



Development of Instrument Self-Concept Assessment Student on Learning Mathematics in Junior High School

Dite Umbara Alfansuri^{1✉}, Ani Rusilowati², Saiful Ridlo²

¹. SMP NU Al-Amin Dukuhturi, Tegal, Indonesia

². Universitas Negeri Semarang, Indonesia

Artikel Info

Sejarah Artikel:
Diterima 20 October
2017
Disetujui 11 January
2018
Dipublikasikan 10
March 2018

Keywords:
Instrument
Assessment Self-
Concept,
Mathematic,
Construct Validity

Abstract

The difficulty of learning mathematics faced by students can be caused by several factors. Internal factors (factors from within the child itself) such as talent, interest, motivation, self-concept and others, and external factors (factors from outside the child) is the factor of the house and the surrounding environment. The goal of the research is to develop self-concept assessment instrument of students in junior high school mathematics study that is valid, reliable, practical, and know the self concept concept of students on SMP Al Amin Dukuhturi Tegal. This research is a development research with modified Borg & Gall model without dissemination and implementation stage. The validity of the instrument contents is tested by 3 experts in the field, the score given by the expert is tested using V Index, and reliability with ICC. Small-scale trials to find out valid grains tested with pearson correlation and alpha cronbach for reliability. Large-scale test of grain validity was tested with pearson correlation, construct validity with Exploratory Factor Analysis (EFA), and reliability with alpha cronbach. The results obtained 26 valid items from expert validation with reliability of 0.817. Small scale test with respondent 35, obtained 22 valid items with coefficient > 0,334, and 0,848 for reliability coefficient. Large scale test with 60 respondents obtained 22 valid items with coefficient > 0,254, construct validity of KMO value equal to 0,646 with significance 0,000, while value of MSA > 0,5 for 22 item which form 8 factor according to aspect dimension of self concept. Test of practicality, from 5 mathematics teacher respondents stated practical with score > 21. Most high-caliber self-concept is obtained in small and large scale trials. Self concept assessment mathematical can be used by teachers in order to improve the learning process.

© 2018 Universitas Negeri Semarang

Correspondence :

Jalan Pesantren No.10 Kecamatan Dukuhturi Kab.Tegal
E-mail: diteumbaraalfansuri@gmail.com

P-ISSN 2252-6544
E-ISSN 2502-356X

INTRODUCTION

The potential development of a person will not be realized if not attempted. Students who believe in their abilities tend to engage in a series of attitudes and beliefs that struggling people will certainly succeed (Sahranavard, 2014). A person's efforts to actualize his potential will also shape his attitude and personality. So hopefully through a mature attitude and personality, will grow a character that suits with the purpose of character building.

According to Ridlo and Irsadi (2012: 146-147) character building is not just teaching what is right and what is wrong, more than that, character building instill habits (*habituation*) about which is good so that learners become understand (cognitive) about which is right and wrong, able to feel (affective) good value and used to do it (psychomotor). The most important thing is that the actualization of self potential can be obtained if a person has self-concept.

According Gudnanto et al (2013) self-concept is an important part of a person's personality, that is as a determinant of how a person behaves and behaves. In other words, if one considers himself incapable, helpless and in other negative things, this will affect a person in the endeavor. It also applies vice versa if a person feels himself good, friendly then the behaviors that are shown it will also show that nature.

Bastaman (in Gaol et al., 2017) says that there are two kinds of self-concept namely, positive self-concept and negative self-concept. A positive self-concept is formed because a person continually receives positive feedback in the form of praise and appreciation for a long time. While the negative self-concept is associated with negative feedback such as mockery and humiliation.

Dwija (2008) explains that the outline of the self concept factors are divided into two types, there are: factors that come from within students and environmental factors. The factors from inside are called internal factors, which include: physical aspects such as: sense devices and physical health. Psychological factors include: intelligence, talent, interest, emotion, attitude, attention, readiness, maturity, responsiveness, self-concept, and motivation. Environmental factors (external), including (1) family, detailed on: parenting, parental attention, wholeness, parental education, economic status; (2) the school environment, (3) the community environment, and (4) the natural environment. According to Acocella (1995), when a person has a positive self-concept, then the behavior that appears tend to be positive. Conversely, if a person assesses himself negative, then the behavior that appears also tend to be negative .

The students who have low self-concept, can cause various problems. One of the most common problems is to cheat or cheat on exams or do assignments. This cheating is easy to find and almost happens in every level of education ranging from primary education to college. Based on a survey conducted by R & D Media Group on April 19, 2007 to 480 adult respondents in 6 major cities in Indonesia, namely Makassar, Surabaya, Yogyakarta, Bandung, Jakarta, and Medan shows the majority of students, both in school and college is doing academic froud in the form of cheating. Almost 70% of respondents answered when asked if they ever cheated when they were still in school or college (Nursalam, 2013). One of the causal factors of this problem is the lack of self-confidence that the students have to do the exam or task independently in accordance with their capabilities.

The reality of learning achievement, especially in mathematics lesson in Indonesia showed unsatisfactory result. This can be seen based on survey results of the *Program for International Student (PISA)* in 2015, Indonesia ranked 69th of 76 countries with 386 points. The point is still below from the international average that is 496 (Balitbang Kemendikbud, 2016). The results of the Trends in *International Mathematics and Science Study (TIMSS)* that is followed by students of class VII Indonesia. At TIMSS 2007 it was ranked 36th of 49 countries with average mathematics achievement score of students is 379 and at TIMSS 2011 it was ranked 38th of 42 countries with average mathematics achievement score of students is 386 (Puspendik, 2012). Meanwhile, for the ASEAN region, Indonesia is just above the Philippines, but is far below of Singapore, Malaysia and Thailand (Asmanigtias, 2012).

PISA 2012 states that the concept of self-mathematics (*mathematics self concept*) is part of self-belief (*self belief*) mathematics. In his report mentioned that aspects related to self-belief (*self belief*) mathematics is the *mathematics of self efficacy* (MSE) is one's confidence in overcoming and solving math problems effectively, *mathematics self-concept* (MSC) is one's confidence in the ability to perform activities mathematics itself, *mathematics anxiety* that is feeling depressed and when dealing with mathematics, and *engagement* mathematics in activities inside or outside school.

Math is a part of science. According to Byrne *et al.* (1987) the concept of science is a term used to deal with describing one's self perception in relation to achievement in science. While the self-concept of mathematics is defined by Marsh (in Githua et al., 2003) as a person's perception of himself about his reasoning ability

and mathematical skills, pleasure and interest in performing mathematical activities.

Observation results in SMP NU Al Amin found some problems related to self-concept with mathematics learning. Where the tendency of students to have a negative self-concept, shown by the lack of ability in the field of academics, especially mathematics, lack of confidence, respect among the students is still low, the level of concern is still lacking, and interpersonal communication is less good.

According to data from some previous research the concept of self affects motivation, results, and even learning achievement. Pomegranate (2016) states, the self-concept of mathematics provides 55.5% motivation to learn mathematics. Research by Nur (2016), self-concept of mathematics have a positive and significant effect on the result of learning mathematics with the influence of 24,5%. Netrialis research (2016) obtained results, self-concept affects the achievement of learning with the degree of determination 84%. Othman (2011) got the result of a significant relationship between self-concept and learning achievement.

Self concept assessment that occurs only using the standard assessment of affective judgments that are still general. Affective instruments presented in general substance have not fully linked factors in students' self concept and have not been able to measure student self concept. This is certainly not in line with student self concept, considering this is very important for students. Thus, the existing affective instruments have not fully revealed the self concept aspects of the students.

Relating to know the factors that influence the self concept of junior high school students in learning mathematics, it is necessary to have an instrument to assess student self concept. It is intended that the students are able to understand themselves and the teacher can see the extent to which student self concept develops. Furthermore, teachers can organize learning with appropriate learning model.

METHODS

This research is a research development or *research and development*. The development model used is the development of Borg & Gall instruments. There are 10 steps in conducting research and development according to Borg & Gall (2007: 271). The development of self-concept assessment instruments generally includes several steps: (1) needs analysis, (2) goal and design determination, (3) instrument development, (4) expert review, limited testing, large-scale trial (cycling / revision cycle between review and revision), (5) analysis of trial results and (6) final product (Rusilowati, 2011). And this development research conducted in SMP

NU Al Amin Dukuhturi 1 Regency of Tegal. The subjects of the experiment were students of SMU NU Al Amin Dukuhturi class VII as many as 95, with 35 students for small-scale trials and 60 students for large-scale trials. This research becomes important as a study in the process of product development, efforts to assist the development of self-concept assessment instruments with construct validity. The developed instrument is tested for validity (content and construct), reliability and practicality, resulting in a usable product.

RESULTS AND DISCUSSION

The form of self-assessment instrument of student self-concept that are developed, tested the validity of its content through the consideration of the experts. The validity of the contents of the instrument used is a test the validity of the item to test which items are fall. The validators involved at this stage consist of 3 experts in their respective fields, experts in instrument development, mathematics education, and expert practitioners. Comments and suggestions from validators are used to revise the instrument.

The data obtained from the validation results to 3 experts stated that the instrument is worthy of use and qualitative data in the form of suggestions. Based on these suggestions are obtained information that some points that must be considered to be the basis of making improvements or revisions, among others: the writing of sentences, as well as the statement content should be more referring to the indicator. Revisions are also made by improving the grammar, composing of sentences as well as the general form of the instrument.

Based on expert validation of 30 instrument items, 26 grains obtained V index compared with critical r is greater than 0.3. And there are 4 grains that have V Index below 0, 3 that is 7, 8, 15 and 16. Because there are grains are invalid then 4 grains are decided. Therefore is obtained only 26 valid grains. The above results also provide the conclusion that self-concept assessment instruments can be used for further tests.

The level of agreement between the three validator reliability can be explained by calculating the reliability coefficient between rater or appraisal using *Intraclass Correlation Coefficient* (ICC) analysis with the help of SPSS 22.0 program. According Suharsimi (2008: 75), assessment instrument is said to be reliable if $r_{xx} > 0.6$. Based on ICC calculations obtained reliability $r_{xx} = 0.817$, thus, the self-concept assessment instrument of junior high students is said to be reliable and ready to be tested

Small-scale trials test the validity of items and instrument reliability. Grain validity was

analyzed by correlation formula using SPSS program version 22.0. The requirement used are coefficient *pearson correlation* r_{test} must be bigger than r_{table} equal to 0,334 (for 35 sample). If less than 0.334 then the grain assessment instrument that r correlation is considered void / not used / invalid. The result of self-assessment analysis of self assessment instrument in small-scale test, there are 22 grains of instrument that have correlation coefficient $r_{test} \geq 0.334 r_{table}$, there are 4 grains that are not valid or less than the correlation coefficient $r_{test} \geq 0.334 r_{table}$ is grains 19, 20, 25 and 26. This small-scale trial obtained 22 valid grains that can be used for large-scale trials.

Instrument reliability analysis on small-scale trials are obtained the value of instrument reliability coefficient of 0.848. The results of the analysis on the SPSS version 22.0 output for the limited reliability test can be seen in Table 1.

Table 1. Results of Small Scale Test Reliability Analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.848	.848	26

Good reliability is when the index is equal to or greater than 0.70 (Mardapi, 2016: 115). The results of this analysis can be concluded that the self-concept assessment instrument has a good level of reliability on small-scale trials. Large-scale trials test the validity of the construct and reliability of the instrument. Conditions used are coefficient *pearson correlation* r_{test} must be bigger than r_{table} equal to 0,254 (for 60 sample). If less than 0.254 then the grain assessment instrument r correlation is considered void / not used / invalid. The number of items tested is 22 grains, because in small-scale trials of 26 items there are 4 items fall. Result analysis validity test of self-concept assessment instruments on large-scale trials, there are 22 grains of instruments that have correlation coefficient $r_{test} \geq 0.254 r_{table}$. This indicates that the 22 instrument items are valid.

The next test is to test the validity of constructs on self-concept assessment instruments. The validity test of constructs for self-concept assessment instruments using *Exploratory Factor Analysis* (EFA). The valid data is based on the explanatory factor analysis procedure, if the data qualifies the *Keizer-Meyer-Olkin Measure of Sampling Adequacy* (KMO MSA) > 0.5 and at *Chi-Square* the significance value < 0.05 then, the data is feasible and can be continued to be tested validity. Based on large-scale field trials data obtained KMO value > 0.5

that is 0.646 and *Chi-Square* value of signification 0.000. Test results can be seen in Table 2.

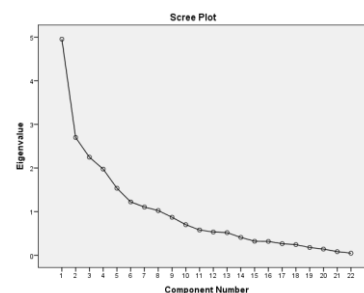
Table 2. Test Result of Conformity Validity of Construct Data

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		
		.646
Bartlett's Test of Sphericity	Approx. Chi-Square	635.22
	Df	3
	Sig.	.000

Based on the result of SPSS data of *Coefficient Measure of Sampling* (MSA), the correlation number marked "a" (diagonal direction from top left to bottom right) from the analysis result of *Anti-Image Correlation* not found item having correlation value below 0.5 with MSA > 0,5 criteria this indicates that the data of large-scale test result is declared eligible for continued exploratory factor analysis (Manutede et al., 2015).

The output of factor analysis consists of 4 main parts to be considered: (1) *Total Variance Explained*; (2) *Scree Plot*; (3) *Component Matrix*; (4) *Rotated Component Matrix*. Based on the *total variance explained* the number of factors formed are 8 factors. The number of factors is determined from the value of *eigenvalues* that are still above 1. The eigenvalues figure shows the relative importance of each factor in calculating the 22 variance analyzed.

In addition to viewing the *Total Variance Explained* table the number of factors can also be done by looking at the *Scree Plot* that can be seen in Picture 1.



Picture 1. Scree Plot Self Concept Factor Analysis

Based on the *Scree Plot* it appears that from the 1st to 2nd factor is decrease *eigenvalues* still above 1, as well as from 2nd to 3rd factor, 3rd to 4th, 4th to 5th, 5th to 6th, 6th to 7th, 7th to 8th *eigenvalues* still above 1, whereas from the 8th factor and so on the *eigenvalues* are already below 1, so the number of factors is 8.

The magnitude of the component factor must be ≥ 0.3 , if there is an equal component factor ≥ 0.3 then the largest is taken. The result

of the matrix component if no distribution of rotation then the 22 items entered in the analysis results as follows: Items 1, 2, 3, 14, 15, 17, 18, 19, and 22 are included in the 1st factor component; Items 5, 9, 11, 12, 13, and 21 are included in the 2nd factor component; Item 6 is included in 3rd factor component; Items 7, 10, and 16 are included 4th factor component; Item 20 is included in 6th factor component; and Item 8 is included in 7th factor component. For 5th and 8th factor components have no item.

Meanwhile, if do the rotation of the component matrix distribution then the component or the big loading factor is increasingly enlarged while small ones are further weakened and it shows a clearer and obvious factor distribution. Here are the results after did *Rotated Components Matrix*, Items 1, 2, 3, and 4 are included the 1st factor component; Items 20, 21, and 22 are included 2nd factor component; Items 17, 18, and 19 are included 3rd factor component; Items 14, 15, and 16, 17 are included 4th factor component; Items 11, 12 and 13 are included 5th factor; Items 5 and 6 are included 6th factor; Items 9 and 10 are included 7th factor; the last 7 and 8 are included in 8th factor.

The results of *Alpha Cronbach* reliability measurement obtained value of instrument reliability coefficient is 0.709. The analysis result on the output SPSS version 22.0 for the limited reliability test can be seen in Table 3.

Table 3. The Result of Large Scale Trial Reliability Analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.709	.709	22

Good reliability is when the index is equal to or greater than 0.70 (Mardapi, 2016: 115). This analysis result can be concluded that self-concept assessment instrument has a good level of reliability on large-scale trials.

Widodo research (2006), an instrument developed to assess self-concept in the form of questionnaires, only that the instrument is more focused on the field of psychology and used for students. In the instrument there are 13 components of self-concept scale. Exploratory factor analysis conducted on the data of all research subjects, the results obtained that the self-concept of the subject is arranged into two factors namely social factors and attraction factors. Social self-factor is supported by 8 variables, they are honesty, spiritual values,

general ability, relationship with parents, same-sex relationships, verbal skills, mathematic, and emotional stability. The second factor, namely attraction has 5 variables that is the relationship with the opposite sex, physical appearance, self in general, problem solving, and physical ability.

The results of the research have been done was obtained 8 factors from 22 statement grains. The first factor of self-identity has 4 statement grains, the second factor of self-social has 3 statement grains, the third factor of the self-family has 3 statement grains, the fourth factor of the self-personal has 3 statement grains, the fifth factor of the self-ethical morality has 2 statement grains, the sixth factor of self-assessment has 2 statement grains, the seventh factor of the self-physical has 2 statement grains, and the eighth factor of self-behavior has 2 statement grains.

Although the constructs of self-concept can be established, however the constructs of self-concept cannot be seen directly. Aren *et al* (2011) stated that the latent concept of self-concept cannot be observed directly, a careful examination is needed for its validity to be obtained. In fact, according to Irwing (1996) suggested the self-concept has cognitive and affective components.

The calculation result of the teacher's response to the practicality of the self-concept assessment instrument, obtained information that the assessment instrument for all aspects had the lowest practicality score is 34 and the highest is 36 from 5 teacher respondents. Based on the score criteria made by the researcher is practical if the score > 21, obtained the conclusion that each respondent assess the self-concept assessment instrument of junior high school students is practical.

From the small-scale trial data with the sample of 35 students, the score percentage of self-concept scoring, obtained the students have self-concept category is very positive with the percentage of 20%, 12 students have positive self-concept category with percentage 34.2%, and for negative category as well very negative each has 8 students with percentage 22.9%. Based on the data can be concluded that the most category obtained by students is the self-concept with positive category.

Meanwhile, on the large scale trial with 60 students as a sample obtained the score percentage of self-concept assessment obtained 12 students have a very positive self-concept category with a percentage of 20%, 22 students have positive self-concept category with percentage 36.7%, 15 students have negative self-

concept category with percentage 25%, and for very negative category has 11 students with percentage 18,3%. Based on the data can be concluded that the most category obtained by students is the self-concept with positive category.

The result of Priyani research in the year 2013 showed as many as 42 students with percentage 58.33% of high category self-concept and 30 students with percentage 41.67% of medium category self-concept. The result of Handayani research the self concept score obtained from the respondents has the lowest score is 109, the highest score is 157, the mean score is 133,71 median is 133,00 mode is 133 and standard deviation is 12,194, standard deviation number is 12,194 or equal to 9.12% of the average, it showed self-concept differences among respondents including low.

Subaryana (2015) explained, the self concept which is a person's perception of himself, will have much influence on what they will do. If someone has a positive self-concept, then he or she will try to do something optimally in order to achieve the goals they want. But vice versa a person who has a negative self-concept, then they tend to be less than optimal in doing something or a lot overwhelmed by a sense of doubt, therefore their results are less likely to be optimal.

Similarly, the self-concept owned by students. The students who have positive self-concept tend to study more optimal than the students who have negative self-concept, so that the students who have positive self-concept their learning achievement is better than the students who have negative self-concept. The research of Senler *et al.* (2009) shows the self-concept and the self-concept of science have relationship with science achievement. (Anderson & Johnson, 1971; Aryana, 2010; Sanchez & Roda, 2003; Marsh *et al.*, 2000; Marsh *et al.*, 2005; Mboya, 1989; Nuthana & Yenagi, 2009; Valentine *et al.*, 2004), where they found that there was a significant relationship between self-concept and academic achievement.

The self-concept of students in learning mathematic is very influential. In theory that has been exposed, if the students have a positive self-concept then the results of learning, especially in mathematic lesson will be good. The research of Leonard and Supardi (2010) showed that there is a positive and significant influence between self-concept of the students on the students' mathematic learning outcomes. In other words, the students who have self-confidence, perception and a positive outlook about

themselves will be able to improve the learning outcomes of mathematics. The students who have good mathematic self-concept, if according to the students mathematic is the best lesson, even if the student is not very smart at mathematic (Marsh *et al.*, 2003).

CONCLUSION

This research produces self concept assessment instrument of student on mathematic learning of junior high school with 22 items of valid and reliable instrument. The content validity from the expert assessment obtained 26 valid items with validity value > 0.3 , and reliability is 0.817. The result of item validity analysis on small scale test of 26 items tested obtained 22 items with correlation coefficient $r_{\text{test}} \geq 0.334 r_{\text{table}}$, while reliability coefficient is 0.848. The result of grain validity analysis on large scale test of 22 grains obtained correlation coefficient $r_{\text{test}} \geq 0,254 r_{\text{table}}$. The construct validity by using *Exploratory Factor Analysis (EFA)* was obtained *Keizer-Meyer-Olkin Measure (KMO)* $> 0,5$ is 0.646, *Bartlett's Test of Sphericity* significance is 0.000, while the *Measure of Sampling (MSA)* coefficient from 22 grains $> 0,5$ which means that the instrument fulfill the criteria of factor analysis testing. *Total variance explained* shows the factors number formed are 8 factors. The factors number is determined from the value of *eigenvalues* that is still above 1. This is supported by the *scree plot* generated testing. *Component matrix* shows the distribution to 22 instrument grains on 8 factors formed. The results obtained in *the rotated component matrix* table that 22 items have a high loading factor on the one of factor and has a small enough loading factor on the other factors. The loading factor value contained in 22 instrument grains is > 0.3 so that the instrument grain is included in the 8 factors. The reliability coefficient is 0.709.

The instrument practicality assessment is assessed based on five indicators, namely subjectivity, systematic, construction, linguistic, and practicality. The results of the assessment were obtained for all aspects of having the lowest practicality score was 34 and the highest was 36 from 5 teacher respondents. Based on the score criteria made by researcher, obtained the conclusion that each respondent assessed the self-concept assessment instrument of junior high school students is practical to use. From the small-scale test data with 35 students, the percentage of self-concept assessment score, obtained 7 students have self concept category is very positive with percentage of 20%, 12

students have positive self-concept category with percentage 34,2%, and for negative and very negative category each have 8 students with 22,9% percentage. In large-scale trial with 60 students, obtained the data percentage of self concept assessment score obtained 12 students have a very positive self-concept category with a percentage 20%, 22 students have positive self-concept category with percentage 36,7%, 15 students have negative self concept category with percentage 25%, and for very negative category have 11 students with percentage 18,3%.

REFERENCES

- Acocella, Joan R., Calhoun, & James F. (1995). *Psikologi Tentang Diri dan Hubungan Kemanusiaan*. Terjemahan Bahasa R. S. Satmoko. Semarang: IKIP Semarang Press.
- Asmaningtias, Y.T. 2012. Kemampuan Matematika Laki-laki dan Perempuan. *Jurnal Madrasah*, 1(2): 1-15.
- Anderson, J. G., & Johnson, W. H. (1971). Stability and change among three generations of Mexican Americans: Factors affecting achievement. *American Educational Research Journal*, 8: 285-309.
- Arens, A. K., Yeung, A., Craven, R., & Hasselhorn, M. (2011). Toward twofold multidimensionality of academic self-concept: domain specificity and separation between competence and affect. *Journal of Educational Psychology*, 103: 970-981.
- Aryana, M. (2010). Relationship between self-esteem and academic achievement amongst pre univeristy students. *Journal of Applied Science*, 10(20): 2474-2477.
- Badan Penelitian dan Pengembangan Kementerian Pendidikan dan Kebudayaan (Balitbang Kemendikbud). 2016. *Survey Internasional PISA*. (Online). Tersedia di <http://litbang.kemdikbud.go.id/indeks.php/survei-internasional-pisa>. (diakses pada 2 November 2016).
- Byrne, B.M., & Shavelson, R.J. (1987). Adolescent self-concept: Testing the assumption of equivalent structure across gender. *American Educational Research Journal*, 24(3): 365.
- Delima, N. (2016). Hubungan Konsep Diri dengan Motivasi Belajar Matematika Mahasiswa Program Studi Sistem Informasi. *JPPM*, 9 (2): 235-239.
- Dwijaja, I.W. (2008). Hubungan Antara Konsep Diri, Motivasi Berprestasi, dan Perhatian Orang Tua dengan Hasil Belajar Sosiologi Pada Siswa Kelas II Sekolah Menengah Atas Unggulan Kota Amlapura. *Jurnal Pendidikan dan Pengajaran UNDIKSHA*, XXXXI(1): 1-17.
- Gall, & Borg. (2007). *Educational Research: An Introduction*. New York: Allyn and Bacon Inc.
- Gaol, P.L., Khumaedi, M., & Masrukan. (2017). Pengembangan Instrumen Penilaian Karakter Percaya Diri pada Mata Pelajaran Matematika Sekolah Menengah Pertama. *Journal of Educational Research and Evaluation*, 6(1): 63-70.
- Githua, B.N. & Mwangi, J.G. (2003). Students' Mathematics Self Concept and Motivation to Learn Mathematics: relationship and Gender Differences among Kenya's Secondary – School tudent in Nairobi and Rift Valley Provinces. *International Journal of Educational Development*, 23: 487 – 499.
- Gudnanto, Sutoyo, A., & Rahman, M. (2013). Pengembangan Model BK Kelompok Berbasis Islami Untuk Peningkatan Konsep Diri. *Jurnal Bimbingan Konseling*, 2(1): 18-24.
- Handayani, S.D. (2016). Pengaruh Konsep Diri Dan Kecemasan Siswa Terhadap Pemahaman Konsep Matematika. *Jurnal Formatif*. 6(1): 23-34.
- Irwing, P. (1996). Cognitive and affective dimensions of self-concept: a test of construct validity using structural equations modeling. *Psychological Reports*, 79: 1127-1238.
- Leonard, & Supardi, U.S. (2010). Pengaruh Konsep Diri, Sikap Siswa Pada Matematika dan Kecemasan Siswa Terhadap Hasil Belajar Matematika. *Jurnal Cakrawala Pendidikan*, 3: 341-352.
- Manutede, Y.Z., Susilaningih, E., & Ridlo, S. (2015). Pengembangan Instrumen Kompetensi Pedagogis Guru SMP Dalam Kurikulum 2013 Menurut Persepsi Guru Di Kota Salatiga. *Journal of Educational Research and Evaluation*, 4(2): 116-123.
- Mardapi, D. (2016). *Pengukuran Penilaian & Evaluasi Pendidikan*. Yogyakarta: Parama Publishing.
- Marsh, H. W., Hau, K. T., & Kong, C. K. (2000). Late immersion and language of instruction (English vs. Chinese) in Hong Kong high schools: Achievement growth in language and non-language subjects. *Harvard Educational Review*, 70: 302-346.
- Marsh, H. W., & Köller, O. (2003). Bringing together two theoretical models of relations between academic self-concept and achievement. In H. W. Marsh, R. G. Craven, & D. McInerney (Eds.), *International advances in self research*, 1: 17-47.

- Marsh, H. W., Trautwein, U., Lüdtke, O., Köller, O., & Baumert, J. (2005). Academic self-concept, interest, grades and standardized test scores: Reciprocal effects models of causal ordering. *Child Development*, 76: 397-416.
- Mboya, M.M. (1989). The relative importance of global self-concept and self-concept of academic ability in predicting academic achievement. *Adolescence*, 24 (93): 39-46.
- Netrialis. (2016). Hubungan Konsep Diri dengan Prestasi Belajar Siswa Kelas VIII SMP Negeri 2 Kuantan Mudik. *Jurnal Ilmu Pendidikan Sosial, sains, dan Humaniora*, 2(2): 69-75.
- Nur, M.A. (2016). Pengaruh Perhatian Orang Tua, Konsep Diri, Persepsi Tentang Matematika Terhadap Hasil Belajar Matematika Melalui Motivasi Belajar Siswa Kelas VIII SMP Negeri di Kecamatan Ujung Loe Kabupaten Bulukumba. *Jurnal Matematika dan Pembelajarannya*, 2(2): 64-79.
- Nursalam, Bani, S., & Munirah. (2013). Bentuk Kecurangan Akademik (*Academic Cheating*) Mahasiswa PGMI Fakultas Tarbiyah dan Keguruan UIN Alauddin Makassar. *Jurnal Lentera Pendidikan*, 16(2): 127-138.
- Nuthana, P.G., & Yenagi, G.V. (2009). Influence of study habits, self-concept on academic achievement of boys and girls. *Karnataka J. Agric. Sci.*, 22 (5): 1135-1138.
- OECD. 2013. *PISA 2012 Result : Ready to Learn : Student's Engagement, Drive and Self – Belief Vol III*. OECD Publishing.
- Othman, N. (2011). The Relationship between Self-Concept, Intrinsic Motivation, Self-Determination and Academic Achievement among Chinese Primary School Students. *International Journal of Psychological Studies*, 3(1): 90-98.
- Priyani, Y. (2013). Hubungan Antara Konsep Diri Dan Kecemasan Menghadapi Pembelajaran Matematika Dengan Prestasi Belajar Matematika. *Skripsi*. FMIPA, UNY.
- Puspendik. (2012). TIMSS (*Trends in International Mathematics and Science Study*), <http://litbang.kemdikbud.go.id/index.php/survei-internasional-timss> (diakses tanggal 2 November 2016).
- Ridlo, S. & Irsadi, A. (2012). Pengembangan Nilai Karkater Konservasi Berbasis Pembelajaran. *Jurnal Penelitian Pendidikan*, 29(2): 145-154.
- Rusilowati, A. (2008). Pengembangan tes kemampuan dasar berdasarkan psikologi kognitif. *Disertasi*. Tidak dipublikasikan. Yogyakarta. FIP, UNY.
- Sahranavard, M. (2014). Relationships Between Self-Concept, Self-Efficacy, Self-Esteem, Anxiety and Science Performance among Iranian Students. *Middle-East Journal of Scientific Research*, 19 (11): 1531-1537.
- Sanchez, F.J.P., & Roda, M.D.S. (2003). Relationship between Self concept and Academic Achievement in Primary Students. *Electronic Journal of Research in Educational Psychology and Psychopedagogy*, 1 (1): 95-120.
- Senler, B. and S. Sungur, (2009). Parental influences on students' self-concept, task value beliefs and in science. *Spanish journal of psychology*, 12(1): 106.
- Suharsimi, A. (2010). *Prosedur Penelitian Suatu Pendekatan Praktek*. Jakarta: Rineka Cipta.
- Subaryana. 2015. Konsep Diri dan Prestasi Belajar. *Jurnal Dinamika Pendidikan Dasar*, 7(2): 21-30.
- Valentine, J. C., Dubois, D. L., & Cooper, H. (2004). The relation between self-beliefs and academic achievement: A meta-analytic review. *Educational Psychologist*, 39: 111-133.
- Widodo, P.B. (2006). Reliabilitas dan Validitas Konstruk Skala Konsep Diri Untuk Mahasiswa Indonseia. *Jurnal Psikologi Universitas Diponegoro*, 3(1): 1-9.