THE DEVELOPMENT OF MATHEMATICS MODULE MULTI LEVEL BASE ON SOCIAL ARITHMETIC SCHOOL MATERIALS TO ENHANCE THE MENTAL OF ENTREPRENEURSHIP

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ABSTRACT

Through social arithmetic mathematics learning materials, students are expected to associate mathematical concepts with daily life, particularly in economic activity. The concept of multi-level business is strategic to be applied in teaching mathematics. With multi-level stages, joining a study group (list), learning materials, training materials, learning entrepreneurial skills and entrepreneurial skills training, receiving the award, the students form a learning network of mathematics as well as to enhance the entrepreneurial spirit. The above activities are packed in reference module development. The stage development model Borg and Gall (1983), the module is designed to load problem-solving exercises of the concept of social arithmetic integrating with the formation of entrepreneurial spirit. The objective of this research is to obtain valid module according to mathematicians and limited practical trials which is represented by the student and an elementary school teacher, junior high school / equivalent, as well as mathematics reader. The results showed that the modules assessment of expert people about the concept of social arithmetic material, the concept of multi-level, the establishment of entrepreneurial spirit, and the performance and readability of each 80% show in a good conditions and valid criteria. Limited testing by users of the indicators: the display module, the multi-level construction, the establishment of entrepreneurial spirit, and the use of modules are respectively 88.64%; 87.41%; 87.87%; and 89.78%; they fulfill the practical criteria. All students from elementary to high school / equivalent can utilize this module. The change in behavior on the indicators of the entrepreneurial spirit, which is independent, creative, oriented in action, risk-taking, leadership, hard work and skill before reading the module and the afterwards with the average increased from 58.25% (currently) to 80, 73% (very high). So the module is feasible to become reference for studying social arithmetic integrated with spirit of entrepreneurship.

Keywords - Module, Multi Level, Spirit of Entrepreneurship

Introduction

Law No. 20 of 2003 on National Education System Section 3, states that the national education serves to develop the ability and character development as well as the civilization of dignity in the context of the intellectual life of the nation, aims to develop students' potentials to become a man of faith and fear of God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. The qualitative indicators related to the character formation of students and associated with the formation of attitudes and skills / entrepreneurship skills of students so that they can compete, ethical, moral, good manners, have the attitude and skills / skill entrepreneurship (Mulyani, 2010: 1).

Functions and objectives above, shows that education in each educational unit should be conducted systematically in order to achieve these objectives. Qualitative indicators are also very important in order to achieve that objective, qualitative indicators include: faith and fear of God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. However, according to Hendrowo (2010: 47) teaching materials on entrepreneurship in schools or universities are still relatively...
few. Therefore we need a teaching material on entrepreneurship.

Meanwhile, nowadays it is hard to get a job which graduate from SMA / SMK, as well as a diploma, even bachelor is just hard to get a job. No wonder the unemployment rate in Indonesia is still high. According to the Central Bureau of Statistics, Unemployment Rate in Indonesia in February 2014 reached 5.70 percent. And in August 2014, the total of unemployment increased by 97 836 inhabitants of February 2014.

According Suwarsono (2011: 1), mathematics education as part of the world for education, has various potential that can be developed to promote the development of entrepreneurship in Indonesia. As we have seen that aspect of entrepreneurship in the social arithmetic material is strong.

Based on the result of national exam data in 2012/2013 from the Research Kemdikbud, one of the understanding ability to solve problems is still low, that is in social arithmetic subject. In Central Java the understanding rate reached 68.31%, still low compared to the national rate, which reached 77.54%. According to the observations and interviews, it can happen because mathematics is often not meaningful because the mathematics learning process is a text book oriented, so we need an innovation that can make math learning becomes meaningful. One of them by compiling a module that can enhance the entrepreneurial spirit of students.

On the other hand, Multi-level marketing (MLM) is a business that is emerging in Indonesia. The rate of MLM development in Indonesia is quite rapid (Santoso, 2006: 1). MLM is often also referred to as Network Marketing or business network. According to Jamil Azzaini (2013: 139), networking is a useful and advantageous relationship. If it is applied in learning, the students can also make a useful and advantageous learning networks. By using the formed network, students can exchange ideas, help each other, and share the knowledge that has been gained to the other students. According to Erman Suherman (2003: 277), the support of peer learning can eliminate the awkwardness. And there is no reluctance, low self-esteem, shame, and so on to ask questions or ask for help with the peers.

According Warsita (2011: 2), education is a necessity and the right for every citizen, regardless of class, gender, age, social status, or residence. However, based on observations and interviews to several schools in Kudus, many teachers and students felt that the learning and teaching time of mathematics is decreased because there are various difficulties in learning mathematics that have not been fully resolved when learning mathematics in school. In addition, if there is a school activity, the students are required to study independently. Meanwhile, some students are still difficult in doing self study without a teacher. To overcome it, the learning process can be carried out by using learning media.

From the interaction and learning process, the students’ entrepreneurship mentality will be formed or increased. Therefore, the researcher will develop a module-based multi-level social arithmetic school materials to enhance the entrepreneurial spirit of students.

The purposes of this study were (1) Getting the development of module-based multi-level mathematics in social arithmetic school material in order to enhance the validity of entrepreneurial spirit; (2) Test the practicality of modules based on multi-level mathematics in social arithmetic school material in order to enhance the entrepreneurial spirit; (3) Improving the students’ entrepreneurship mentality after reading the math module-based multi-level social arithmetic school material.
Theoretical Review

The modules are printed teaching materials that are designed to be studied independently by students and it is also called as media to study independently because it has been equipped with instructions for self-study (Surya Dharma, 2008: 3).

According to Surya Dharma (2008: 3-5) stated that modules can be considered good if it has the following characteristics.

a. Self Instructional
   Learners are able to self study and not depend to others; it is called Self Instructional. In complying the self-instructional character then the modules must : (1) contain clearly formulated goals; (2) contains material that is packed into small units; (3) specifically to facilitate learning thoroughly; (4) provide examples and illustrations that support the clarity of presentation of learning materials; (5) displays tasks questions, assignments, etc. which allows the user to respond and measure the level of mastery; (6) contextual material that is presented associated with the condition or the context of the task and its environment; (7) use simple and communicative language; (8) there is a summary of the learning material; (9) there is an assessment instrument/assessment, which allows the use of training do the self-assessment; (10) there are instruments that can be used to measure or evaluate the level of mastery of the material; (11) there is a feedback on the assessment, so that the users know the level of mastery of the material; and (12) provided information about the referral / enrichment / references that support the intended learning materials (Surya Dharma, 2008).

b. Self Contained
   Self Contained, is all learning materials from a competence or sub-competencies that is learned contained in the module as a whole (Chomsin and Jasmadi, 2008: 51). The aim of this concept is to give opportunities to the students to study the learning materials thoroughly, because the material is packed into one unified whole. If the material from one unit competence is divided or separated, it must be done carefully and notice to the scope of competencies that need to be mastered.

c. Stand Alone
   The use of module should not be used together but can be used individually and also does not depend on other media. Because if the students still depend on other media, so it can be said that the module is not eligible.

d. Adaptive
   In module development should follow the development of science and technology, flexible use, as well as the material can be used to a certain time.

e. User Friendly
   User Friendly is characteristic of the module that should be friendly to the user. One of them is the use of language that is simple and easy to understand.

Multi level marketing system is adopted from Multi Level Marketing to be applied in education field, in this case the module. Riva'i (2012: 298) said that the Multi Level Marketing (MLM) is a sale system by Zain Ahmad An-Najah, utilizing the power of distributor consumers as directly as well as consumers. This sales system uses multiple levels (tiers) in marketing his wares.

Module-based multi-level in this study is a module that includes a multi-level stages, those are: joining the study group (list), learning materials, training materials, learn entrepreneurship, entrepreneurship training, invite friends, and received the award.

According to Mulyani, et al (2010), the value which was developed in entrepreneurship education are considered the most basic and suitable with the level of development of students as much as 17 value, which is independent, creative, risk-
taking, action-oriented, leadership, hard
work, honesty, discipline, innovative,
responsibility, cooperation, unyielding,
commitment, realistic, curious,
communicative, a strong motivation to
succeed.

Those values are developed gradually. The
first stage is developed the 6 (six) values,
those are independent, creative, risk-taking,
action-oriented, leadership, and hard work.
After that, the next values are newly

Table 1. Value Spirit of Entrepreneurship

<table>
<thead>
<tr>
<th>Value</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Attitudes and behavior that is not easily depend on others.</td>
</tr>
<tr>
<td>Creative</td>
<td>Think and do something to produce different ways or results of the products / services that already exist.</td>
</tr>
<tr>
<td>Risk-taking</td>
<td>The ability of someone to love a challenging job, brave, and be able to take the risk of working.</td>
</tr>
<tr>
<td>Oriented in action</td>
<td>Take the initiative to act and not to wait, before an unwanted incident occurs.</td>
</tr>
<tr>
<td>Leadership</td>
<td>Attitudes and behavior of someone who is always open to suggestions and criticism, sociable, cooperate, and directing others.</td>
</tr>
<tr>
<td>Hard work</td>
<td>Behaviors that indicate an earnest effort in completing tasks and overcome various obstacles.</td>
</tr>
</tbody>
</table>

According Hendrowo (2010: 45) material or method that will be done to establish the students’ entrepreneurial spirit is learning by doing. Children will be able to understand things that we instil if they do so. Moreover, if we also do so they will get the closest example to observe and emulate. In addition, according to Arfin (2012: 67) by learning entrepreneurship will not be effective if it is dominated by the teacher (teacher centered). Participants must be activated by the teacher, the keywords that can be done by learners are thinking activities (minds-on) and doing (hands-on).

In addition, to prepare potential entrepreneurs are also required to invest the value of money to the children. It can be done by getting students to experience in buying, saving, managing pocket money, save money by fulfilling their own needs, as well as make money for themselves. It is also necessary to train the creativity of children with various games. Games often contain the elements of social education and overcome the shyness in society. Among the games that are written in the module is a monopoly game. By using the monopoly game students will learn a lot about entrepreneurship (Hendrowo, 2010: 51-60).

According Hendrowo (2010: 68) to form the students’ entrepreneurship mentality can use the learning method from the others’ success. A story that contains a moral message would be very good for the formation of children’s mental.

Creating propaganda in the form of dream board also become important in making the entrepreneurial spirit of students. Because of a clear dream will be able to bring the clearer and focused thinking. Hendrowo (2010: 13) said that the goal has been described clearly by the brain’s memory will be stored in the subconscious, then he will move the body and conscious mind to realize these goals.

Based on experiments that have been carried out by Thorndike in Rifa’I (2011: 166-167) finally put forward three kinds of learnings’ rule, those are: (a) the rule of readiness; (b) the rule of exercise; and (c) the legal effect.

a. The rule of readiness
   For learning to achieve good results, we need the readiness of individuals in learning.

b. The rule of exercises
   Relationship or connection between stimulus and response will be strong when the exercise is frequently done. In other words, the relationship between the stimulus and the response will be better if it is practiced. Therefore the

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rule of exercises requires learning exercises while working (learning by doing).

**c. The rule of effect**

If something gives pleasant or satisfactory results, the relationship between between stimulus and response will be stronger. In other words, if the stimulus cause a response that brings the gift (reward), the relationship of stimulus and response will be strong, and vice versa.

This theory is appropriate with the award that will be given to students after doing the module. These awards are found in the content of social arithmetic modules on multi-level base, which in each chapter is always given the award so that the students feel happy and satisfied with the result of their assignments.

In determining the quality of the research and development results, according to Nieveen (1999), the components of educational products are valid when it is based on the state of the art knowledge rational theoretical is strong (content validity) and all components must be associated consistently with each other (the construct validity) while the components of educational products are practical if the teacher can consider the tools that can be used and it is easier for teachers and students to use.

**Research Methods**

This research was conducted by using the type of research and development (research and development), that is the research which resulted the development products in the form of mathematics modules based on the materials multilevel social arithmetic schools to improve the entrepreneurial spirit which fulfill a valid and practical criteria.

According to Borg and Gall (1983: 775-776) there are ten steps to implement the strategy of research and development, those are: (1) research and information collecting; (2) planning; (3) develop preliminary form of product; (4) preliminary field testing; (5) main product revision; (6) main field testing; (7) operasional product revision; (8) operasional field testing; (9) final product revision; (10) dissemination and implementation. However, in this research of development is limited until the sixth step because of time and cost of research.

Stage 1 : research and information collection, identification and collection of data regarding: (1) problems in the learning of mathematics; (2) the characteristics of the students (entrepreneurship); (3) the material social arithmetic; (4) difficulties in learning social arithmetic; (5) literature study module development; and (6) multi-level literature.

Stage 2 : planning, aimed to design a module that will be developed which includes; (1) determining the learning objectives by using the module; (2) the determination of the material; (3) The targeting module; (4) the selection of formats; and (5) the determination of the components of the module.

Stage 3 : develop preliminary form of product, aimed to produce the first draft of the modules and instruments are subsequently validated by experts.

Stage 4 : preliminary field testing, aimed to validate the module and all the instruments that have been made. Validation was carried out by three experts, including 2 professors in mathematics. Expert validation results as a benchmark for revising the first draft of the module into module II draft and all the instruments that have been made.

Stage 5 : main product revision, aimed to obtain a valid modules and instruments. Results of expert validation is used as a benchmark for revising the first draft of the module into module II draft and all the instruments that have been made. This
revision continues to acquire draft module II and valid instrument.

Stage 6: main field testing, conducted trials limited to 3 teachers, nine students and three parents of students to determine the practicality of the module. At this stage, the students used a questionnaire instrument readability, the questionnaire responses of students, teachers' questionnaire responses, the questionnaire responses mathematical observer, interview students, teachers interview guide and interview guides observers mathematics. The module is practical if the results of the questionnaire of legibility students, the questionnaire responses of students, teachers' questionnaire responses, the questionnaire responses of parents are practical.

In this study, the source of data is determined by using purposive sampling technique. Purposive sampling is a sampling technique with particular consideration of the data sources. It can be seen that the technique provide the data maximally. Researchers took samples of 9 equals from each 3 students. Three teachers consists of primary school, junior high, and high school teachers. Students, three teachers, and two observers of mathematics. Nine students consists of the students of elementary, junior high, and high school which are at this stage also made observations on the entrepreneurial spirit of students. To determine the improvement of the students’ entrepreneurship mentality before and after reading the module is by using observation sheets and questionnaires entrepreneurship in order to determine the improvement percentage of the students’ entrepreneurial spirit before and after the reading module reading module.

The average of assessment validation module by experts formulated as follows (Hobri, 2010).

\[ V_m = \frac{\sum_{i=1}^{n} A_i}{n} \]

\( V_m \) is the average assessment expert validation, \( A_i \) is the average aspect to \( i \), and \( n \) the number of aspects.

And the percentage of expert validation assessment formulated as follows.

\[ P = \frac{\text{total score of each aspect}}{\text{the maximum score}} \times 100\% \]

The average response of students, teachers, and mathematics readers is also calculated in the same manner as above.

Improved skills is calculated by using normalized gain with the following formula.

\[ g = \frac{\text{scores after} - \text{scores before}}{\text{SMI} - \text{scores before}} \]

\( g \) is the normalized gain, SMI is the maximum score index.

Criteria gain according to Hake (Fachrurrazi 2011) presented in Table 2.

<table>
<thead>
<tr>
<th>Gain Index</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>( g \geq 0.7 )</td>
<td>High</td>
</tr>
<tr>
<td>( 0.3 \leq g &lt; 0.7 )</td>
<td>Currently</td>
</tr>
<tr>
<td>( g &lt; 0.3 )</td>
<td>Low</td>
</tr>
</tbody>
</table>

Results

Research and information collection

At this stage, identification and collection of data regarding: (1) problems in mathematics, such as the mathematics learning time is decreased because of many difficulties which is experienced by the students, the learning process is still using text book oriented that is meaningless, and the teaching materials about entrepreneurship have not been available yet; (2) the students’ entrepreneurship mentality is still invisible; (3) information and theories about the module and its characteristics, multi-level, and material of social arithmetic.

These theories will help the researchers to plan the development of a valid and practical
modules and be able to enhance the entrepreneurial spirit of students.

**Planning**

At this stage is performed about the planning of the target of the module that can be used as a reference elementary, junior and senior high schools students in independent study. The material will be presented in this module is a social arithmetic material which is divided into five chapters, those are: (1) the value of the goods; (2) the purchase price, selling price, profit and loss; (3) the percentage of profit and loss; (4) rebates (discounts), gross, tare, net; (5) interest and tax savings. The components of social arithmetic modules based on multi-level is as follows.

a. The initial part consisting of a cover social arithmetic modules based on multi-level, Preface, mascot modules, guides the use of modules, apperception, a map of the module concept, and the table of contents.

b. Content section consists of the materials presented in the module. Social arithmetic modules based on multi-level consists of five chapters, namely: (1) the value of the goods; (2) the purchase price, selling price, profit and loss; (3) the percentage of profit and loss; (4) rebates (discounts), gross, tare, net; (5) interest and tax savings. The components of each chapter on modules include:

1. The first chapter : (a) title of the topic; (b) opening image material, such as photographs or preliminary description of the material that will be studied; (c) the introduction of the study to motivate students to learn the material that will be presented; (d) the purpose of study; (e) the definition of term which contains of the words that became the key discussions in each chapter.

2. The content chapter : (a) description of the material, which is presented with a simple sentence; (b) examples of Problems in the form of questions accompanied by the steps to answer; (c) exercises, contains questions to test the students' ability to understand the material they have learned; (d) the lessons of entrepreneurship, which can be studied by the students to shape their entrepreneurial spirit; (e) exercise of entrepreneurship, which is useful to train the students' entrepreneurial spirit; (f) a summary which contains about the main points of discussion in the chapter that has been completed studied.

3. The end of the chapter : (a) Test formative which contains of questions to measure the understanding of the material in each chapter that have been studied; (b) the instructions of the award which contains steps that students received awards for their efforts in studying the chapter.

c. The conclusion section, which consists of a bibliography and an answer key and scoring guidelines of formative tests in all chapters.

**The development of preliminary product**

This stage is performed the preparation of social arithmetic modules based on multi-level to improve the the students' entrepreneurship mentality which appropriate with the planning. The modules which are produced in this stage is called the first draft modules and the instruments of the research which are used in this study such as: (1) sheet validator assessment of the module; (2) questionnaire legibility students; (3) The students questionnaire responses; (4) the questionnaire responses of teachers; (5) the questionnaire responses of students; (6) the questionnaire responses of parents; (7) the interview guide students; (8) the interviews guide teachers; (9) the interview guide parents; (10) the observation sheet of students’ entrepreneurial spirit; (11) questionnaire of students’ entrepreneurial
spirit; (12) validation questionnaire legibility students sheet; (13) student response questionnaire validation sheet; (14) validation sheet of the questionnaire responses of teachers; (15) student response questionnaire validation sheet; (16) validation sheet of the questionnaire responses of parents; (17) validation interview guides students sheet; (18) validation guidelines teacher interviews sheet; (19) validation sheet of interview guide parents; (20) validation sheet of observation the students’ entrepreneurship mentality sheet; (21) validation sheet of the students’ questionnaire entrepreneurship mentality.

**Preliminary field testing**

This stage is performed the validation module (draft 1) and research instruments. The results showed that the assessment of the modules from the expert about the concept of social arithmetic matter, the concept of multi-level, the establishment of entrepreneurial spirit, and the appearance and readability is 80% categorized in good conditions and valid, that is Vm = 4.0 (maximum score 5).

It shows that each of the experts stated that the mathematical module-based multi-level social arithmetic material is valid and can enhance the entrepreneurial spirit of students.

Based on the validation by the experts obtained that module can be used but there is a little improvement in it. The improvement was made based on the comments and suggestions by the experts.

The instruments are also validated by the supervisor 1 and 2 to obtain a valid instrument and ready to use. Here are the results of the instrument validation by the supervisor 1 and 2.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Average</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire of legibility students</td>
<td>4,10</td>
<td>Valid</td>
</tr>
<tr>
<td>The students questionnaire validation sheet</td>
<td>4,05</td>
<td>Valid</td>
</tr>
<tr>
<td>The questionnaire responses of teachers</td>
<td>4,05</td>
<td>Valid</td>
</tr>
<tr>
<td>The questionnaire responses of teachers</td>
<td>4,00</td>
<td>Valid</td>
</tr>
<tr>
<td>The students’ interview guide</td>
<td>4,00</td>
<td>Valid</td>
</tr>
<tr>
<td>The teachers’ interviews guide</td>
<td>4,05</td>
<td>Valid</td>
</tr>
<tr>
<td>The Mathematics Readers’ interview guide</td>
<td>4,05</td>
<td>Valid</td>
</tr>
<tr>
<td>The observation sheet of students’ entrepreneurship mentality</td>
<td>4,05</td>
<td>Valid</td>
</tr>
<tr>
<td>The questionnaire of students’ entrepreneurship mentality</td>
<td>4,05</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Based on the validation results, obtained a recommendation that the instrument can be used with minor revisions. This revision is done based on the comments and suggestions given by the supervisor.

**Main Product Revision**

This stage is performed the revision of social arithmetic modules multi-level base and the instruments which will be used based on the comments and suggestions for the improvement by the validator.

The revisions which have been made by the researchers to repair the modules such as (1) the language to be more easily understood by students; (2) multi-level stages in module already apparent; (3) the image which has been suitable with the contents of the material; (4) the inclusion of the image sources; (5) the used of letter type is more elegant; (6) the addition of various questions.
Main Field Testing

Based on limited testing by users, 9 students, 3 teachers and 2 mathematics readers obtained the following results.

In order to obtain the average user ratings as follows.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>$V_m$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>The display module</td>
<td>4.43</td>
<td>88.64</td>
</tr>
<tr>
<td>The multi level construction</td>
<td>4.37</td>
<td>87.41</td>
</tr>
<tr>
<td>The establishment of entrepreneurial spirit</td>
<td>4.39</td>
<td>87.87</td>
</tr>
<tr>
<td>The use of module</td>
<td>4.49</td>
<td>89.78</td>
</tr>
</tbody>
</table>

Based on the results of normalized gain test obtained that the students’ entrepreneurial spirit is increased with average criteria. It can be seen in the following table.

<table>
<thead>
<tr>
<th>Interviewees</th>
<th>$g$</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1</td>
<td>0.56</td>
<td>Currently</td>
</tr>
<tr>
<td>S-2</td>
<td>0.60</td>
<td>Currently</td>
</tr>
<tr>
<td>S-3</td>
<td>0.62</td>
<td>Currently</td>
</tr>
<tr>
<td>S-4</td>
<td>0.71</td>
<td>High</td>
</tr>
<tr>
<td>S-5</td>
<td>0.80</td>
<td>High</td>
</tr>
<tr>
<td>S-6</td>
<td>0.63</td>
<td>Currently</td>
</tr>
<tr>
<td>S-7</td>
<td>0.68</td>
<td>Currently</td>
</tr>
<tr>
<td>S-8</td>
<td>0.58</td>
<td>Currently</td>
</tr>
<tr>
<td>S-9</td>
<td>0.62</td>
<td>Currently</td>
</tr>
</tbody>
</table>

The changing of behavior on the entrepreneurial spirit indicators are independent creative, oriented in action, risk-taking, leadership, hard work and the skill before and after reading the module is increased from 58.25% (currently) to 80.73% (very high).

Discussion

Multi-level concept which is contained on the module is appropriate with the theory of Thorndike that is combined with cooperative learning. According to Thorndike in Rifa'i (2011: 116-117), there are three kinds of learning rules, those are: (1) readiness rules; (b) legal practice; and (c) the legal effect. It can be described as follows.

1. The readiness rule
   To make the learning process achieves good results, so it needs the individual readiness in learning. If the individual can do something suitably with the readiness, so he will get satisfaction. On the other hand, if someone force to do something that is undesirable, so it disposed to make disappointment and even frustration.
   Students expressed the readiness in learning through social arithmetic modules multi-level base by filling identity at the stage list. And to obtain a student’s readiness, it can be done by using the attractive module. Hence the interesting module is a stimulus for students so there will be a response from the students. It is also suitable with the Skinner's theory which stated that the Respondent response (reflexive response) is generated as a reflex response to certain stimuli.

2. The exercises rule
   The relationship or connection between stimulus and response will be strong when doing the exercise frequently. In other words, the relationship between the stimulus and the response will get better if it is trained. Conversely, when there is no practice, the relationship between stimulus and response will be weakened. Therefore this exercises rule requires the learning by doing.
   By using the multi-level stages of learning materials, training materials, entrepreneurship learning, and entrepreneurship training, so the students will learn by doing. Thus, the relationship between the module and the results of students’ responses will also be stronger.

3. The rule of effect
   If something gives pleasant or unpleasant results, so the relationship between stimulus and response will be strong. In other words, if the stimulus cause a response that brings to the gift (reward), the relationship of stimulus and response will be strong and vice versa.
With the multi-level stages in the form of receiving reward, the students will be more pleasant and satisfying. It is also suitable with the Skinner's theory which stated that the operant response (instrumental response) which is arising and developing responses followed by specific stimuli. It is called reinforcing stimuli or reinforce, as stimulants that strengthen the response made by the organism.

In addition, the stage to invite friends in a multi-level concept is also consistent with the cooperastive learning theory. By inviting friends, students can solve a problem together; they may share a common task, and build the confidence of students. Inviting friends to study the social arithmetic modules multi-level base means that the student has spread the kindness to his friends and form a learning network. Thus it can help students increase positive attitudes of the students in mathematics. It is suitable with the statement of Suherman (2003: 259-260) that the cooperative learning in math will help students enhance the positive attitude of students in mathematics. The students individually build confidence in his ability to solve mathematical problems, so it will reduce and even eliminate anxiety towards mathematics that experienced by many students.

By using the concept of multi-level which is used in the modules, it is capable to make the students joining a learning group (list), learning the materials, training the materials, learning the skills of entrepreneurship and practicing the skills of entrepreneurship, and receiving the award.

By using the materials and the entrepreneurship training, the students learn by doing. Lessons and entrepreneurial training includes how to invest the value of money to the children (buying, saving, managing pocket money, saving money, making money by themselves), the games, the success stories of others, and propaganda (create a dream board) can enhance the students’ entrepreneurial spirit. So the students become more independent, creative, risk-taking, action-oriented, leadership, hard work, and having entrepreneurial skills.

Based on the results of the students response indicated that nine students gave very positive responses to the developed modules of social arithmetic school materials multi-level base. They stated that the developed modules of arithmetic material multi level base are good and interesting. The use of language is easy to understand and the instructions are clear, so the students can use these modules as a reference for students in self study. Although for the elementary students sometimes still need assistance to use the module-based multi-level social arithmetic school material.

**Conclusion**

To obtain a module that can be used by students in self study and enhance the entrepreneurial spirit of students, it takes some stages of learning. The stages of learning are used in mathematics modules social arithmetic material multi level base is multi-level stages. The stages are proved to lead the students to join a learning group, learning materials, training materials, learning entrepreneurship, entrepreneurship training, inviting friends, and receiving the award. Thus, the entrepreneurial spirit of the students can be increased.

Based on the research results, obtained conclusions that the mathematics modules social arithmetic school materials multi-level base to enhance the entrepreneurial spirit is valid with the average value Vm = 4.0 (valid) and the percentage of assessment experts are good with the percentage is 80% on the concept of social arithmetic, multi-level construction, the establishment of entrepreneurial spirit, and the appearance and readability. Limited testing by users of the indicators: the display module, the multi-level construction, the establishment of entrepreneurial spirit, and the use of
modules are respectively 88.64%; 87.41%; 87.87%; and 89.78%; they fulfill the practical criteria. All students from elementary to high school can utilize this module. The changing of the entrepreneurial spirit behavior indicators, such as independent, creative, oriented in action, risk-taking, leadership, hard work and skill before and after reading the module are increased from 58.25% (currently) to 80.73% (very high). So the module is feasible to become reference for studying social arithmetic integrated with spirit of entrepreneurship.

**Recommendation**

This module can be recommended in order to increase the students’ entrepreneurship mentality and obtained the learning experiences which apply the mathematics lessons in the entrepreneurship scope. Thus, it can produce students who are able to apply math in everyday life.

This module can be used as a new paradigm in self-study, so the students do not feel tired and they will be easier to understand the material. This module is useful as learning materials and learning resources in order to make the students can associate the mathematic materials in everyday life, especially in entrepreneurship activity. This module can also be used as a collection of mathematics books which is interesting and can educate the students’ entrepreneurial spirit in the module. The multi-level base modules can be used as reference material for teachers in mathematics materials that can enhance the students’ enterpreneship mentality.

**Bibliography**


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