. These means were used as a basis for constructing the simplified plots of significant differences between forms of the TCAQ were analyzed with Factor Loading [36], Intercorrelation Circumplex Nature [37] scales, Internal Consistency (Cronbach Alpha) Reliability are assessed, respectively.

Factor Loading Analysis for the CTAQ

As reported in Table 6, The CTAQ forms were subjected to separated principal components factor analyses (with varimax rotation) involving educational personnel's scores. The factor structure that emerged replicated, to a large extent. Table 6 list the items which were found to have factor loading greater than 0.30 (which is the minimum value conventionally accepted as meaningful in factor analysis). The results are to confirm with their a priori scales, and hence, the results lend support to the factorial validity of the CTAQ.

Intercorrelation Circumplex Nature Analysis

To investigate the circumplex nature of the CTAQ,

correlations between the scales were calculated. The results are presents in Table 7.

Table 7 reports the CTAQ octant scales' descriptive statistics and reliabilities [44]. As expected, the results show that the correlation between a scale and the next scale in generally is high, and become lower for scales further away from that scale. This is illustrated using each scale in table 3 and 4. In general, the circumplex natures of the CTAQ have been confirmed.

Internal Consistency Cronbach Alpha Coefficient Reliability Analysis

What is Internal Consistency Reliability? If this research study sends out a survey with the questionnaires and designed the questions to measure overall satisfaction. Choices for each question are: Strongly agree/Agree/Neutral/Disagree/Strongly disagree. An informal way to test for internal consistency is just to compare the answers if internal consistency is good or not. A wide variety of statistical tests are available for internal consistency; one of the most widely used is Cronbach's Alpha [45]. Internal consistency (Cronbach alpha coefficient) and the mean correlation of each scale were obtained the sample in this present study as indices of scale reliability for the CTQA. The summary of these values obtained separately for the CTAQ are reported in Table 8.

As reported in Table 8, the reliability coefficients for the different CTAQ ranged from 0.811 to 0.858 that these values as the better (the general rule of thumb is that a Cronbach's alpha of 0.70 and above is good, 0.80 and above is better, and O.90 and above is best [46]. On the whole, these results are acceptable although somewhat.

In Table 8 shows the grand mean or pooled mean is the average of the means of several subsamples, as long as the subsamples have the same number of data points. The mean of these subsample means is then the grand mean ($\overline{X}$) [47]. The grand means ranged from 3.569 (Originality Creative Thinking Ability scale) to 3.628 (Flexibility Creative Thinking Ability scale). In most case, the scale standard deviations (σ = 3.617 - 4.030), the variances (σ^2 = 13.087 - 4.030). An F-test is any statistical test in which the test statistic has an F-distribution under the null hypothesis. It is most often used when comparing statistical models that have been fitted to a data set, in order to identify the model that best fits the population from which the data were sampled [48] and this is perhaps the best-known F-test, and plays an important variability role in the analysis of variance (ANOVA) [49], are significant at the level of .05 (p<.05).

As reported in Figure 7, using R-squared (R^2) is a statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable or variables in a regression model [50]. The determination efficient predictive value (R^2) indicates that of 56% [43] of the 300-educational personnel and the local administrative organizations who are expected and predicted of the goals for their creative thinking abilities in their Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales, respectively.

Overall, these analyses have shown that the CTAQ is a reliable and valid instrument for assessing educational personnel's perceptions of the *Creative Thinking Ability Questionnaire* (CTAQ) in 4 scales for setting the goals for early childhood development to their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs).

In terms of correlation between two variables indicates that changes in one variable are associated with changes in the other variable. However, correlation does not mean that the changes in one variable actually cause the changes in the other variable. Sometimes it is clear that there is a causal relationship [51]. A measure of association quantifies the relationship between exposure and disease among the two groups that the key to epidemiologic analysis is comparison [52]. The R^2 test is used to determine whether an association (or relationship) between 2 categorical variables in a sample is likely to reflect a real association between these 2 variables in the population [53]. The coefficient of determination, denoted R^2 and pronounced "R squared", is a number that indicates the proportion of the variance in the dependent variable (the four QDCS scale) that is predictable from the independent variable (CTAQ). The correlation coefficient is a measure of the degree of linear association between two continuous variables. Association (or relationship) between two variables will be described as strong, weak or none; and the direction of the association may be positive, negative or none [54].

R^2 is the square of the coefficient of multiple correlations. In both such cases, the coefficient of determination normally ranges from 0 to 1. Suppose R^2 = 0.49. This implies that 49% of the variability of the dependent variable has been accounted for, and the remaining 51% of the variability is still unaccounted to quantify the relevance of deviating from a hypothesis [55].

Sample Correlation (r), a statistic that is calculated to determine whether a linear relationship exists between two metric variables and it takes values between -1 and +1 (depending on the degree of the relationship). The correlation is said to be simple when only two variables are studied. A negative value indicates that the variables move in opposite directions and a positive value indicates that they move in the same direction [56].

Multiple Correlations (R), in statistics, the coefficient of multiple correlations is a measure of how well a given variable can be predicted using a linear function of a set of other variables. It is the correlation between the variable's values and the best predictions that can be computed linearly from the predictive variables. The coefficient of multiple correlations takes values between .00 and 1.00; a higher value indicates a high predictability of the dependent variable from the independent variables [57].

Standardized Regression Weight Ability (β), in statistics, standardized (regression) coefficients, also called beta coefficients or beta weights, are the estimates resulting from a regression analysis where the underlying data have been standardized so that the variances of dependent and independent variables are equal to 1. Standardized regression coefficients permit comparisons of predictor–criterion relationships across studies in which the variables have been measured using different units of measure [58].

Research Question 3: What associations are there

between the educational personnel's perceptions of their early childhoods' physical development desirable characteristics standards and their creative thinking abilities toward the CDCs?

Using the grand means of the 24-Creative Thinking Ability Questionnaire (CTAQ) on four scales are the independent variables, and the grand mean of the 10-early childhoods' physical development desirable characteristics' standard is the dependent variable on *Physical Development Characteristics' Standard* (PDCS) scale for the QDCS were associated as reports in Table 9.

As reported in Table 9, the CTAQ creative thinking abilities among four scales were relative significantly to the *Physical Development Characteristics' Standard* (PDCS), when using a simple correlation analysis (r) (p<.05) and standardized regression validity (β) that the variances of dependent and independent variables significant, relatively (p<.05) are predicted. The multiple correlations (R) was 0.811 (p<.05) for measuring of how well a given variable can be predicted using a linear function, relatively. The determination efficient predictive value (R^2) value indicates that 61% of the variances in early childhoods' creative thinking abilities to their physical development characteristics' standard was attributable to their Setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical developments' specifications in the 20-Child Development Centers (CDCs) are tested.

Research Question 4: What associations are there between the educational personnel's perceptions of their early childhoods' emotional development desirable characteristics standards and their creative thinking abilities toward the CDCs?

Similarly in the research question 3, using the grand means of the four scales; Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales are independent variables, and the grand mean of the Emotional Development Characteristics' Standard (EDCS) is dependent variable. Associations between the educational personnel's perceptions of their early childhoods' emotional development desirable characteristics standards and their creative thinking abilities toward the CDCs were assessed as reported in Table 10.

As reported in Table 10, the CTAQ creative thinking abilities among four scales were relative significantly to the *Emotion Development Characteristics' Standard* (PDCS), when using a simple correlation analysis (r) (p<.05) and standardized regression validity (β) that the variances of dependent and independent variables significant, relatively (p<.05) are predicted. The multiple correlations (R) was 0.710 (p<.05) for measuring of how well a given variable can be predicted using a linear function, relatively. The determination efficient predictive value (R^2) value indicates that 51% of the variances in early childhoods' creative thinking abilities to their emotion development characteristics' standard was attributable to their setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical developments' specifications in the 20-Child Development Centers (CDCs) are assessed.

Research Question 5: What associations are there between the educational personnel's perceptions of their early childhoods' social desirable characteristics standards and their fluency creative thinking abilities toward the CDCs?

Similarly in the research question 3, using the grand means of the four scales; Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales are independent variables, and the grand mean of the Emotional Development Characteristics' Standard (EDCS) is dependent variable. Associations between the educational personnel's perceptions of their early childhoods' emotional development desirable characteristics standards and their creative thinking abilities toward the CDCs were assessed as reported in Table 11.

As reported in Table 10, the CTAQ creative thinking abilities among four scales were relative significantly to the *Social Development Characteristics' Standard* (EDCS), when using a simple correlation analysis (r) (p<.05) and standardized regression validity (β) that the variances of dependent and independent variables significant, relatively (p<.05) are predicted. The multiple correlations (R) was 0.637 (p<.05) for measuring of how well a given variable can be predicted using a linear function, relatively. The determination efficient predictive value (R^2) value indicates that 41% of the variances in early childhoods' creative thinking abilities to their social development characteristics' standard was attributable to their setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical developments' specifications in the 20-Child Development Centers (CDCs) are assessed.

Research Question 6: What associations are there between the educational personnel's perceptions of their early childhoods' intelligences desirable characteristics standards and their creative thinking abilities toward the CDCs?

Similarly in the research question 3, using the grand means of the four scales; Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales are independent variables, and the grand mean of the Emotional Development Characteristics' Standard (EDCS) is dependent variable. Associations between the educational personnel's

perceptions of their early childhoods' Development of Intelligence in Cognitive Standard (DICS) and their creative thinking abilities toward the CDCs were assessed as reported in Table 12.

As reported in Table 13, the CTAQ creative thinking abilities among four scales were relative significantly to the *Development of Intelligence in Cognitive Standard (DICS)*, when using a simple correlation analysis (r) (p<.05) and standardized regression validity (β) that the variances of dependent and independent variables significant, relatively (p<.05) are predicted. The multiple correlations (R) was 0.645 (p<.05) for measuring of how well a given variable can be predicted using a linear function, relatively.

The determination efficient predictive value (R^2) value indicates that 42% of the variances in early childhoods' creative thinking abilities to their development characteristics' standard was attributable to their setting the goals for early childhood development of intelligence in cognitive standard (DICS) of their desirable characteristics standards and their creative thinking abilities on physical developments' specifications in the 20-Child Development Centers (CDCs) are assessed.

Conclusions

Designing quantitative method for survey the variables correlation analysis of the local administrative organizations', headman villages', educational CDC committees', children's parents, the CDCs' administers, and teachers' and caregivers' perceptions were administered to a sample size of 300 educational personnel of the 20 Child Development Centers in the Northeastern of Thailand for the setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs) meanwhile the early childhood care and education under the Ministry of Education, the Ministry of Interior, the Ministry of Social Development and Human Security, Ministry of Public Health, Ministry of Culture, Ministry of Labor, Prime Minister's Office, The Institute for Gifted and Innovative Learning, the National Early Childhood Development Committee, the UNESCO Bangkok, and the UNICEF Thailand who promotes breastfeeding newborn baby to 5 year old children, Children Museum and various NGOs are supported and developed the 3,914,717 children whose age 0-5 years-old [60] on four strand and 12 desirable characteristics standards.

There is the Long-Term Policy and strategy for Early Childhood Care and Development (0-5 Age Group) in 2018-2022. The mentioned policy is composed of 3 main strategies. However, some children are still left behind and lack opportunity of receiving the services. Early Childhood Education curriculum set 12 desirable characteristics standards in four strands on physical, emotion, social, and intelligence developments. Designing the learning environments are well-organized and managed settings. They offer developmentally appropriate schedules, lesson plans, and indoor and outdoor chances for choice, play, exploration, and experimentation. Learning environments include age-appropriate equipment, materials, and supplies. They integrate home cultures and are flexible to support the changing ages, interests, and characteristics of a group of children over time. In home-based programs, the learning environment includes the home, community, and group socialization spaces.

Modified the research instruments for associating the perceptions of the educational personnel, local organizing administrators, representative educator committees and children parents, teachers and caregivers in forms of early childhood education curriculum aims to develop all children to have quality and continuous development of physical, emotional, mental, social and intellectual development, and the theory of Oswalt, (2515) to the four scales on 40 items of the Questionnaire on Desirable Characteristics Standard (QDCS), namely; Physical Development Characteristics' Standard (PDCS), Emotional Development Characteristics' Standard (EDCS), Social development Characteristics' Standard (SDCS), and Development of Intelligence in Cognitive Standard (DICS) scales are the dependent variables. Designing the theory of Guilford (1980) and Chantala, Ponkham, and Santibboon (2018) was built the 24-item Creative Thinking Ability Questionnaire (CTAQ) in 4 scales, namely; Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales are the independent variables with the grand mean scores were assessed the six aims research questions. The educational personnel's responses of their perceptions on five options of Likert's scale; Strong Agree (SA), Agree (A), Neutral (Neither Agree nor Disagree) (N), Disagree (D), and Strongly Disagree (SD) (Meanwhile the grand scores of SA = 5, A = 4, N = 3, D = 2, and SD = 1, respectively).

The two research instruments are valid and reliability with the Factor Loading Analysis (each item is greater than 0.30 was omitted), Intercorrelation Circlumplex Nature Analysis (each scale is correlation with the next scales, significantly at the level of .001 (p<.001)), and Internal Consistency (Cronbach alpha) Coefficient is at the better level (α-reliability ranged from 0.80 to 0.89), and the F-tests are significant at the level of .05 (p<.05), it means these two instruments are predicted between the variables, relatively.

In terms of the grand mean score of the 30 educational personnel's responses for the Questionnaire on Desirable Characteristics Standard (QDCS) in four scales, it has found that the grand means ($\overline{X}$) indicate of Physical Development Characteristics' Standard (PDCS) ($\overline{X}$ = 4.180), Emotional Development Characteristics' Standard (EDCS) ($\overline{X}$ = 4.162), Social development Characteristics' Standard (SDCS) ($\overline{X}$ = 4.121), and Development of Intelligence in Cognitive Standard (DICS) ($\overline{X}$ = 3.625), respectively. A statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable or variables in a regression model with the R^2 value indicates that of 69% of the variance from a sample size whose responses for the QDCS.

Focused on the independent variables, the grand mean scores are indicated of Flexibility Creative Thinking Ability

($\overline{X}$ = 3.628), Fluency Creative Thinking Ability ($\overline{X}$ = 3.599), Elaboration Creative Thinking Ability ($\overline{X}$ = 3.574), and Originality Creative Thinking Ability ($\overline{X}$ = 3.569), respectively. These are a somewhat level for the educational personnel's responses of their early childhood to their creative thinking abilities in the 20-Child Development Centers whereas indicate that of 56% of the variance from a sample size whose responses for the CTAQ.

Associations are also important to investigate between the education personnel's perceptions of their Creative Thinking Ability Questionnaire (CTAQ) in 4 scales and their Desirable Characteristics Standard (QDCS) toward Physical Development Characteristics' Standard (PDCS), Emotional Development Characteristics' Standard (EDCS), Social development Characteristics' Standard (SDCS), and Development of Intelligence in Cognitive Standard (DICS) scales were assessed with Simple and Multiple Correlation, Standardized Regress Weight Ability, and Coefficient Determinant Predictive value were analyzed.

The conclusions of the results have found that using the grand mean scores of four scales as Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales are independent variables and for each scale of the QDCS; Physical Development Characteristics' Standard (PDCS), Emotional Development Characteristics' Standard (EDCS), Social development Characteristics' Standard (SDCS), and Development of Intelligence in Cognitive Standard (DICS) scales are dependent variables. The simple correlations or Pearson's correlation coefficient (r value) summarizes the direction and strength of the linear relationship between two quantitative variables into a single QDCS has too strong a relationship is between data. Correlation between sets of data is a measure of the CTAQ and each scale of the QDCS is positive direct well relative, significantly.

In terms of the standardized beta coefficient (β) compares the strength of the effect of each individual independent variable to the dependent variable. It has found that indicates of the higher absolute value of the beta coefficient, the stronger the effect that relative importance of each coefficient in a regression model, significantly.

Focused on the coefficient of multiple correlation (R) takes values between two variables; a higher value indicates a high predictability of the dependent variables (Physical Development Characteristics' Standard (PDCS), Emotional Development Characteristics' Standard (EDCS), Social development Characteristics' Standard (SDCS), and Development of Intelligence in Cognitive Standard (DICS) scales) from the independent variables (the grand mean four scales of the CTAQ) of 0.811, 0.710, 0.637, and 0.645 that the predictions are exactly correct of the independent variables is a better predictor than is the fixed mean of the dependent variable.

An important for this research study, the coefficient of determination, denoted R2, is the proportion of the variance in the dependent variable (each scale of the QDCS) that is predictable from the independent variables (the four scale of the CTAQ). The coefficient of determination predictive values (R2) indicate that of 66%, 51%, 41%, and 42% of the variances in physical development characteristics' standard, emotional development characteristics' standard, social development characteristics' standard, and development of intelligence in cognitive standard for setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs), respectively.

Discussions

One of the major early childhood education problems that stems from a lack of funding and resources is the fact that Thailand educators are underpaid. When teachers are underpaid and feel unvalued, staff turnover can be high. With low pay, ECEs may feel unmotivated or feel that their work is unrewarding. The purpose of early childhood education is to motivate educators and teachers to come-up with game-changing learning activity ideas, exercises, lesson plans, and initiatives that help in the intellectual, physical, mental, social and enthusiastic development of kids in pre-primary and nursery classes before they enter primary schools. Though the role of early childhood educators in society is critical, there are simply not enough resources dedicated towards the child care sector and providing educators with what they need to improve the quality of child care they can provide [61].

Early Childhood Education include the technology implemented to teach can sometimes mislead and misguide kids, few educational institutions maintain the student to teacher ratio inappropriately, which restricts development, lack of proper curriculum, early childhood management strategies and syllabus effects kids, and absence of right teaching and learning methods in early childhood education centers show negative side effects [62]. Early childhood – the first months and years of life – is the most important period of development in a child's life. It is a time of rapid brain development, language, social, emotional, sensory and motor development. It is when the foundation for that development and for lifelong learning is set. With this one-time-only window of opportunity, early childhood development and investment must be a priority of every family and the nation.

In Thailand, many children lack appropriate care and stimulation. A large number of parents, especially fathers, do not engage in learning activities with their young children. Access to children's books – which is crucial for the child's learning and imagination – is limited, especially in the poor households. Although participation in early childhood education makes a huge difference in a child's development, around 15 per cent of children aged 3-5 years are not attending an early childhood education. For those who have received early learning experiences are not receiving the quality services in order to allow them to reach their full potentials.

UNICEF Thailand worked with policy makers across the

Ministry of Education, Ministry of Public Health, Ministry of Interior, and within the National Early Childhood Development Committee on developing the National Early Childhood Development Plan. UNICEF Thailand worked with provincial policymakers to help them better understands children's issues as well as the science of child development and supported children with disabilities, migrant children and children from poor families.

For decades, the ethnically and linguistically diverse people of Northeastern Region, Thailand, have been the subject of pervasive bias, often described as docile and uneducated, or as "unsophisticated peasants" who can be bought and manipulated by ambitious politicians. A major new study from The Asia Foundation, "Thailand's Inequality: Myths and Reality of Northeastern Region", sets aside these prejudices to instead offer a comprehensive understanding of a region deeply in need of development. Data from the National Statistics Office shows that the number of people living below the poverty line in the Northeast has declined substantially. 55% of respondents in this heavily agricultural region said the country is going in the wrong direction, citing a bad economy (74%) and poor crop prices (50%). Overall, low productivity, fluctuating crop prices, stagnant incomes, and rising debt make it harder to live well in Northeastern Region [63].

In the last decade, the early childhood care and education under the Ministry of Education, the Ministry of Interior, the Ministry of Social Development and Human Security, Ministry of Public Health, Ministry of Culture, Ministry of Labor, Prime Minister's Office, The Institute for Gifted and Innovative Learning, the National Early Childhood Development Committee, the UNESCO Bangkok, and the UNICEF Thailand who promotes breastfeeding newborn baby to 5 year old children, Children Museum and various NGOs are supported and developed the 3,914,717 children whose age 0-5 years-old [60] on four strand and 12 desirable characteristics standards with the Child Development Center Manual under the Local Government Organization to set 12 desirable characteristics standards in four strands on physical, emotion, social, and intelligence developments' policy in Early Childhood Education Curriculum 2017.

This research study was modified to make senses using the quantitative research method to assess the six research questions were built with the research instruments; the Questionnaire on Desirable Characteristics Standard (QDCS), namely; Physical Development Characteristics' Standard (PDCS), Emotional Development Characteristics' Standard (EDCS), Social development Characteristics' Standard (SDCS), and Development of Intelligence in Cognitive Standard (DICS) scales are the dependent variables. Designing the theory of Guilford (1980) and Chantala, Ponkham, and Santibboon (2018) was built the 24-item Creative Thinking Ability Questionnaire (CTAQ) in 4 scales, namely; Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales are the independent variables with the grand mean scores for associating the perceptions of the educational personnel, local organizing administrators, representative educator committees and children parents, teachers and caregivers in forms of early childhood education curriculum aims to develop all children to have quality and continuous development of physical, emotional, mental, social and intellectual development were designed with the variable correlation analysis on interference statistic (Santiboon & Fisher, 2005).

The results indicate that of 66%, 51%, 41%, and 42% with the coefficients determinant predictive values (R^2) of the variances in physical development characteristics' standard, emotional development characteristics' standard, social development characteristics' standard, and development of intelligence in cognitive standard for setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs), respectively.

Acknowledgments

Firstly we would like to thank the Local Administrative Organizations, Headman Villages, Children Parents, the CDCs Committees, the CDCs administrators, Teachers and Caregivers in the 20-Child Development Centers in 20 Provinces of the Northeastern who are supported the empirical data for their perceptions' outcomes and giving us the wonderful opportunity to complete our empirical data under their perceptions and responses of our research instruments and sent them back to us via mail, Face Book, and others, these are truly an honor.

Finally, thank you for all the advice, ideas, moral support and patience in guiding us through this research project. Thank you for your enthusiasm for the study of quantitative method.

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8/myths-and-reality-of-isan-inequality

Creative Thinking Ability Questionnaire (CTAQ) in 4 scales, namely;

Originality Creative Thinking Ability (OCTA), Flexibility Creative Thinking Ability (FxCTA), Fluency Creative Thinking Ability (FuCTA), and Elaboration Creative Thinking Ability (ECTA) scales

the QDCS Physical Development Characteristics' Standard (PDCS), *Emotional Development Characteristics' Standard* (EDCS), *Social development Characteristics' Standard* (SDCS), and *Development of Intelligence in Cognitive Standard* (DICS) scales. 4.180, 4.162, 4.121, 3.625

Setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs)

setting the goals for early childhood development of their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications in the Child Development Centers (CDCs)

Figures and Tables:

Table 1. The questionnaire for setting the goals of their desirable characteristics standards for the early childhood development

No.	The questionnaire for setting the goals for early childhood development of their desirable characteristics standards on their physical, emotional, and social developments' specifications in the Child Development Centers (CDCs)	Classification Level				
		SA	A	N	D	SD
1.	A child should be free to choose his/her own play experiences.	5	4	3	2	1
2.	An early childhood is still a time of tremendous physical changes.	5	4	3	2	1
3.	Play experiences should be based on objectives derived from observations of children	5	4	3	2	1
4.	Teachers should plan a range of play experiences from the simple to the complex	5	4	3	2	1
5.	A child uses this developmental knowledge to improve parenting skills.	5	4	3	2	1
6.	A balance of individual and group activities to allow for children's unique learning styles	5	4	3	2	1
7.	Children's body grows with age and enjoys good habits	5	4	3	2	1
8.	Children's bodies change proportions and they start to look more like adults than babies	5	4	3	2	1
9.	Arms and legs stretch to catch up and balance out the head and trunk.	5	4	3	2	1
10.	A child has a big and small muscles are strong, can be used fluently and harmonize	5	4	3	2	1
11.	Children with high levels of emotional intelligence are also skilled in their abilities	5	4	3	2	1
12.	Most children show great gains in each of these developmental skills.	5	4	3	2	1
13.	Children show higher levels of emotional intelligence also have higher rates of self-esteem	5	4	3	2	1
14.	Language can also allow children to better regulate their feelings	5	4	3	2	1
15.	As children's abstract thinking and language skills increase, they become better able to label and discuss their emotions with others.	5	4	3	2	1
16.	The different areas of development are interconnected rather than being separate	5	4	3	2	1
17.	Caregivers' test may not adequately describe and reflect each unique child's gifts and assets.	5	4	3	2	1
18.	Children have a price of good mental health and happiness	5	4	3	2	1
19.	Appreciation and expression in art, music and movement by children	5	4	3	2	1
20.	Children may be having morality, ethics and good mind.	5	4	3	2	1
21.	Children are having life skills and acting according to the philosophy of sufficiency economy.	5	4	3	2	1
22.	Children have characteristics on their love nature, environment, culture and Thai Nationality	5	4	3	2	1
23.	Children must be shown to the coexist with others happily and act as a good member of democratic society with the King as head of state	5	4	3	2	1
24.	Children start to understand on certain emotional cues what another person is feeling.	5	4	3	2	1
25.	Children are able to predict someone's emotional response from the context of the event	5	4	3	2	1
26.	Children may start experiencing the situation as if it were actually happening to them and become distressed	5	4	3	2	1
27.	Learning in early childhood how to appropriately express and deal with anger, aggression, and fear is a valuable life and social skill.	5	4	3	2	1
28.	Children are continuously observing their parents and caregivers.	5	4	3	2	1
29.	Children often need plenty of guidance and positive discipline how to control their anger.	5	4	3	2	1
30.	The best message that parents can communicate is that anger is a perfectly natural emotion	5	4	3	2	1
31.	Children are able to use language suitable for age-appropriate communication	5	4	3	2	1
32.	Children should be had the ability to think that is fundamental to learning	5	4	3	2	1
33.	The imaginations and creativity thinking are built by children	5	4	3	2	1
34.	Children have a good attitude towards learning and ability to seek knowledge, suitable for age	5	4	3	2	1
35.	Intellectual development for a child means the growth of a child's ability to think and reason.	5	4	3	2	1

36.	It is important that parents and caregivers understand their child's current intellectual stage	5	4	3	2	1
37.	Creative ability helps with learning and development by letting children engage in problem solving	5	4	3	2	1
38.	A child can uses complex thinking to focus on less self-centered concepts and personal decision-making	5	4	3	2	1
39.	A child often develops idealistic views on topics, may debate and develop intolerance of opposing views	5	4	3	2	1
40.	Caregivers encourage them to think independently and develop their own ideas and set goals	5	4	3	2	1

Table 2. The Creative Thinking Ability Questionnaire (CTAQ)

No.	The 24-item Creative Thinking Ability Questionnaire (GCTAQ)	Classification Level				
		SA	A	N	D	SD
1.	**Originality Creative Thinking Ability (OCT) scale**					
1.	OCT is the measure of the infrequency of your responses	5	4	3	2	1
2.	OCT is the ability to look beyond obvious solutions and generate novel ideas	5	4	3	2	1
3.	OCT ability to generate a product or idea that is unique or very unusual	5	4	3	2	1
4.	Trying new ways of doing things, and experimenting help develop critical thinking in children	5	4	3	2	1
5.	Children's ability is negatively affected if their solution is not relevant	5	4	3	2	1
6.	Imaginative and creative play is how children learn about the world	5	4	3	2	1
2.	**Flexibility Creative Thinking Ability (FxCT) scale**					
7	FxCT is the ability to generate a variety of ideas and responses across different categories	5	4	3	2	1
8.	FxCT ability is to deliberately generate alternatives when a child satisfied with current ideas	5	4	3	2	1
9.	A child has a high fluency creative thinking to think of many diverse ideas quickly.	5	4	3	2	1
10.	Teachers try to come up with new categories and new list items.	5	4	3	2	1
11.	While generating hydro power would fall into a different one if a list of different uses for water	5	4	3	2	1
12.	A child is generating ideas that are different from each other.	5	4	3	2	1
3.	**Fluency Creative Thinking Ability (FuCTA) scale**					
13.	Write down your ideas as you come up with them.	5	4	3	2	1
14.	Lists are great, but a web/map format can also work.	5	4	3	2	1
15.	Write fast, idea after idea after idea.	5	4	3	2	1
16.	Generate solutions to a regional or world issue	5	4	3	2	1
17.	Working in a group can be valuable	5	4	3	2	1
18.	Generate names for a classroom pet, a team, or alternative titles to a book.	5	4	3	2	1
4.	**Elaboration Creative Thinking Ability (ECTA) scale**					
19.	There is a child has ability to expand on an idea and embellish it with details.	5	4	3	2	1
20.	There is a child is able to have ability to create an intricate plan	5	4	3	2	1
21.	There is a child is able to detail within each idea	5	4	3	2	1
22.	There is a child elaborate leaders tend to be eloquent, expressive and persuasive	5	4	3	2	1
23.	There is a child is able to have ability that put teacher peers and teacher colleagues at-ease	5	4	3	2	1
24.	Children might notice the amount of detail and transparency teachers are willing to provide	5	4	3	2	1

Table 3. The List Names of the 20 Child Development Centers

No.	Name of the CDCs	CDCs' location	CDCs' standards	District	Province
1.	Nong Paen Vilage			Kamalasai	Kalasin
2.	Nong Mueng Temple			Chumhed	Buriram

3.	Non Nong Village			Kantarawichai	Mahasarakham
4.	Hui Thalang Community			Hui Tha Lang	Nakhon Ratchasima
5.	Mueang Roi-Et Municipality			Mueang Roi-Et	Roi-Et
6.	Don Son Village			Mueang	Si Saket
7.	Mueang Sila Municipality			Mueang	Khon Kaen
8.	Meng Village			Mueang	Chaiyabhumi
9.	Nong Hin Village			Nong Hin	Loei
10.	Tha Boh			Tha Boh	Nong Khai
11.	Pak Kad Municipality			Pak Kad	Beung Kan
12.	Kuruku Village			Mueang	Nakhon Phanom
13.	Don Tal Sub-district			Don Tal	Mukdahan
14.	Pa Koh Village			Chanuman	Ammart Chareon

15.	Nong Hi Village			Dej Udom	Ubon Ratchathani
16.	Nong Kan Noi Villege			Loeng Nok Tha	Yasothorn
17.	Nong Boat			Prasart	Surin
18.	Non Sa-Ad Municipality			Sri Boonrueng	Nong Bua Lampoo
19.	Kusumaly Municipality			Kusumaly	Sakhon Nakon
20.	Chaiyaporn Villege			Mueang	Udon Thani

Figure Caption

Figure 4: Sample size for setting the goals of early childhood development to their desirable characteristics standards and their creative thinking abilities on physical, emotional, and social developments' specifications at the 20-Child Development Centers (CDCs)

Source: Photos by research team

Figure 5. Maps of Thailand, Northeastern Region, and the sample Child Development Center

Source: The Udon Thani Local Administrative Organization [34]

Table 3. Factor Loading Analysis for each Item Significant for the QDCS

Factor Loading Analysis for each Item Significant for the QDCS for Principal Component Analysis							
Item	**PDCS**	**Item**	**EDCS**	**Item**	**SDCS**	**Item**	**DICS**
Item 1	.645	Item 11	.658	Item 21	.625	Item 33	.653
Item 2	.686	Item 12	.692	Item 22	.672	Item 32	.605
Item 3	.676	Item 13	.789	Item 23	.643	Item 33	.669
Item 4	.723	Item 14	.781	Item 24	.650	Item 34	.603
Item 5	.603	Item 15	.727	Item 25	.664	Item 35	.645
Item 6	.696	Item 16	.684	Item 26	.673	Item 36	.613
Item 7	.583	Item 17	.646	Item 27	.693	Item 37	.641
Item 8	.737	Item 18	.654	Item 28	.652	Item 38	.760

Item 9 Item 10	.680 .707	Item 19 Item 20	.712 .724	Item 29 Item 30	.669 .594	Item 39 Item 40	.682 .597
%of Variance	45.606	%of Variance	50.166	%of Variance	42.770	%of Variance	42.048
Eigenvalue	4.561	Eigenvalue	5.017	Eigenvalue	4.277	Eigenvalue	4.205

**Loading smaller than 0.30 omitted. The sample consisted of 300 personnel's CDCs group*

Table 4. Intercorrelation Circumplex Nature Analysis for the QDCS

Scale	PDCS	EDCS	SDCS	DICS
PDCS				
EDCS	.824***			
SDCS	.749***	.844***		
DICS	.487***	.460***	462***	

**. Correlation is significant at the 0.05 level (2-tailed).*
***. Correlation is significant at the 0.01 level (2-tailed).*
****. Correlation is significant at the 0.001 level (2-tailed).*

Table 5. Item Mean, Scale Average Mean, Standard Deviation, Variance, Cronbach Alpha Reliability, and F-test for the QDCS

Scale	Item Mean	Grand Mean	Standard Deviation	Variance	α-Relia.	F-test
PDCS	41.800	4.180	5.319	28.294	0.866	4.121***
EDCS	41.623	4.162	5.556	30.878	0.888	4.550***
SDCS	41.207	4.121	5.143	26.452	0.851	49.939***
DICS	36.250	3.625	5.719	32.710	0.845	2.316**

*N=300, *ρ<.05, **ρ<.01, ***ρ<.001*

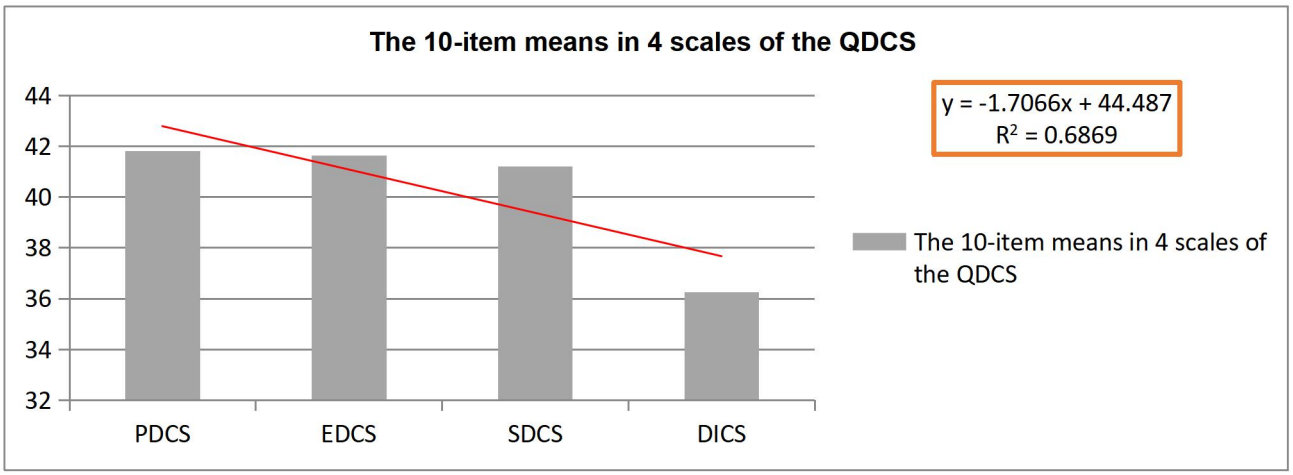

Figure 6. Significant differences between the educational personnel committees' perceptions in the 20-CDCs scores on the QDCS

Table 6. Factor Loading Analysis for each Item Significant for the CTAQ

Factor Loading Analysis for each Item Significant for the CTAQ for Principal Component Analysis							
Item	OCTA	Item	FxCTA	Item	FuCTA	Item	ECTA
Item 1	.751	Item 7	.605	Item 13	.733	Item 19	.708
Item 2	.700	Item 8	.755	Item 14	.815	Item 20	.760
Item 3	.757	Item 9	.807	Item 15	.760	Item 21	.817
Item 4	.726	Item 10	.721	Item 16	.747	Item 22	.771
Item 5	.694	Item 11	.704	Item 17	.747	Item 23	.767
Item 6	.697	Item 12	.706	Item 18	.708	Item 24	.767
%of Variance	52.040	%of Variance	51.670	%of Variance	56.618	%of Variance	58.635
Eigenvalue	3.122	Eigenvalue	3.100	Eigenvalue	3.397	Eigenvalue	3.518

**Loading smaller than 0.30 omitted. The sample consisted of 300 personnel's CDCs group*

Table 7. Intercorrelation Circumplex Nature Analysis for the CTAQ

Scale	OCTA	FxCTA	FuCTA	ECTA
OCTA		0.676***	0.664***	0.631***
FxCTA			0.665***	0.614***
FuCTA				0.722***
ECTA				

**. Correlation is significant at the 0.05 level (2-tailed).*
***. Correlation is significant at the 0.01 level (2-tailed).*
****. Correlation is significant at the 0.001 level (2-tailed).*

Table 8. Item Mean, Scale Average Mean, Standard Deviation, Variance, Cronbach Alpha Reliability, and F-test for the CTAQ

Scale	Item Mean	Grand Mean	Standard Deviation	Variance	α-Relia.	F-test
OCTA	21.417	3.569	3.617	13.087	0.815	1.317
FxCTA	21.770	3.628	3.622	13.121	0.811	3.768**
FuCTA	21.597	3.599	3.889	15.131	0.846	1.925*
ECTA	21.443	3.574	4.030	16.241	0.858	2.316**

*N=300, *ρ<.05, **ρ<.01, ***ρ<.001*

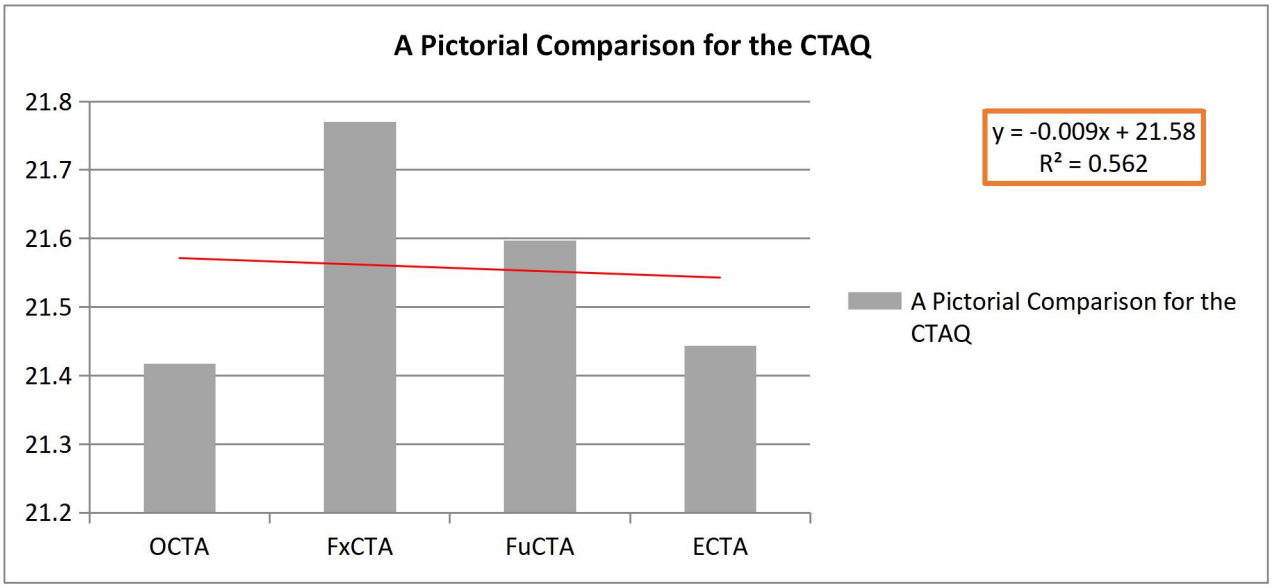

Figure 7. Significant differences between the educational personnel committees' perceptions in the 20-CDCs scores for the CTAQ

Table 9. Associations between the Educational Personnel's Perceptions of the PDCS Scale and the 4-CTAQ Scales with Simple and Multiple Correlations, Standardized Regression Weigh, and Determination Coefficient Predictive Value

Scale	Grand mean	Simple correlation (r)	Standardized regression weigh abilities (β)
Originality Creative Thinking Ability (OCTA)	3.569	0.474***	0.223***
Flexibility Creative Thinking Ability (FxCTA)	3.628	0.442***	0.201**
Fluency Creative Thinking Ability (FuCTA)	3.599	0.428***	0.202**
Elaboration Creative Thinking Ability (ECTA)	3.574	0.415***	0.212***
Physical Development Characteristics' Standard (PDCS)	4.180		
Multiple Correlation (R)		0.811***	
Determination Coefficient Predictive Value (R^2)		0.661***	

*N = 300, *ρ < 0.05, **ρ < 0.01, ***ρ < 0.001*

Table 10. Associations between the Educational Personnel's Perceptions of the EDCS Scale and the 4-CTAQ Scales with Simple and Multiple Correlations, Standardized Regression Weigh, and Determination Coefficient Predictive Value

Scale	Grand mean	Simple correlation (r)	Standardized regression weigh abilities (β)
Originality Creative Thinking Ability (OCTA)	3.569	0.373**	0.215**
Flexibility Creative Thinking Ability (FxCTA)	3.628	0.371**	0.207**
Fluency Creative Thinking Ability (FuCTA)	3.599	0.333*	0.202*
Elaboration Creative Thinking Ability (ECTA)	3.574	0.312*	0.207**
Emotional Development Characteristics' Standard (EDCS)	4.162		
Multiple Correlation (R)		0.710**	
Determination Coefficient Predictive Value (R^2)		0.505**	

*N = 300, *ρ < 0.05, **ρ < 0.01, ***ρ < 0.001*

Table 11. Associations between the Educational Personnel's Perceptions of the SDCS Scale and the 4-CTAQ Scales with Simple and Multiple Correlations, Standardized Regression Weigh, and Determination Coefficient Predictive Value

Scale	Grand mean	Simple correlation (r)	Standardized regression weigh abilities (β)
Originality Creative Thinking Ability (OCTA)	3.569	0.294*	.181*
Flexibility Creative Thinking Ability (FxCTA)	3.628	0.280*	.132*
Fluency Creative Thinking Ability (FuCTA)	3.599	0.294*	.219*
Elaboration Creative Thinking Ability (ECTA)	3.574	0.217*	.239*
Social development Characteristics' Standard (SDCS)	4.121		
Multiple Correlation (R)		0.637*	
Determination Coefficient Predictive Value (R^2)		0.406*	

*N = 300, *ρ < 0.05, **ρ < 0.01, ***ρ < 0.001*

Table 12. Associations between the Educational Personnel's Perceptions of the DICS Scale and the 4-CTAQ Scales with Simple and Multiple Correlations, Standardized Regression Weigh, and Determination Coefficient Predictive Value

Scale	Grand mean	Simple correlation (r)	Standardized regression weigh abilities (β)
Originality Creative Thinking Ability (OCTA)	3.569	.209*	.149*
Flexibility Creative Thinking Ability (FxCTA)	3.628	.256*	.133*
Fluency Creative Thinking Ability (FuCTA)	3.599	.319**	.292**
Elaboration Creative Thinking Ability (ECTA)	3.574	.234*	.215**
Development of Intelligence in Cognitive Standard (DICS)	3.625		
Multiple Correlation (R)		0.645*	
Determination Coefficient Predictive Value (R^2)		0.416*	

*N = 300, *ρ < 0.05, **ρ < 0.01, ***ρ < 0.001*