
Advances in
**Social Science,
Education
and Humanities
Research**

Series: [Advances in Social Science, Education and Humanities Research](#)

Proceedings of the 3rd International Conference on Early Childhood Education (ICECE 2016)

[HOME](#)

[PREFACE](#)

[ARTICLES](#)

[AUTHORS](#)

[ORGANIZERS](#)

[PUBLISHING INFORMATION](#)



[PREVIOUS VOLUME IN SERIES](#)

[NEXT VOLUME IN SERIES](#)



Early Childhood Education (ECE) has been developing. Currently, there are various theories and practices of ECE. Each of them reflects different epistemological and philosophical framework. Within each theory and practice, there also lies power relation. Some practices and theories dominate and become a regime of truth in ECE while other theories and practices are marginalised. The practice of ECE also has become part of a daily routine that sometimes ECE teachers, practitioners and academics overlook to critically question it. This conference aims to provide a space for teachers, practitioners and academics to rethink about theories that shape their teaching practices in ECE setting and possibly engaged in a process of evaluating those practices. It is expected that throughout the conference, different theories and practices of ECE will communicate and negotiate with each other. It is our hope that each theory can help us to understand children, childhood and ECE better.

Please click [here](#) for the conference website. *(Conference website no longer available.)*

Series: [Advances in Social Science, Education and Humanities Research](#)

Proceedings of the 3rd International Conference on Early Childhood Education (ICECE 2016)

< PREVIOUS ARTICLE IN VOLUME

NEXT ARTICLE IN VOLUME >

The Overview of Training Needs on Differentiated Instruction for Early Childhood Teachers

Authors

Suryatni Handayani, Aniva Kartika, Srisiuni Sugoto

Corresponding Author

Suryatni Handayani

Available Online November 2016.

DOI

[10.2991/icece-16.2017.13](#) [How to use a DOI?](#)

Keywords

Teacher training needs, Differentiated Instruction, Kindergarten

HOME

PREFACE

ARTICLES

AUTHORS

ORGANIZERS

PUBLISHING INFORMATION

Series: [Advances in Social Science, Education and Humanities Research](#)

Proceedings of the 3rd International Conference on Early Childhood Education (ICECE 2016)

overview training

+ [Advanced search](#)

SEARCH

2 articles

Proceedings Article

The Overview of Training Needs on Differentiated Instruction for Early Childhood Teachers

Suryatni Handayani, Aniva Kartika, Srisiuni Sugoto

How a kindergarten teacher can make the all of the students grasp the learning materials and remain enthusiastic even though they have varied ability and diverse background, is a classic problem faced by many teachers, including early childhood teachers. It appeared that teachers had problems in adjusting..

+ [Article details](#)

+ [Download article \(PDF\)](#)

HOME

PREFACE

ARTICLES

AUTHORS

ORGANIZERS

PUBLISHING INFORMATION

The Overview of Training Needs on Differentiated Instruction for Early Childhood Teachers

Suryatni Handayani, Aniva Kartika, Srisiuni Sugoto

Faculty of Psychology, University of Surabaya, Jl. Raya Kalirungkut Tenggilis, Surabaya, Indonesia

Corresponding e-mail: aniva@staff.ubaya.ac.id

Abstract

How a kindergarten teacher can make the all of the students grasp the learning materials and remain enthusiastic even though they have varied ability and diverse background, is a classic problem faced by many teachers, including early childhood teachers. It appeared that teachers had problems in adjusting instruction that is able to fulfill the educational need of all pupils with varying abilities. The impact of teacher inability to differentiate instruction was especially for 'less able' students. They did not understand the lesson. A previous study revealed that some of kindergarten teachers use teacher-directed approach and didactic teaching. Early childhood educator expert noted that preschool classes and kindergartens have begun to look more like traditional 1st grade classes: young children are expected to sit quietly while they listen to whole-class instruction. Differentiated instruction is the process of identifying students' individual learning strengths, needs, and interests and adapting lessons to match them. However, in applying differentiated instructions is not as easy as it seems. Therefore, before implementing differentiated instructions, a training need analysis should be conducted to regards teachers' current ability. The purpose of this study was to describe the kindergarten teachers' perspectives of their training needs on differentiated instruction. A kindergarten school which used the Beyond Centre and Circle Time (BCCT) approach was chosen as the venue for this study. A qualitative study with in-depth interview was conducted with early childhood teachers and headmaster as the participants. The data from interview was analysed using thematic analysis. The results revealed that teachers tended to differentiate the activities and teaching aids, however they hardly set different learning goals for varied ability, and rarely structured the lesson in a particular way to accommodate student differences. Teachers tried to vary the method and seating arrangement. Meanwhile, the tasks weren't modified to accommodate students with additional learning needs. The suggestion for future differentiated instruction training will be developed based on teachers' needs.

Keywords: Teacher training needs, Differentiated Instruction, Kindergarten

1 INTRODUCTION

A statement that says "teaching in a developmentally appropriate way is more demanding than traditional, lecture-driven teaching" is agreeable among early childhood educators. Elkind (2001) argues that developmentally-appropriate teaching requires more effort from teachers, since it demands more individualized instruction to suits children's need. Meanwhile Magnuson (2011) says that children learn better when they use their senses. The four primary senses, or modalities, to process information are the visual, auditory, tactile, and kinesthetic senses. Some children learn better using one of the

senses than the others, and are stronger in some subjects than they are at others. Moreover, students have different talents, strengths, and intelligences in one or more of eight primary subjects (verbal/linguistic, visual/spatial, logical/mathematical, bodily/kinesthetic, naturalist, musical, interpersonal, and intrapersonal). Each of the students has varied mix of these strengths and preferences. While facing varied condition of the children, how should teachers respond to such situation? She explains further that while it is easier and more natural for teacher to apply traditional approach and feeding them information, she claims that children need differentiated instruction. Subban

(2007) supporting this opinion while reminds that it is dangerous for teachers to "teach for the middle". If teacher tend to ignore students' differences, some students might fall behind, lose motivation and fail to succeed.

Differentiated instruction is defined as the process of identifying students' individual learning strengths, needs, and interests therefore lessons might be adapted to match them. This notion has become a widespread approach to helping diverse students achieving learning goals. Tomlinson & Eidson (2003) make an analogy of differentiated instruction as parenting approach. Parents might treat each child differently in order for them to be able reach the same goals. For toddlers, he / she needs a lot of encouragement and protection in order to dare to walk, while others might be only need to be monitored from afar by his/her parent.

Differentiation has similarity with many other instructional models: such as to response-to-intervention models, when teachers vary their approach to the same material with different students in the same classroom. It has also been compared to data-driven instruction, as individual students are frequently assessed or otherwise monitored, to improve students' learning; and scaffolding, as assignments are structured in such way to assist children with different ability and interest achieve the same learning objectives (Sparks, 2015).

Several research on differentiated instruction show significant effects on students' learning and their learning achievement. Subban (2007) explains that differentiation instruction or differentiation on teaching plan and delivering methods, are able to stimulate students' motivation to learn. On the other hands, in applying differentiation instruction, teachers also get the benefit, i.e. more satisfaction in teaching since there is enhancement in students' learning motivation.

In early childhood education, teacher is the sole actor. Therefore, she or he has to be equipped with several approach in teaching including differentiating instruction. Meanwhile, teachers often complained that differentiating instruction is difficult for them to apply, as Delisle (2015) boldly said that differentiation doesn't work. The reason of difficulties in applying differentiating instruction is that teachers show more willingness to make adaptations directed toward all students and less intent to use differentiated instruction. (Wertheim & Leisser, 2002).

There is an opinion stated that differentiated instruction works in early childhood educations (Tomlinson, 2015), however, according to Delisle

(2015), it is hard to instigate this approach. Delisle (2015) quotes the 2008 report by the Fordham Institute, reported that 83% of teachers nationwide said that differentiation was difficult to implement. This report also cited that 71% teachers prefers on homogeneous grouping of advanced students, while 77% of teachers said that, it is a disadvantage when advanced students are paired with lower-achieving students for group assignments, because students with lower ability will depend on the advanced students in completing the tasks. Nevertheless, the field of education is filled with varied and often conflicting definitions of what the practice looks like, and critics argue it requires too much training and additional work for teachers to implement a teaching approach (such as differentiated instruction) consistently and effectively.

Differentiating instruction is inevitable, but as stated earlier, teachers are often reluctant to (sustainably) apply it. As what was said by McCarthy (2015) that starting to implement differentiated instruction (DI) is vague at first. He said that a lot of educational philosophies that offer instant strategies without understanding the learning problem comprehensively. It causes rejection of the DI on the grounds that the DI failed to solve the problem of children's learning.

McCarthy answered that in such condition, teacher should look inside their classroom. There are mixtures of skills, personalities, and paces for developing understanding, in the classroom. Teachers deal with this diversity every day. In fact, at the beginning of any school year, teachers can guarantee that their students will not be comprised of students sharing the same skill levels, they do not think alike either. Facing this condition, even though not intentionall, usually teacher do differentiate instruction instinctively.

There are several strategies in applying differentiated instruction, such as the one suggested by Cox (2016) i.e. learning center. Learning centers are defined as stations which contain a variety of materials where students can explore topics or practice skills on their own. The nature of learning materials are flexible, and can address many learners' needs. With a few modifications, they will fulfill function to differentiate instruction. Teachers can create learning stations with different levels of complexity or for various subject areas, as in this research, the learning centers are based in multiple intelligence. Learning centers extend the chance for teachers to expose the same information in a variety of diverse ways that involve all students. Whenever the teacher presents information that occupies all

modalities, it increases the opportunities that he or she will deliver the materials according to students learning needs.

One of learning center approach to differentiate instruction is BCCT. BCCT, which is also known as Beyond Center and Circle Times, is an approach to early childhood education that is associated with the center for Childhood Research and Training in Florida (Newberry, 2012). The BCCT approach to applying differentiated instruction is widely spread in Indonesia. Newberry (2012) researched on application of BCCT, and it revealed that in BCCT, the early childhood education in Indonesia using a curriculum which is called 'generic menu' that served as guideline for each district or even each school, to developed its own curriculum. Therefore this 'generic curriculum' is taught as more flexible curriculum which allows teacher to develop the learning goals, materials, strategies and evaluation according to varied needs of the students.

XYZ Kindergarten school, which was being studied, was a school that applies BCCT and differentiated instruction in early childhood education. The preliminary survey found that the differentiated instruction in the school only focused on differentiated method and teaching aids. Teachers acknowledge the source of this problem because of their limited knowledge on differentiated instruction. A training in the area is needed so that teachers will be able to do their job, especially when they are required to differentiate the instruction (Flora, 2009). In order to be able fulfilling its goal, a training should consider teachers' needs and the training should be able to answer practical problem in the field. Training need analysis might be conducted so that the training will enable teachers' skills in differentiated instruction. In conducting the training need analysis, one needs to understand how teachers' comprehension and practice of differentiating the instruction are. After comparing the gap between the ideal condition and teacher's factual knowledge / skills in differentiated instruction, researcher may develop training modules that fits into teacher needs. The aim of this study are to describe teachers views in differentiated instruction, the practice of differentiated instruction in early childhood education (from planning to evaluation) and the obstacles that teachers confront in applying differentiated instruction.

2 METHODS

Five kindergarten teachers from XYZ kindergarten school that uses the Beyond Centre and Circle Time

(BCCT) approach, were the participants of this study. Each of them had their own responsibilities for the learning centers, namely: Nature Smart, Logic Smart, Word Smart, Body Smart and Picture Smart Learning Centers. The differentiated instruction are implemented in this school through the activities in the centers. The gender of teacher participants were four females and one male. The educational backgrounds of the teachers were bachelor degrees in teacher training or in psychology. Only one teacher had educational background in early childhood education. Two of five teachers had already attended training or workshop in Beyond Centre and Circle Time curriculum. The principal was also interviewed and her information was used as triangulation data.

Data was gathered through interviews. The interview guide provides topics or subject areas within which the interviewer is free to explore, probe, and ask questions related to differentiating instruction in kindergarten. The interviews focused on the general questions on how teacher views differentiating instruction in kindergarten, the practice of differentiating the instruction during planning, teaching and evaluating phase, and what the constraints in implementing the instructional differentiation. The interview guide was modified from Subban and Round's observational checklist of differentiated instruction (2015).

A thematic analysis method (Braun & Clarke, 2006) was used in this case study. Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. According to Braun & Clarke, there are several phase in doing the analysis, i.e. familiarising with the data (by reading the data in an active way - searching for meanings, patterns, marking ideas for coding, and transcribing the data), generating initial codes (coding will to some extent depend on the themes which are "theory-driven") searching for themes, reviewing themes, defining and naming themes and the last phase is producing the report.

3 RESULTS

This section features describe teacher views and practices on differentiating instruction. The practices of differentiating instruction is divided into three phases similar with teaching activities: planning, implementing and evaluating. The results also describe teachers' obstacles in differentiating instruction for kindergarten students.

3.1 Teachers' views on differentiating instruction

Teachers tend to have similar perception or views on the definition of differentiated instruction. Most of the teachers they say that differentiated instruction is the variety of instructional arrangement in teaching. These views are different from the definition of differentiated instruction, explained by Tomlinson (2003), as follows, differentiated instruction is a philosophy of teaching and learning that recognizes and responds to student differences in readiness, interests, and learner profiles. However, only one teacher who said differentiated instruction means developing lesson planning with regards to varied of methods so it will accommodate students' learning needs. Furthermore, Tomlinson explains that teachers who practice differentiated instruction usually plan, teach, and arrange the classroom environment to accommodate each child's unique needs and interests.

In the other hands, teachers also have their differences in defining differentiated instruction, as follows:

"I guess the differentiation is focused on the methods and resources being used in teaching" (teacher A)

"The variation in teaching..... given to children by different learning center" (teacher C)

"....teaching should be adapted to children's characteristic such as learning style and multiple intelligence" (teacher B)

Only one teacher thought that differentiated instruction should consider the variety of students' background. Mostly teacher perceived differentiated instruction as a tool, a delivering method. This notion is similar with the result of Wu & Chang's study (2014) that teacher possess some misconceptions of differentiated instruction; for example, teacher think differentiated instruction is one kind of "instructional strategy or method", which is similar to other instructional strategies.

Related to the advantage of differentiated instruction, all of the teachers said that differentiated instruction benefited the children, as stated by examples below:

"Differentiated instruction will be beneficial for children in early childhood their development are varied.... so that teacher can stimulate their development" (teacher D)

".....is helpful because it can accommodate the varied childrens' learning needs" (teacher B).

Efforts of teachers to stimulate early childhood development can be done through scaffolding. Scaffolding would be an appropriate strategy to access the zone of proximal behaviour (Riddle and Dabbagh, 1999). Teacher can apply scaffolding by first, know the baseline and variety of student previous knowledge, and secondly, establishing goals and strategies to reach the goals, step by step. In other words, teachers would re-engage student interest and modify tasks to suit ability levels (Hausfather, 1999).

3.2 The practice of differentiation in lesson planning

Although teachers have already know the benefit of differentiated instruction, but still their teaching practice suggest otherwise. In general, the data showed that they hardly set different learning goals for varied ability, and rarely structured the lesson in a particular way to accommodate student differences. Chances are, this is due to their lack of understanding of the differentiated instruction.

The results show that task of designing and implementing learning is the responsibility of teachers in each center. Steps of how the teachers prepare the lesson plans are as follows: teachers plan learning activities in accordance with the theme, and determine the materials and props that correspond to the lesson plan. Moreover, there is no differentiation of instruction on learning objectives. Teachers make the same learning goals for all students by grade level, as said by teacher E below:

".... the objectives differentiated by grade / age levels but not distinguished by the level of students' proficiency or previous knowledge".;

Presumably because the teachers have misconceptions of differentiated instruction, in turns, this lack of proper understanding of the concept will affect how teacher prepare lesson plan. This is in accordance with the opinion of Nikolae (2014). She stated that what teachers' beliefs towards

differentiated instruction would be translated into daily activities, instructional procedures and classroom interactions. Teacher perceived differentiated instruction as a variation method or learning activity. So in planning the lesson, they only differentiate methods / strategies of teaching and the props or teaching media.

In addition, the results of the data shows that the planning and implementation of learning located in becoming the responsibility of the teacher in each learning center, so the lesson plan become less integrated. Another teacher (teacher A) states that she made only activities based on the theme alone, she only varied the lesson based on students' grade level. Variations of students' ability, previous knowledge, learning styles, and others, are not considered in the lesson planning. It is contrary to the opinion of Tomlinson (1999) on how instruction should be differentiated. She stated that in differentiating the instruction, one must acknowledged that students vary in readiness, interest, and learning profile. Readiness is a student's entry point relative to a particular understanding or skill.

Student's variety of background should be assessed before making the lesson plan. As said by Moon (2005) that foundation of differentiated instruction and effective teaching is the use of valid and reliable assessments. The data from assessments give information to teachers about what students know and what they need to learn. It allows teachers to understand the variability within their classrooms and then, to devise targeted instruction for students with varied ability.

3.3 The practice of differentiation in the teaching process

How should differentiated instruction be done? Tomlinson (1999a) explains, after considering students readiness, teachers might adapt one or more of the curricular elements (including its' content, process, products) based on one or more of the student characteristics (readiness, interest, learning profile) at any point in a lesson or unit.

On the other hands, the data revealed that teachers indeed differentiate the instruction, but it was limited to differentiating the activities and teaching aids only. Teachers try to vary the method and seating arrangement, according to the learning center in which they teach. Different activities or methods correspond to the levels of students' ages /

grade levels only, not according to level of ability of children in one class, for example: there are different learning activities between class of 4-5 years olds and 5-6 years old, as explained by Teacher C. Teachers E adds that, teachers still do variety of learning activities, i.e. activities are distinguished based on the learning centers.

Kagan (1992) said that teacher belief is defined as an assumptions about students, classrooms, and the academic material to be taught. Since teachers' belief of the differentiation of instruction is not quite right, then the teaching practices are becoming less relevant. It is in line with Korthagen & Kessels' (1999) explanation that there is a relationship between teacher cognition and teacher behavior.

3.4 The practice of differentiation in the evaluation process

The results reveals that teacher evaluation methods are actually quite diverse, with paper and pencil tasks, observation, question and answer, and portfolio. However, because the purpose of learning and the tasks weren't modified to accommodate students' learning needs, basically all students in the same class get the same activities and undergone the same evaluation process. As 'teacher A' disclosed that there is no distinction or variation of tasks, there was just a different explanation, for example for disadvantaged children and he/she will get individual explanation or remedial instruction until he/she understands the topic being taught. The other teachers also said the similar notion that there is not any differentiation of evaluation for students in the same class.

Related with the evaluation process, Moon (2005) commented that, in addition to using assessment instruments, teachers should assess students informally through observations and monitoring in the day-to-day teaching and individual activities of the classroom. Teachers who assess their students regularly are readily able to change instruction and vary grouping configurations to meet children's needs.

3.5 Obstacles in differentiating instruction

The data showed that the teachers do not understand how to differentiate instruction, especially how to begin, by assessing the diversity of pupils to then create lesson plans accordingly. Differentiated instruction in the classroom refers to teachers' use

of research-based assessment procedures and instructional strategies to cater to the differing skill needs of students' previous knowledge and condition. In delivering an effective differentiated instruction, it is necessary for teachers to have an understanding of how students acquire or construct their knowledge, for example how reading and writing develops. Attaining that understanding, however, is frequently a problem (Arrow, McLachlan, Greaney, 2015)

The factor that often aggravate teachers' difficulty in differentiate the instruction is a lack of mapping the strengths and weaknesses of students. Eventhough the teacher know that it should be done, but she did not do it. Teacher B said that:

"...it is difficult.... we do not assess students' strenghs and weaknessess.... do not assess the initial understanding/knowledge, intellectual potential, to their learning style"

Differentiation of instruction approach most often mentioned is the Tomlinson's approach. This approach asks teachers to assess individual students' needs in four areas of content, process, product, and learning environment-and to customize materials and activities to match these needs. Some educators, however, see it as a technique that requires a lot of preparation, and burdensome administrative works for teachers As a result, these practices lead to confusion, even controversy (Pappano, 2011).

How much differentiation is possible? Tomlinson (1999a) answered that teachers may adapt one or more of the curricular components (content, process, products) based on one or more of the student characteristics (readiness, interest, learning profile) at any point in a lesson or unit. Differentiating instruction does not mean that teacher has to differentiate all elements in all possible ways. Most of the times, effective differentiated classrooms are just the "usual" whole-class, nondifferentiated instruction. Teacher should modify a curricular element only when he/she see a student need it, and secondly, when he/she is convinced that modification increases the probability that the student will understand important ideas and use important skills more comprehensively, as a result.

In addition, teachers also are unsure whether the differentiation that they are doing is correct or not, as expressed by teachers D. Teachers become less confident in their abilities, so that they feel

cautious to apply this differentiation. Teacher's efficacy is important to create good learning, since teacher efficacy is a way to explain teacher willingness to do innovation in their classroom, including differentiating the instruction.

Dixon, Ysel, McConnell & Hardin (2014) found that a higher number of professional development hours in differentiated instruction was positively related with both teacher efficacy and the teacher's sense of efficacy beliefs. Their research result demonstrated that teacher efficacy is an important dimension in implementing the process of differentiation.

On the other hand, there are the demands of parents and the community so that students who graduated kindergarten already know how to read, write and calculate. This phenomenon is not only happened in Indonesia, it also happened in the USA as well. As stated by Goldstein (2007) that kindergarten teachers have to manage the expectations of their students' parents, and responding to the demands of the first grade teachers at the primary schools. Responding to this circumstance, Willis (1993) stated that, early childhood experts are promoting developmentally appropriate practice in response to a phenomenon called the "escalated" or "pushed-down" curriculum. Over the past few decades, according to Willis, preschool classes and kindergartens have begun to look more like traditional 1st grade classes: young students are expected to sit quietly while they listen to whole-class instruction or fill in worksheets. Synchronously, teachers have been expecting their pupils to know more and more when they first enter their classrooms.

Teaching experience is also less affecting factor toward the implementation of differentiated instruction, sice the data revels that all teachers simply apply differentiated instruction in piecemeal, regardless of their teaching experience. This result differs from the findings of Machu's (2015) which the main finding of the study was the fact that teachers with teaching practice longer than 10 years, show higher level of application of differentiated instructions.

4 DISCUSSIONS AND IMPLICATIONS

The result suggests that teachers has inappropriate knowledge of differntited instruction and tend to

perceive it as “just a tool of delivering method”. Regarding this condition, Nikolae (2014) explains that teachers’ misinterpretations of the difficulties of differentiated instruction, need to be removed so they can develop a clear understanding of the key functions in a differentiated classroom.

Although learning centers is good for differentiating instruction, but if it is not carried out properly eventually the goal of differentiated instruction was less reached. Many teachers of young children use learning centers to individualize instruction and to allow pupils some choice and control over their learning. Barbara Day, who is a Past President of ASCD, Association for Supervision and Curriculum Development, (Willis, 1993) said that “Learning centers are designed to give an experiential approach and to provide for student differences”.

As teachers have good self efficacy about their ability to teach students effectively, they are more likely to differentiate. The instructional environment, including the physical organisation of furniture would be structured to promote interaction (Riddle and Dabbagh, 1999). Moreover, the teacher will design the lesson that the instruction will scaffold the students, will extend them to just above the student’s current developmental level, constructing on that which the student already knows, but encouraging the student to move ahead into areas where the event happened.

Dixon, Ysel, McConnell & Hardin (2014) suggest that if schools have a confidence in differentiation, they should offer practice in differentiation through training or workshops that allow teachers to write leveled or tiered lessons together. A necessary follow-up to the writing lessons stage is the time to observe each other actually implementing a differentiated task in the classroom. Feedback about the lesson observed is helpful in a teacher’s development of efficacy to continue the practice. Dixon et al. believe that differentiation is a logical and practical way to meet students’ learning needs in an inclusive classroom, and these steps are helpful in enabling teachers to grasp that objectives. Although differentiation is a complex process, in that students are doing different tasks based on a central concept, it relies on skillful teachers to plan and apply diverse levels of the same concept at the same time. Their study indicated that teacher efficacy and professional development were important to teachers in the process of differentiating instruction. Therefore, it is necessary to supply teachers with adequate knowledge and skills of differentiated instruction through workshop.

The professional development program/ consisted of research-based instructional practices designed to complement the core curriculum and scaffold learning. The format included professional development or a work/job, individualized consultation, and community of practice meetings. The results showed that the intervention led to measurable improvements in both the overall quality of teachers’ teaching practices (Buysse, Castro, Peisner-Feinberg, 2010).

In developing the ability of teachers to differentiate instruction, especially for students with special needs, a needs analysis should be done (Rachmawati, et.al. 2016). Teacher competencies usually contains three dimensions: (1) Readiness to operate the differentiated instruction (2) Understanding on large difference of student’s interest; and (3) Decision on the learning method based on student’s learning profile. The assessment needed among students was developed by observation form that will be used by teachers to evaluate their students. This form contained the evaluation of student’s readiness to receive differentiated instruction in learning process, the evaluations of student’s interests, and the evaluation of student’s learning style, based on Gardner’s multiple intelligences theory.

After receiving the professional development program, teachers will gradually become familiar with differentiated curriculum or instruction, as well as understanding how to design differentiated instruction within the thematic integrated curriculum. (Wu & Chang, 2014). Nikolae (2014) stated that the results of all consulted studies indicate the positive impact of the differentiated approach to teaching and learning in the diverse classroom, and, nevertheless, requires an emergent need for the improvement of teachers’ knowledge and skills. This study highlights the necessity of mapping teachers’ educational needs in the field of differentiated instruction and demands an appropriate approach by adapting teacher training programs in order to train teachers’ self-efficiency in differentiated educational practices. This in accordance with Machu’s result (2014). Machu show that teachers who have good knowledge, show higher level of application of differentiated instructions.

As concluded by Tomlinson (1999b) that every journey begin with a single step, so the passage to successfully differentiated classrooms will only succeed if we cautiously take the first step, that is safeguarding a foundation of best-practice curriculum and instruction. Therefore, in preparing

teachers' skills in differentiating instruction start with the appropriate teacher training need analysis in the area.

5 REFERENCES

- Arrow, A.W., McLachlan, C.J., Greaney, K.T. (2015) Teacher Knowledge Needed for Differentiated Early Reading Instruction, in *Excellence and Equity in Literacy Education: The Case of New Zealand*, Tunmer, W.E, Chapman, J.W. (Eds). New York: Palgrave-MacMillan
- Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2). pp. 77-101.
- Buyse, V, Castro, D.C., Peisner-Feinberg, E. (2010). Effects of a professional development program on classroom practices and outcomes for Latino dual language learners, *Early Childhood Research Quarterly*, vol. 25, pp: 194-206
- Cox, J. (2016) *Implementing Differentiated Instruction Strategies*, downloaded from <http://www.teachhub.com/top-ways-implement-differentiated-instruction-strategies>
- Delisle, J.R. (2015) *Differentiation Doesn't Work*, downloaded from <http://www.edweek.org/ew/articles/2015/01/07/differentiation-doesnt-work.html>
- Dixon, F.A., Yssel, N., McConnell, J.M., Hardin, T. (2014) Differentiated Instruction, Professional Development, and Teacher Efficacy. *Journal for the Education of the Gifted*, 1 –17, pp: 1-15
- Elkind, D. (2001) Much too Early. *Education Matters*, Summer 2001, pp: 9-15
- Flora, R. (2009) *Assessment of Training Needs for Early/Primary Private School Teachers*. OTS Master's Level Projects & Papers. Paper 61
- Goldstein, L.S. (2007). Beyond the DAP versus standards dilemma: Examining the unforgiving complexity of kindergarten teaching in the United States, *Early Childhood Research Quarterly*, vol. 22, pp: 39-54
- Hausfather, S. J., (1996) Vygotsky and Schooling: Creating a Social Contest for learning. *Action in Teacher Education*. Vol.18. pp: 1-10.
- Kagan, D.M. (1992). Implications of Research on Teacher Belief, *Educational Psychologist*, vol. 27, no.1, pp: 65-90
- Korthagen, F.A.J. & Kessels, J.P.A.M. (1999). Linking Theory and Practice: Changing the Pedagogy of Teacher Education. *Educational Researcher*, Vol 28, No. 4, pp. 4-17
- Machu, E. (2015) Analyzing Differentiated Instructions in Inclusive Education of Gifted Preschoolers. *Procedia - Social and Behavioral Science*, vol. 171, pp. 1147 – 1155
- McCarthy, J. (2015) Differentiation Is Just Too Difficult: Myth-Busting DI Part 3, *Edutopia*, downloaded from <http://www.edutopia.org/blog/differentiated-instruction-myth-too-difficult-john-mccarthy>
- Moon, T.R. (2005) The Role of Assessment in Differentiation. *Theory into Practice*. Vol. 44, No 3, pp: 226-233
- Nikolaie, M (2014) Teachers' beliefs as the differentiated instruction starting point: research basis. *Procedia – Social and Behavioral Sciences*, vol 128, pp: 426-431.
- Pappano, L (2011) Differentiated Instruction Reexamined : Teachers weigh the value of multiple lessons. *Harvard Education Letter*, Volume 27, Number 3, May/June 2011
- Rachmawati, M.A. et.al (2016) Differentiated instruction for special needs in inclusive schools: A preliminary study *Procedia - Social and Behavioral Sciences*, vol. 217, pp: 585 – 593
- Riddle, E.M. & Dabbagh, N. (1999). *Lev Vygotsky's Social Development Theory*. Downloaded from http://members.iinet.net.au/~aamcarthur/4_Mar_2008_files/Vygotskys_Social_Development_Theory.pdf
- Sparks, S.D. (2015) Differentiated Instruction: A Primer. *Education Week*, Vol 34, Issue 30
- Subban, P. (2007) Differentiated instruction: A research basis. *International Education Journal*, vol. 7, no. 7, pp: 935-947.
- Subban, P.K., Round, P.N. (2015). Differentiated Instruction at Work. Reinforcing the art of classroom observation through the creation of a checklist for beginning and pre-service teachers, *Australian Journal of Teacher Education*, Vol. 40 Issue. 5, pp. 117-131
- Tomlinson, C.A. & Eidson, C.C. (2003) *Differentiation in practice: a resource guide for differentiating curriculum, grades K-5*. Virginia: ASCD
- Tomlinson, C.A. (1999a) *The differentiated classroom: responded to all learners*. Virginia: ASCD
- Tomlinson, C.A. (1999b) Mapping a Route Toward Differentiated Instruction, *Educational Leadership*, Volume 57, Number 1 Personalized Learning, pp. 12-16

- Tomlinson, C.A. (2015) *Differentiation Does, in Fact, Work*,
http://www.edweek.org/ew/articles/2015/01/28/differentiation-does-in-fact-work.html?r=101443533&preview=1&user_acl=0
- Wertheim, C., & Leyser, Y. (2002) Efficacy Beliefs, Background Variables, and Differentiated Instruction of Israeli Prospective Teachers. *The Journal of Educational Research*, Vol. 96, no.1, pp. 54-63
- Willis, Scott (1993) Teaching Young Children, Educators Seek 'Developmental Appropriateness' Dalam *Curriculum Update*, Edition November 1993,
<http://www.ascd.org/publications/curriculum-update/nov1993/teaching-young-children.aspx>
- Wu, S.C., Chang Y.L. (2015) Advancing Kindergarten Teachers' Knowledge and Capabilities of Differentiated Instruction Associated with Implementation of A Thematic Integrated Curriculum. *Procedia - Social and Behavioral Sciences* vol. 177, pp.: 246 – 250