

Investigating Undegraduate Students About Their Competencies: Pedagogical, Professional, and Personal

Gelar Dwirahayu
*Mathematics Education
Department*
UIN Syarif Hidayatullah Jakarta
Jakarta, Indonesia
gelar.dwirahayu@uinjkt.ac.id

Gusni Satriawati
*Mathematics Education
Department*
UIN Syarif Hidayatullah Jakarta
Jakarta, Indonesia
gusni@uinjkt.ac.id

Afidah Mas'ud
*Mathematics Education
Department*
UIN Syarif Hidayatullah Jakarta
Jakarta, Indonesia
afidah@uinjkt.ac.id

Abstract— The aim of this research is analyze of pre-service mathematics teachers in UIN Jakarta become a professional teachers which are measure from three kinds of competencies. They are pedagogical, professional, and personal competencies. The research was conducted in 2017 using a qualitative analytic method, with the subjects are pre-service mathematics teachers as 42 people. The instrument was used in this study consist of: observation sheet is used to measured competence of pedagogic, questionnaire is used to know teaching style and teaching disposition, test of mathematics to measure on competence professional which is consist of geometry, statistic, probability and algebra. The result shows that the pre-service mathematics teachers: (1) They are good in pedagogical competencies, its show that they can arrange the lesson plan with constructive method as mention on Curriculum 2013, (2) besides that, the students can teach well, its shows by choosing constructive teaching strategy and IT as a tools in teaching mathematics, (3) they have teaching style a tend to a delegator (cooperative teaching style) and expert (one-way lecturer), (4) they have disposition teaching good with the rate is 74.75, (5) while for mathematics competency is low, the score is 51.

Keywords: *pedagogical competency, professional competency, professional disposition, mathematics teaching*

I. INTRODUCTION

One of general problems in national education is the low learning achievement. It is affected by two main factors, external and internal factors. The internal factor is students' lack of interest to the subject taught at school in this case is mathematics, which causes the low achievement in learning mathematics. Meanwhile, the external factor is the teacher interaction in classroom in learning process is related to four compulsory competencies of teacher, namely pedagogic competency, social competency, personal competence, and professional competency. Pedagogic competency is positivist conceptions of scientific research in education have muted the deeper and implicit understandings of the interactive and deliberative nature of pedagogic action [5], and pedagogy competencies are vital in constructing an understanding the dynamism of teaching teachers to

impact on student learning outcomes and hence be effective [19]; personal competency is decent personality with noble character, wise, charismatic, and become the good role model for students; social competency is a capability to communicate and interact effectively and efficiently with students, fellow teachers, parents, and society around the school. Teacher as the main actor in applying of education programs, teacher has strategic roles in achieving expected educational goals. In this matter, teacher is viewed as the dominant factor to the achievement of the students' quality. Regarding to teacher's role in education, teacher is expected to possess comprehensive understanding and capability related to their competencies as educators.

Mathematics teacher has heavy responsibility, they have to requires capability on both mathematical concepts and teaching and learning strategies. Teacher's capability in teaching mathematics is not only about how to explain ideas, facts, or mathematical concepts and their relations to the students, but also assessed their capability in solving mathematical problem [2] and make relationship between teacher educator and student demands a commitment to the growth of students' conceptual understanding on mathematics [4].

Teacher requires implementing values in teaching mathematics concepts and how to implement them in daily life. Teacher should developed through interaction between teachers' thinking or attitudes, what they do in the classroom and what they see as the outcome of their practice. Strategies formed a basis for developing the six effective teaching practices, are 1) flexible use of whole-class, group and pair work where students discuss a shared task; 2) frequent and relevant use of learning materials beyond the textbook; 3) open and closed questioning, expanding responses, encouraging student questioning; 4) demonstration and explanation, drawing on sound pedagogical content knowledge; 5) use of local languages and code-switching; 6) planning and varying lesson sequences [19]. As we know that the way of teaching is influenced by teacher teaching style, Teaching style mention by Tomlinson divided into five category,

authority style, which is teacher's centred style; demonstrator style or guidance, which is the mix of lecture and demonstration methods; facilitator style, which is usually used in independent learning where teacher plays the role as the facilitator to encourage students as individual, helps students to develop critical thinking ability, and maintains students' knowledge that leads to self-actualization; delegator style or groups, teacher instructs students to study collectively in which students will dominate group discussion; and hybrid style or mixed, which is the combination of the aforementioned teaching styles that integrates several teaching approaches [18].

Mathematics concept also very important to understand by students, beside pedagogic competency they have to have professional competency. Professional competency is relate to content knowledge, in this case, mathematics content knowledge. As we know that, there are five content in mathematics Number and Number Operation, Algebra, Geometry, Measurement, and Data Analysis and Probability. [12],[13].

As mention from the Indonesia government through Ministry of National Education, that teacher must have four competencies: pedagogical, professional, social and personal. So, for competency social and personal in this research we call professional disposition.

Furthermore, in this research, we was seen necessary to analyze the readiness of undergraduate students on teaching mathematics. There are some aspect that can be analysed, such as the preparation on teaching mathematics (lesson plan), confidence, willingness and responsibility in understanding mathematics as a teacher (disposition), and the mastery of learning strategies and methods that can be implemented in teaching mathematics (teaching performance). From the problem, the purpose of the study is exploring the mathematics teaching competency, conceptual understanding on mathematics and dispositions, therefore it can provide general description related to readiness of undergraduate students to be professional teacher mathematics at schools.

Based on the background and literature review above, the problem in this research are:

- 1) What is the description of students' pedagogical competencies in developing lesson plans?
- 2) What is the description of students' pedagogical competence in teaching?
- 3) What are the trends in student teaching styles?
- 4) What is the tendency of students' mathematical teaching dispositions?

- 5) What is the level of mastery of students' mathematical concepts?

II. THEORETICAL REVIEW

Teachers have some responsibility to plan and implementation of teaching and learning process, to help students learn. To be an effective teachers, they must communicatively, paying attention to their students and placing them centrally in their construction of the teaching-learning process [19], as teachers, we must be mindful of our students current schemas that enable them to organize and accommodate their growing conceptual understanding, knowledge and skills [8].

Mention in regulation on National Education's Ministry's, teacher in Indonesia must have four competencies, Pedagogical: this competency related to ability to arrange the lesson plan and the implementation in teaching class, Professional: this competency related to understanding on mathematical concept or academic knowledge, social and personal are related to human behaviour, attitude and personality.

A. Pedagogic Competency

Pedagogic competency, is define as teacher's capability in managing teaching and learning process involves activities that evoke changes in the learner. Pedagogic competency as specific capability that can differentiates teacher profession from other professions. With this competency, teacher can lead students to success not only observed from cognitive aspect but also through learning processes. This competency is not acquired instantly but through continuous and systematic learning processes that is supported by the talent, interest, and teaching potency from each individual. Teacher's performance is measured from pedagogic competency aspects, for example, to manage the student in the learning process, to arrange some teaching strategy, to find some corresponding concept and daily life and so on. Some pedagogical competencies that a teacher must have 1) Knowing well the students' characteristics, 2) Mastering the learning theories and principles, 3) Developing curriculum, 4) Creating an educating atmosphere, 5) Developing students' potential, 6) Communicating with students, 7) Scoring and evaluating [15], and 8) using of technology in teaching and learning process [6].

Pedagogy comprises teachers' ideas, beliefs, attitudes, knowledge and understanding about the curriculum, the teaching and learning process and their students, and which impact on their 'teaching practices', that is, what teachers actually think, do and say in the classroom.

Gaining knowledge on students' learning styles can be very helpful for both teachers and learners. Involving learners in the active process of

learning requires identifying and understanding learners learning styles and teachers teaching styles. Teaching is defined as guiding students to achieve goal with their teaching style. Every teacher has learning style that differs from one to others in the class, although they have the same goals, which are transferring knowledge, construct good students' attitude, and making students competent in their performance. On the other word, the style of teacher in the class reflects the personality of the teacher himself or herself.

Style refers to a person's preferred way of using his/her abilities (and in this way differs from ability), and is a very important factor in trying to account for the marked individual differences in performance shown by people as they think, learn, teach, or carry out various tasks [1]. Style becomes someone's specific character in doing activity. Teacher attitudes in teaching can lead to the general pattern of interaction between teacher, subject materials, and students, this general pattern is defined as teaching style. Teaching style describes the manner in which a teacher manages instruction and the classroom environment. Grasha mention there are five teaching styles: expert, formal authority, personal tutor, facilitator, and delegator [9].

The expert teaching style possesses the information, knowledge and skills that students need; however, if knowledge is over-used in the classroom, it may lead to students becoming intimidated by the teacher's fruitful base of knowledge.

The formal authority teacher focuses on a clear and methodical way of conducting class paired with firm expectations. However, an over-investment in this style can lead to rigid, standardized and less flexible way of managing students and student concerns. A teacher who teaches by personal example and who encourages students to observe and emulate the teacher's approach is said to utilize a personal model. In this model, emphasis is placed on observation and following the teacher as a role model. Teachers who utilize this approach tend to feel that their approach is the most effective as a means for instruction.

The facilitator style is characterized by a focus on the personal nature of the student-teacher interaction. Teachers who exhibit this style would offer a great deal of flexibility in their teaching and be more prone to a student-centred' approach, paired with a willingness to explore alternative ways of completing tasks. However, this approach, if not executed in a positive and affirming manner, may lead to students feeling uncomfortable in the classroom due to general uncomfortable feelings in response to the open and expressive atmosphere.

The delegator style does much to emphasize the student as an independent learner, but the style

can be time-consuming and may result in misreading of students' readiness to take on independent work. The delegator may contribute to student anxiety as the student may be given too much autonomy before they are ready to take it on.

Thus indicators of the teaching style of teachers in this study include:

- 1) Authority teaching style, the way to teach is dominated by lecture and expository methods, teachers do not use much learning media, they tend to give practice questions
- 2) Delegator's teaching style, the learning process is dominated by class discussion, the teacher divides the assignment to each class group then asks students to present it to the class so that other friends can understand the material being taught. The teacher sits at the table watching students present in front of the class.
- 3) Facilitator's teaching style, this way of teaching is shown by the tolerant attitude of the teacher to students, the teacher tries to provide assistance to students if they have difficulty in solving math problems
- 4) Demonstrator teaching style, the way to teach in a demonstrator style tends to use props. Teaching aids are used to introduce the mathematical concepts being taught, while students must focus on the teaching aids that are being used by the teacher

B. Professional Disposition

Personal and social competencies in this study are not a separated entities but are viewed as teacher's attitude and behavior in teaching and learning mathematics, since individual interacts with others (students). Teaching and learning, basically, are an exchange about self and knowledge between teacher and students. In the finest class atmosphere, teacher does not only teach what he or she knows but presents himself or herself. In the interactions, teacher who acts as a facilitator provides supports and boosts in tasks assigned to students. Teacher must encourage students to investigate, trust, and give hope, through comfortable class management and appreciates students' ideas.

Students may like or dislike mathematics. The students' interest towards mathematics and their belief to the use of mathematics in daily life or for the future career are crucial matters. Related to the aim of mathematics learning, one of the aims of learning mathematics in school is to possess attitude that appreciate mathematics in real life, the curiosity, attention and interest in learning mathematics, and resilience and confidence attitude to solve problems. In mathematics learning, the management development of affective aspect will build firm

preference in learning mathematics. This firm preference is defined as mathematical disposition.

In general, disposition is defined as a belief or attitude that direct someone to make choice, decides who they are and what will they become [3]. It is also defined as desire, awareness, dedication, and strong preference in students to think and act mathematically in a positive way [13]. Furthermore, it is defined as a tendency to show behavior patterns that are directed to a broad aim, repeatedly, and completed consciously and voluntarily [10].

In addition, Taylor & Wasicsko define disposition as personal quality and characteristics owned by an individual including attitude belief, interest, appreciation, values, and adaptation way [17]. Disposition as a behavior pattern that is shown frequently and voluntarily and becomes the habit of mind under conscious and voluntarily control. It orientates on a broad aim. Distinct explanation is proposed by Kilpatrick who describes disposition as a productive disposition [11]. Mathematical disposition is a key factor in the success of mathematics learning. Mathematics teacher's disposition is an integral part in building his or her students' disposition [7]. It has similar importance as pedagogic competency. The knowledge content of a "favourite teacher" is the one that possesses positive attributes such as showing attention, warm-hearted, helping, fun, likes to share, and enthusiastic. Most of those attributes are related to what is defined as teacher's disposition [16]. Mathematics teacher plays main role in encouraging students to maintain positive attitude towards mathematics. Teacher's views towards mathematics and learning affect the teaching, in the end, not only affect what is learned by students but also how students view themselves as mathematics learners [11].

Mathematical disposition can shows by (1) confidence in using mathematics, solving problems, giving reasons, and communicating ideas; (2) flexibility in solving problems; (3) resilience in doing mathematics tasks; (4) interest and curiosity and inventiveness in doing mathematics tasks; (5) tendency to monitor and reflect their own performance and reasoning; (6) evaluating mathematical application to other situation in mathematics and daily life; and (7) appreciating the role of mathematics in culture and value, mathematics as tool and language [13].

Disposition in education is defined as professional attitude, values and beliefs, that are demonstrated by verbal and non-verbal actions as educator in interacting with students, family, colleagues, and society. Teacher must understand himself or herself including what values they believe and how to guide students in the class. Moreover, disposition covers adoption, appreciation, trust, commitment, enthusiasm, endurance, awareness, observant,

responsive, attempt, compassion, and understanding and possessing values. Disposition includes of three related elements that interact each other, tendency, compassion, and skill. Tendency is how students face the tasks, compassion is the preparedness of students towards the task, and skill is the students' capability to do and solve the real tasks.

Based on aforementioned definitions, disposition of a (pre-service) teacher is a tendency to show behavior patten of an individual in interacting with the society that covers self-confidence, commitment, interest, and appreciation towards mathematics and mathematics teacher profession. Self-confidence is an individual belief in doing task or required act to achieve certain goal. Commitment is an internal motivation that encourages an individual to be diligent and resilient in doing task although facing various obstacles, especially academic task. Interest, basically, demonstrates through joyful feeling and attentive to an object and there is a willingness to act. Interest is related to the appreciation, which is activity in doing mathematics tasks and evaluating the use of its concepts.

C. Professional Competency

Professional competency means teacher possesses broad and deep knowledge of the subject and possesses methodology mastery, in which having theoretical concept knowledge, is able to select the right method, and is able to apply in the learning process. Furthermore, teacher must master material, structure, concept, and scholarly mindset that supports the subject that is taught; is able to develop it creatively and continuously by applying reflective acts; and utilize Information and Communication Technology to communicate and perform self-development.

Ruseffendi argues that a professional mathematics teacher must possess at least twelve skills. It is interesting that Ruseffendi's opinion is indirectly stated that becoming an educator is not an easy. Just by mastering one subject does not make us as a professional educator [14]. As explained by previous discussions, one of the competencies of teacher is professional competency. Professional competency is related to the capability of teacher in mastering the subject, for instance, language teacher must master principles and theory of language, mathematics teacher must master mathematics content and pedagogical, art teacher must master theory and practice of arts, and so on.

Moreover, Ruseffendi adds that teacher's capability in mathematics will affect the learning results [14]. It is in line with Shulman's view that the teachers' mastery of mathematics affects the way he or she teaches it [2]. Mathematical teacher who masters broader mathematical concepts will teach mathematics conceptually, on the contrary, teacher who has narrower mathematical concepts tends to

teach mathematics based on rules. Whereas, it is clear in Curriculum 2013 that states one of readiness indicators of mathematics teacher in teaching mathematics is that the teacher understands and masters every mathematics concept and principle in the curriculum. In other words, Curriculum 2013 regulates that the mathematics mastery of a teacher must be broad and deep so he or she can discover ways and strategy that are acceptable by students in understanding the subject.

Mathematics standardization of school in the world refers to *Principle and Standard for School Mathematics* from NCTM that regulates content standards and process standards of mathematics learning in K-12 level. The content standards are Number and Number Operation, Algebra, Geometry, Measurement, and Data Analysis and Probability, [13],[12] while as stated in regulation of ministry of National Education, the Core Competencies and Basic Competencies in mathematics in high school education level include aspects: Logic, Algebra, Trigonometry, Calculus, Statistics, and Probability. Furthermore, the process standards are Solving Problems, Mathematical Reasoning and Proof, Communicating, Connecting and Representing [13].

III. METHOD

Based on the purpose of the research is to analyze the competencies of undergraduate students mathematics as pre-service teacher in supporting implementation of K-13 that covers pedagogic, social, and personal and personal competencies, therefore this study employs both quantitative method by giving test technique and qualitative methods by doing observation and interview techniques. The data was taken two times in May and November 2017. The subjects of the study were 42 seventh semester undergraduate students in math education department. The instruments used were observation sheets, teaching style questionnaire, disposition questionnaire, and mathematics test. Analysis data use qualitative description about mathematics capability, ability to create and implementation of lesson plan, teaching style, professional disposition, and teaching skills.

IV. RESULTS AND DISCUSSION

Table 1 shows data analysis results related to the students' capability in composing lesson plan (LP), teaching ability (TA), professional disposition (PD), and mathematics ability (MA).

Table 1. Data Description For Lesson Plan (LP), Teaching Ability (TA), Professional Disposition (PD) and Mathematical Ability (MA)

	LP	TA	PD	MA
Mean	76.36	78.11	70.58	51.19
Median	76.50	77.85	70.94	55
Variance	7.31	4.62	35.74	297.33
Std. Dev	2.70	2.15	5.98	17.24
Min	70	70	56.25	10
Max	80	82	83.75	80

Table 1 shows that the average value for:

- The Mean Score of students perform on arrange the lesson plan is 76.36
- The Mean Score of students perform on teaching process in the class is 77.85
- The Mean score of professional disposition is 70.58
- The mean score for mathematics ability is 55.

The followings are the explanation of description for each competency.

A. Ability to Develop the Lesson Plan (LP)

Based on analysis data for document lesson plan that arrange by students, there are several findings were discovered as:

- 1) Basically, students were able to compose the lesson plan very well, they arrange the document according to National Education Ministry's Regulation, where the lesson plan should be consist of: main competency, indicator, learning outcome, strategy, teaching and learning process, tools, and assessment.
- 2) Curriculum 2013 is recent curriculum in Indonesia, but some of students still use KTSP as a basic to arrange the lesson plan. However, some of students claimed that they used Curriculum 13 but the implementation is not use scientific approach.
- 3) In Curriculum 2013, there are core competencies as "Kompetensi Inti" and basic competencies as "Kompetensi Dasar". Core Competencies consist of: spiritual, attitude, knowledge and skills, while basic competency based on the major of lesson. In arrange lesson plan, there are various writing:
 - It was found that there are 12 students writing down the four KI and explaining indicators on all competencies,

- It was found that there are 12 students who did not write KI-1, but instead wrote KI-2, KI-3 and KI-4, and described the indicators in full.
 - It was found that there were 4 students who wrote KI-3 and KI-4 only,
 - It was found that there were 6 students who wrote only KI-3 and described the indicators
 - It was found that there were 11 students still using the KTSP RPP as a reference in preparing their learning plans.
- 4) All students can formulate learning indicators and learning outcomes well, they have been able to describe learning indicators by using appropriate and favourable operational verbs “Kata Kerja Operasional”.
 - 5) Discussion of the learning strategy, most of the students have used a scientific approach, the learning process is contained in the worksheet so that the teacher's performance or competence that appears is only the ability to open lessons, and make apperception. They argued that in K-13 the teacher's job was only as a facilitator.
 - 6) If observed from the student worksheets made by students, most of them only contain exercises rather than on the thought process as the chosen learning strategy / approach / method.
 - 7) The use of ICT in learning in the classroom, there are 12 students who have used technology in the learning process the rest are still using conventional media that is mostly using the blackboard. The technology used is also diverse, some use only PPT, video, animation and some even use mathematical software (Geogebra).
 - 8) There are complete instruments or evaluation tools written in the learning plan which attach the three aspects of assessment namely cognitive, affective and psychomotor. However, in the implementation or implementation of learning, only cognitive evaluation sheets are used, while the other two instruments are not used as material for observing student activities during learning activities. There are also those who simply attach incomplete assessment instruments, for example only cognitive instruments, attitude, cognitive and attitude.

B. Teaching Skills

Teaching skills is defined as teacher performance as implementation of lesson plan. The undergraduate students have teaching skills good:

- Some of undergraduate students who taught by using lecture method was able to explain material well

- Undergraduate students who utilized ICT was able to compose good teaching material, by using appealing colours and pictures, and selected correct learning videos, and
- Undergraduate students was also able to operate mathematics software well.

Undergraduate students have capability in organizing students very varied, attitudes that were demonstrated in perform teaching process were:

- 1) there are undergraduate students who are stuck on position –stand in front of the class, sitting at the teacher's desk and do not want to go around approaching students.
- 2) undergraduate Students go around, but do not want to go to the back because in the back row there are examiners
- 3) When students are noisy, many attempts are made by undergraduate students to stop the noise and make the classroom atmosphere calm again, things done by students, among others, by shouting, but still the student's voice is inferior to the teachers' (undergraduate student) voice. There are also students who are silent not talking so that students are silent because they see the teacher is silent, there are also students who ignore it with the conditions faced, which is important 2 hours of lessons have been passed.
- 4) Students only give apperception, then without giving an explanation in advance about the material to be taught, just immediately share LKS on the grounds that students will make discoveries.
- 5) Most students demonstrate mastery of the material or concept. This is indicated by the preparations made, examples of mathematical concepts encountered in daily life, providing varied mathematical problems, as well as the selection of appropriate learning media in order to facilitate teaching.
- 6) Most of the learning process uses cooperative learning models, so that the interaction of students and teachers also appears in the learning process, the teacher (student) scans questions to students, and students discuss with their friends to answer these questions. Furthermore, the teacher facilitates the learning process so that interaction occurs between groups.

C. Teaching Style

Teaching style is part of this research, the purpose of the teaching style to investigating the characteristics of undergraduate students therefore they can be helped in developing their self-potencies. Based on the study to 42 seventh semester students of Department of Mathematics Education Study Year

2016/2017, the students had Delegator teaching style (45.25%), Authority teaching style (26.19%), Facilitator teaching style (14.28%), and Demonstrator teaching style (14.28%).

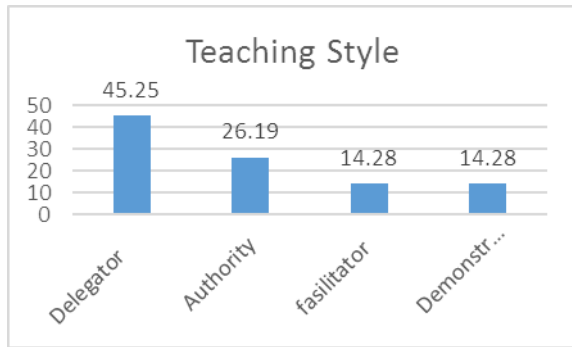


Figure 1. Type of Teaching Style

Demonstrator teaching style was really appropriate to be applied in mathematics learning. Delegator teaching style is a teaching style that puts emphasis on developing students' ability to work by themselves, students are able to complete tasks independently, and helps students to have awareness that they are independent pupils. Teacher's attitude in delegator type is to make students learn collectively where students will be more dominant in a group discussion meanwhile other students give feedback as a form of evaluation, for examples in the form of debate and creative writing.

Delegator style can be used in attempt to support 2013 curriculum, which is one of the methods that can be applied by teacher with this kind of style are Guided Discovery and Inquiry-based learning. These methods encourages students to be active, explore some information, and if students are difficult in discovery process, teacher acts as a facilitator or a consultant that guides students in material adaptation so what students find will be more meaningful through structured tasks. Teacher as guides for students to work cooperatively to reach shared goal.

If viewed from the mathematical characteristics, mathematics is still a difficult subject and is less attractive to students, not even a few of students who make math a scary subject. Therefore learning in groups or in collaboration is one of the teaching styles that is often applied in mathematics learning to solve these problems. Studying individually will cause students to be less developed in thinking, so there needs to be encouragement from teachers and peers.

D. Teacher's Professional Disposition

As explained in previous section, disposition is a professional attitude, values and beliefs, which is shown through verbal and non-verbal actions as an educator, in interacting with students, family, colleagues, and society. Therefore, in this study, professional disposition is defined as an attitude of students towards teaching profession. Teacher profession is not an easy job, teacher has some duties

to educate and teach a subject with some strategy or teaching model toward improve students ability on conceptual understanding, attitude and skills. Every student has specific characteristics and attitudes so teachers should knowing about theory of teaching and learning.

Table 2. Professional Disposition Description

Indicators	Score (%)
Confidence in concept mathematics	85
Confidence in teaching ability	77
Diligence	65
Interest and appreciation	72

Table 2 shows that there were undergraduate students were not confident with their teaching skills. The lowest percentage was in the diligence indicator. Furthermore, the confidence in teaching ability, diligence, interest and appreciation of undergraduate students was lower that the confidence in concept mathematics. They preferred to solve mathematics problems independently, rather than sharing with others. So, undergraduate students will difficult to teach or explain mathematics concept especially when teaching to students who have concrete and informal thinking. This is related to perceptions about subject field, its focus on teacher's knowledge of subject matter [16]. The positive dispositions in this area mandate that the teachers are enthusiastic about their subject filed, they engage in research-based instructional strategies, they seek out growth opportunities and stay current. There is also need for teachers to create connections to subject matter that are meaningful to students.

According to Singh, dispositions are values, commitments, and professional ethics that influence a teacher's behavior toward his/her students, families, colleagues, and communities [16]. The dispositions affect student learning, student motivation, and student development. They also impact an educator's own professional growth. Dispositions are guided by beliefs and attitudes related to values such as caring, fairness, honesty, responsibility and social justice.

E. Mathematics Ability

As explained before, undergraduate students' mathematical ability was measured by using high order thinking skill test instrument in four aspects: geometry, statistics, probability, and algebra.

The average value of undergraduate student capability in math education Department was 51.19 (low ability). Observed from the mathematics contents, the percentage of students' mathematics

capability can be seen in Table 3. From the average values, it shows that students understood more about probability and algebra concepts. Meanwhile, the percentage of students understandings towards geometry and statistics was very low.

Table 3. Percentage of Concept Understanding

Mathematics Ability (%)		
Mathematics Concepts	Geometry	22.9
	Statistics	30.73
	Probability	80.98
	Algebra	73.17

It become our responsibility to improve students' mathematical understanding ability therefore they have good competencies as mathematics teacher.

Different aspects of teachers' professional competence would be differentially predictive of three dimensions of instructional quality. First, regarding the level of cognitive challenge, teachers' Pedagogical Content Knowledge to be the prime predictor, as a thorough command of subject-specific knowledge seems to be a necessary condition for the appropriate selection and implementation of mathematical tasks in the classroom. Teachers endorse a constructivist view of learning with more tasks that facilitate student thinking. Second, support of individual learning is characterized by forms of student-centre instruction. Third, classroom management involves strategies that reduce interpersonal conflicts and disruptions during teaching time. To date, very few studies have empirically investigated which teacher variables predict effective classroom management. However, it also seems important to acknowledge teachers' roles as facilitators of independent and motivated learning.

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