Development of social attitude instrument and student learning style

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Abstract. The purpose of this research is to find out whether the material questionnaire social attitudes, learning style and observation sheet of social attitudes used is reasonable or not to collect research data. The research instruments that were developed were social questionnaire, learning style questionnaire and social attitude observation sheet. Demonstrating the usefulness of such instruments include the content validity, internal consistency and reliability. For the validity of the contents of each instrument, performed by expert judgment is the assessment of experts or experts. The instrument test test was conducted in SMP Negeri 27 Purworejo in class VIIIC and VIIID, with the number of respondents as many as 60 students. The results of the instrument feasibility test include: 1) there are 30 statements on the questionnaire of appropriate social attitudes used to retrieve the research data; 2) there are 45 statements on the learning style questionnaire appropriate to retrieve the research data; and 3) there are 20 appropriate statements used in the observation sheet instrument of social attitudes.

1. Introduction
According to Arikunto, the instrument of data collection is a tool chosen and used by researchers in their activities to collect data to be systematic and facilitated by it [1]. Hadjar argues that the instrument is a measuring instrument used to obtain quantitative information about variable characteristics of variables objectively [2]. The data collection instrument according to Suryabrata is a tool used to record, generally quantitatively, the circumstances and activities of psychological attributes [3]. From some expert opinions above, it can be concluded that the research instrument is a tool used by researchers to collect quantitative information about the variables being studied. Instruments developed in this study include a questionnaire instrument of social attitudes[4], [5], learning style questionnaire[6], and social attitude observation sheet.

Development of social attitude instruments and learning styles of students conducted for the retrieval of research data with the title "Experimentation Learning Model Discovery Learning, Problem Based Learning, and Think Pair Share with the Scientific Approach to the Competence of Knowledge and Social Attitudes on Matter Building Flat Space Side Reviewed from Style Student Learning ", which was held at SMP Negeri Purworejo District in the academic year 2014/2015. From
the conclusion of the research, it is found that the competence of students' knowledge with visual type learning style is better than auditorial and kinesthetic type, and the students' knowledge competence of auditorial and kinesthetic type is equally good. Furthermore, students' social attitude competencies with visual and auditorial style learning styles are as good, visual types are better than kinesthetic types, as well as auditorial and kinesthetic types as well.

Given the differences in social attitudes in each learning style and the results of research on the learning model used, theoretically can be used for the development of learning activities that support the three categories of learning styles[7]. It is expected that students with these three categories of learning styles can be supported by appropriate learning process so that they can improve their knowledge competence and social attitudes for the better. Lebih lanjut Thomas dan Dirk berpendapat bahwa “by knowing about specific preferences a learner unifies, he/she at least fulfils a basic prerequisite to self-regulate his/her learning process and/or environment in a way that suits his/her individual learning preferences” [8].

Before the instrument is used for data collection, then the instrument that has been made further experiments then analyzed to determine the validity, internal consistency, and reliability of the instrument.

The purpose of this study is to determine whether the instrument questionnaire social attitudes, questionnaire learning style and observation sheet of social attitudes used is feasible or not to obtain research data. The benefits of this research are to find out the appropriate instruments used to obtain research data, as well as questionnaires that have been created can be used to measure social attitudes and know learning styles on other objects.

2. Method
Budiyono states that method questionnaire is way to collection data by submission questions addressed to subject research (respondent or source data) and answer given also in written [5]. Students learning styles questionnaires consist of 45 items with alternative answers that can be selected respondents, but during the test questionnaires consist of 66 items questions to prepare for the items questionnaires that less well used to obtain research data. While for the questionnaires social attitude students consists of 30 items with alternative answers that can be selected respondents, but during the test questionnaires consist of 50 items questions to prevent the items less well used to obtain research data. Then made observation sheet consists of 20 items. The use of observation sheet on this research to obtain data regarding the social attitude of the students. Observation sheet later filled by teachers. Before the instrument used for data collection, formerly the instrument that has been created and done trial then analyzed, namely with test the validity of the contents of the expert judgement (assessments by experts) with test, internal consistency with test Karl Pearson and test the reliability with Cronbach Alpha. This research conducted in 2015 at SMPN 27 Purworejo classes VIIIC and VIIID with all respondents is 60 students.

3. Result and Discussion
For the criteria of validity review of social attitude questionnaire, learning style questionnaire and social attitude observation sheet covering material, construction and language aspects. Assuming that social attitudes and prejudice are ‘motivated’, we might usefully explore the role of these more basic personality factors [9]. found that the most substantively relevant social attitude is clearly more strongly linked to a propensity to vote among adults than it is among adolescents. First, the effect of environmental concern on the propensity to vote for the Green party is higher among adults than it is among adolescents. Second, a more ethnocentric attitude among adults has a stronger link with a propensity to vote among adults than among adolescents. The link between Flemish identity and propensity to vote for radical right is equally strong among adults and adolescents. Third, the link between a Flemish identity and a propensity to vote for the Flemish nation- alists is stronger among adults than it is among adolescents as well. However, for Flemish identity, we find that young people with a stronger Flemish attitude are more likely to vote radical right than adults [10]. This study was
conducted using validity sheet of content of three validators, namely Pratista Arya Satwika, S.Psi., M.Psi., Psi., And Arif Tri Setyanto, S.Psi., M.Psi., Psi. who are both psychology professors of Sebelas Maret University, and Dr. Ir. Wagimin. who is a lecturer of Counseling and Counseling Sebelas Maret University. The result of the validity of the content that has been done by the validator stated that all the items have been in accordance with the criteria in the presence of some revisions on the structure of the sentence used. Furthermore, all the questionnaires and observation sheets are said to be valid so they are ready to be tested. Furthermore, the test questionnaire conducted in SMP Negeri 27 Purworejo in class VIIIC and VIIID with the number of students 60 people. The following will be explained more the results of the questionnaire attitude test and learning style

3.1 Questionnaire Social Attitude
Judging from internal consistency, the questionnaire used to collect data on social attitude competence, grain that has a good internal consistency, that is with \( r_{xy} \geq 0.30 \). Based on the results of the calculation of the internal consistency index of the statement statement statement, the competence of social attitudes shows that from the 50 items of the tested statement, there are 12 items of statement, namely point number 4, 15, 17, 18, 21, 25, 30, 36, 37, 43, 44, and 48 has an internal consistency index of less than 0.3, while for the other 38 statements it has 0.3. Thus, the 38 points of the statement can be said to have good internal consistency.

| Different power | Criteria | Items | Decisions |
|-----------------|----------|-------|-----------|
| \( r_{xy} < 0.30 \) | Poor     | 4,15,17,18,21,25,30,36,37,43,44,48 | Dropped |
|                 |          | 1,2,3,5,6,7,8,9,10,11,12,13,14,16,19,20 | |
| \( r_{xy} \geq 0.30 \) | Good     | 22,23,24,26,27,28,29,31,32,33,34,35,38,39,40,41,42,45,46,47,49,50 | Used |

Based on the calculation of internal consistency of competence questionnaire of social attitudes, from 50 items tested statement there are 38-point statement that can be used. In accordance with the plan, that statement used to measure the competence of social attitudes as much as 30 points statements. For this purpose there are 8 items of unused statements, even though they are included in good criteria. The reason for not using the statement is because it is seen from the internal consistency index is lower than the other statement items. Therefore, in the questionnaire the competence of social attitude point number 3, 5, 8, 14, 16, 22, 27, and 34 is not used. Although not used by some of the items of the statement, the indicators for each of the student's social attitude attachment questionnaire instruments are still represented by other statement items.

Furthermore, the questionnaire instrument of social attitude competence as much as 30 points statement that has been classified well in terms of internal consistency index, calculated its reliability index. In this study, the questionnaire instrument used to collect data on social attitude competence is that having \( r_{11} \geq 0.70 \). Based on the calculation results obtained reliability index questionnaire competence social attitudes of students of 0.86. Therefore, the questionnaire instrument of social attitude competence can be defined as an instrument used to collect data on students' social attitudes.

Table 2. Observation Sheet of Social Attitude

| No | Statement |
|----|-----------|
| 1  | Students are active in group discussions |
| 2  | Students perform group assignments given by teachers |
| 3  | Students want to do the task together with the group that has been appointed by the teacher |
| 4  | Students are welcome to accept opinions of friends who are different from his opinion |
| No. | Statement                                                                                                                                                                                                 |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5   | Students prioritize group tasks rather than individual tasks                                                                                                                                          |
| 6   | Students pay attention when the teacher explains the subject matter                                                                                                                                   |
| 7   | The student does not interrupt another friend who is expressing his opinion while the discussion is in progress                                                                                      |
| 8   | Students give friends a chance to argue                                                                                                                                                                 |
| 9   | Students ask teachers if they have learning difficulties                                                                                                                                               |
| 10  | Students ask classmates if math materials are not mastered                                                                                                                                              |
| 11  | Students are willing to work with friends of different religions, races, and gender                                                                                                                 |
| 12  | Shiva can appreciate the opinions of friends, although different opinions with him                                                                                                                    |
| 13  | Students seek solutions to resolve differences of opinion / thoughts with friends during discussion activities take place                                                                             |
| 14  | Students can receive friends' coffers                                                                                                                                                                   |
| 15  | Students are willing to forgive the error of the theme                                                                                                                                                 |
| 16  | Students are friendly to friends                                                                                                                                                                       |
| 17  | Students help friends who have learning difficulties                                                                                                                                                   |
| 18  | Students are willing to help other discussion groups if there is material that the group has not understood                                                                                             |

### Table 3. Questionnaire Social Attitude

| No. | Statement                                                                                                                                                                                                 |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | I took part in the group work assigned by the teacher.                                                                                                                                                   |
| 2   | I am not interrupting another friend who was speaking during the discussion.                                                                                                                             |
| 3   | I do not lend a note to a friend, for fear of friends becoming smarter.                                                                                                                                  |
| 4   | Forgive if any friends would not cooperate with me.                                                                                                                                                      |
| 5   | I will try to appreciate the opinions of others, even if different opinions.                                                                                                                              |
| 6   | I do not lend a textbook to a friend, for fear of being damaged.                                                                                                                                       |
| 7   | If a friend asks me about a lesson, I will explain it as I understand it.                                                                                                                                  |
| 8   | If there is a group assignment, I will leave it to a clever friend.                                                                                                                                       |
| 9   | I want to cooperate with a clever friend.                                                                                                                                                                |
| 10  | I give my friends a chance to argue.                                                                                                                                                                    |
| 11  | I mention the physical deficiencies a friend has in front of others.                                                                                                                                     |
| 12  | I asked my classmates if there were any math materials I had not mastered.                                                                                                                                |
| 13  | I chose to do my own math tasks instead of having to work with my group mates.                                                                                                                             |
| 14  | I was silent and listened while others were talking.                                                                                                                                                      |
| 15  | I would like to accept what has been a mutual agreement in the group discussion.                                                                                                                            |
| 16  | I prefer to remain silent in group discussion activities.                                                                                                                                                 |
| 17  | If you meet my teacher smile and greet.                                                                                                                                                                 |
| 18  | I represent the group for the presentation in front of the class just because they want to get better grades from the other members of the group.                                                       |
| 19  | I like to mock friends who are not good at class.                                                                                                                                                        |
| 20  | I just want to cooperate with the closest friends in the class only.                                                                                                                                     |
| 21  | I do not care if there are differences of opinion among friends in discussion activities.                                                                                                                  |
| 22  | I listen when the teacher is giving an opinion or explanation of the subject matter.                                                                                                                     |
| 23  | Giving friends a chance to give me criticism and suggestions.                                                                                                                                             |
| 24  | I do not interrupt when the teacher explains the subject matter.                                                                                                                                       |
| 25  | Angry if the results of the discussion do not match with my opinion.                                                                                                                                     |
| 26  | Willing to assist other discussion groups if asked or any material that has not been understood in the group.                                                                                             |
27. I consider the opinion of a friend during the discussion, because maybe the opinion of a friend is better.
28. I prefer to present my own tasks rather than the results of discussions with the group.
29. I bowed my head and shook hands with the teacher.
30. I ask the teacher if I have difficulty in learning math.

3.2 Questionnaire Student Learning Style

Cognitive style associated with the use of time used by students to answer the problem and the number of errors made by students in solving problems given [11]. Accommodating learning style consists of concrete experience and active experimentation skills. Individuals with this learning style prefer to learn through feeling and doing [12]. The student learning style questionnaire compiled by this researcher is a closed questionnaire consisting of 22 statement items for each visual, auditorial, and kinesthetic learning style. Item statements are prepared with four choices of answers, i.e. always, often, occasionally, and never. After the instrument test, it was found out that the student learning style questionnaire instrument set for data retrieval consists of 15 items of statement for each visual, auditorial, and kinesthetic learning style. Here are the results of student learning style questionnaire test instrument.

Judging from internal consistency, the questionnaire used to collect learning style data is a statement item that has a good internal consistency, that is with $r_{xy} \geq 0.30$. Based on the calculation of internal consistency index in this research, from 66 item statement consisting of 22 grain of visual learning style, 22 grains of auditorial learning style, and 22 kinesthetic learning style, it is found that in visual learning style there are 3 items of bad statement that is number 14, 20, and 22 while the other good grain, while in the style of learning auditorial there are two items that are not good statements that are number 14 and 16 while the other good points, and the kinesthetic learning style there are 4 items that are not good statement that is number 6, 14, 17, and 20 while others are good.

Based on the calculation of internal consistency of learning style questionnaire, from 22 point statements tested for each learning style, there are 19 items of statement that can be used on visual learning style, there are 20 items of statement that can be used on auditorial learning style, and there are 18 items a statement that can be used in kinesthetic learning styles. In accordance with the plan, the statements used to measure the learning style are 45 items consisting of 15 points of statement for each questionnaire of visual, auditorial, and kinesthetic learning styles. For this purpose, there is a statement item that is not used in each learning style questionnaire, although the statement is included in good criteria. The reason for not using the statement is because it is seen from the internal consistency index is lower than the other statement items. Therefore, in the visual learning styles of point 8, 12, 18, and 19 are not used, the auditorial learning styles of point 4, 7, 9, 10, and 13 are not used, as well as in the kinesthetic learning style of the statement number 5, 12, and 15 are not used. Although not used by some of the items of the statement, the indicator for each student learning style question instrument is still represented by another statement item.

Furthermore, the learning style questionnaire instrument is 45 item statement consisting of 15 points statement for each questionnaire of visual, auditorial, and kinesthetic learning style that has been classified well from the internal consistency index, calculated its reliability index for each learning style. In this study, the questionnaire instrument used to collect student learning style data is that having $r_{11} \geq 0.70$. Based on the calculation results obtained reliability index for visual learning style of 0.84, auditorial learning style of 0.80, and kinesthetic learning style of 0.81. Therefore, this learning style questionnaire can be defined as an instrument used to collect student learning style data.

| No. | Statement |
|-----|-----------|
| 1.  | I like to record mathematics neatly and regularly and underline mathematical formulas. |

Table 4. Visual Style Learning Questionnaire
| No. | Statement                                                                 |
|-----|---------------------------------------------------------------------------|
| 2.  | I studied mathematics in a clean and neat environment.                    |
| 3.  | I study math only if there is homework (PR) from the teacher.             |
| 4.  | While working on math problems, I tried to write down mathematical symbols correctly. |
| 5.  | I will re-examine the homework results, before being collected.           |
| 6.  | I wrote neatly the conclusions of a read math book.                       |
| 7.  | I chose to read math books that presented colorful material and pictures. |
| 8.  | I find it easier to understand and remember math materials written on the blackboard than just listening to teacher explanations. |
| 9.  | I prefer to take down math materials written by teachers on the board alone. |
| 10. | I have difficulty remembering oral instructions in or instruction on math. |
| 11. | After I got home, I re-recorded the mathematics lesson.                   |
| 12. | I make time to study math.                                                |
| 13. | I prefer to study math with the messy state of the book on the table.     |
| 14. | I do not like math books that have too many pictures and colors.          |
| 15. | I like to learn math while others are sleeping.                           |

Table 5. Questionnaire Auditory Learning Style

| No. | Statement                                                                 |
|-----|---------------------------------------------------------------------------|
| 1.  | While studying I was looking for a quiet place.                           |
| 2.  | I learned math while listening to music using a headset.                  |
| 3.  | I say aloud while reading a math book.                                    |
| 4.  | I move my lips while reading a math book.                                 |
| 5.  | I studied mathematics while others were sleeping.                         |
| 6.  | I gave a lengthy explanation to a friend who asked about unexplained mathematical material. |
| 7.  | I prefer to read math books only in my heart.                             |
| 8.  | I did not say anything while reading a math book.                         |
| 9.  | I am more receptive to the mathematics material delivered by way of discussion. |
| 10. | When studying a material, I prefer to listen to an explanation from a friend rather than read it. |
| 11. | When the teacher asked me questions about mathematics, I just answered briefly. |
| 12. | I find it difficult to accept mathematical material in the form of graphs, tables, and diagrams. |
| 13. | It's easier to understand math by listening to teacher explanations than looking at books or written on the board. |
| 14. | I like to talk about presenting the results of group discussions in front of the class. |
| 15. | I spoke briefly when appointed by the teacher for presentation in front of the class. |

Table 6. Questionnaire Kinestetik Learning Style

| No. | Statement                                                                 |
|-----|---------------------------------------------------------------------------|
| 1.  | I walked to the teacher to ask if I could not do math problems.           |
| 2.  | I walked to my friend to ask about materials that I did not understand.   |
| 3.  | I prefer to read while scribbling on other paper.                         |
| 4.  | I prefer to study math accompanied by experiments rather than just listening to teacher explanations. |
| 5.  | I took a walk in the classroom while the math teacher was explaining.     |
| 6.  | I memorize math material by reading notes while walking.                  |
| 7.  | I prefer to use a math book that contains a detailed understanding.       |
| 8.  | I tapped or played a pen, finger, or foot when I heard the teacher's explanation during a math class. |
| 9.  | During the lesson I like to move on the bench of another friend.          |
| 10. | I like to read math books while eating snacks.                            |
11. I like to use a finger to point to while reading a math textbook.
12. I listened carefully as the teacher explained the mathematical material without noting at the same time.
13. Other people often ask me to repeat what I say.
14. I touched and interrupted my friend while listening to the math teacher's explanation.
15. My presentation in front of the class with a slow voice.

4. Conclusions
Based on the results, we can have concluded: (1) Of the total 50 statements obtained 30 statements are valid and reliable with the calculation results obtained reliability index questionnaire student social attitudes of 0.86 so, the questionnaire instrument can be used to collect attitude data social students. (2) Of the total 66 statements in the learning style questionnaire obtained 45 valid and reliable statements. Based on the calculation results obtained reliability index for visual learning style of 0.84, auditory learning style of 0.80, and kinesthetic learning style of 0.81. Therefore, this learning style questionnaire can be defined as an instrument used to collect student learning style data. (3) 20 statements on the observation sheet declared valid after going through the process of content validity by the expert judgment then revised according to the advice of the designated expert.

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