❏ 71

Values of Local Wisdom: A Potential to Develop an Assessment and Remedial

Uus Toharudin, Iwan Setia Kurniawan
Department of Biology Education, Pasundan University Bandung, Indonesia

Article Info	ABSTRACT
	Development assessment and remedial needs to be done because it is an important part of a learning process. This study aimed to describe the ability of student teachers of biology in developing assessment and remedial based on local wisdom. using a quasi-experimental research methods with quantitative descriptive analysis techniques. The research sample each as much as 13 groups. Data collected by the non-test data dipeloreh of documents or reports assignments students are given a score based on the indicators are divided into several aspects Penialain, results showed that the ability of the students in developing assessment categories with an average score of 62, 23. The ability of student groups in developing remedial included in the category enough with an average score of 64.31. The highest average score for the assessment is on the aspects of integration of local wisdom values of 71.92 and the lowest score on the aspect of validity assessment amounting to 56.92. The highest average score for remedial namely the implementation aspects of 71.54 and the lowest scores on originality aspects of 53.38. The test results show that the significance of the t (t) of -0.488, t table (t table) two tails at 2.179. p-value of 0.635. Assuming that if tcount<t table (-0.488 <2.179) or with a p-value> 0.05 (0.635> 0.05) can thus be concluded that students in developing assessment and remedial based on local wisdom has the same ability.

Corresponding Author:

Iwan Setia Kurniawan,
Department of Biology Education,
Pasundan University,
6-8 Tamansari Road, Bandung 40116, Indonesia.
Email: iwansetiakurniawan@yahoo.com

1. INTRODUCTION

Teachers play a major role in education. Teachers determine the success of students and teachers is the creation of components that affect the process and outcome quality education teachers is the party most often blamed as the person most responsible for the quality of education [16], [34]. Of the many learning activities undertaken by teachers, in the end the teacher must assess or assessment or assessment. [2] states that there are three closely related components in the evaluation program, the purpose of learning, teaching and learning activities and evaluation. Assessment is an activity undertaken by teachers to measure student achievement in accordance with the indicators that have been formulated previously. Rate more emphasis on learning outcomes, while the assessment on the learning process and results, in favor of the assessed and are devoted to developing individual potential is assessed primarily in their daily lives [7], [27]. Assessment is a tool that chronologically can help teachers monitor student who is part of the learning that focuses on student learning process [18], [23], [38]. In line with the [29] defines assessment as the assessment process, progress, and student learning outcomes (outcomes) [11] as "The process of collecting data is which shows the development of learning". In addition to the assessment is usually more related to the achievement of the

curriculum targets. Assessment is a fundamental statement of a fact conducted to determine the strengths and weaknesses in the learning process will ultimately determine learning outcomes [12], [17], [21].

Assessment is a series of activities for collecting, analyzing and assessing data about processes and student learning outcomes systematic and continuous, so that into meaningful information in decision-making and behavioral change [27], [30], [31]. In fact teachers still find it difficult to distinguish what he was going to vote on the measure. According to [6] are often confused between the terms of ratings (evaluation) and measurement. Measurement is an attempt to find out how much. things that have been owned by the students of the things that have been taught by a teacher. This understanding shows that the measurements are quantitative. Measurement intended to determine the extent, dimensions, number, degree or ability of a thing or object. If the measurement results are interpreted means based on the norms and specific goals, then it is interpreted as an assessment of the work. Rate more emphasis on learning outcomes, while the assessment on the learning process and results, in favor of the assessed and are devoted to developing individual potential is assessed, so that the assessment used should be appropriate [24], [38] In revealing mastery of concepts students, assessment not only reveal the concept that has been achieved, but also about the development process of how a concept was obtained [13], [28]

In general, teachers assess students just a test, where students only do the questions test both initial tests (pretest) and final test (posttest) no assessment during the learning process. The test is an evaluation tool that has been commonly used to measure the success of students in achieving educational goals and instruction can be done individually or groups [9], [22]. Actually learning, especially biology requires a comprehensive assessment to assess all students' abilities. The low contribution to the quality of citizen science might be due to improper use of assessment so that citizens will be prepared to master the knowledge, mismatches between learning goals and assessment can pose problems [1], [5], [38]. In the process of learning in class, students do not have the same ability, there are some students who may need help in learning. Often we find some students who find difficulty in digesting the subject matter as well as in overcoming learning difficulties. Finally learning outcomes of the student group is below average or are not in line with expectations. Students who like these that require remedial teaching. Teachers only adequately assess the test course, most teachers assume that the test is an activity students do the problems to reach a predetermined value, as this test method is commonly used by teachers. If students achieve scores has been determined then said to have reached the goal of learning, if it does not reach the predetermined value, then these students have to make improvements.

Remedial aims to assist students in learning difficulties. Remedial teaching is a form that is a treat, cure or correct teaching and make it better in order to achieve maximum teaching so that it can be a help for students [3], [8], [15]. Remedial method is often done by teachers as well as the assessment, monotonous nature. Teachers just repeat the lesson or give back the material that is less dominated by students and then do the test again, on and on like that. If we understand remedial nothing but a system of learning that is based diagnosis is comprehensive (overall). Not much different from a doctor who diagnoses disease, a teacher is also required to diagnose students find shortcomings in the students' learning, so as to optimize the learning achievement. Then followed up with efforts to solve the problem of learning difficulties, of course, the expected form of innovative efforts in developing remedial. Students require remedial use traditional learning different strategies with the usual learning to better understand the material presented thus, become thoroughly study results [25], [37]. Remedial nothing else is included teaching activities are applied only when the basic difficulty the students have been known. Remedial activity is corrective action given to a student after a diagnostic evaluation is done. Remedial generally include understanding individual needs and educational services for students, coupled with appropriate teaching methods applied by the teacher to assist students in achieving the learning objectives that have been set so that a positive effect[20], [24], [33]. Local knowledge is a potential that has been seen as old-fashioned. If we examine further local knowledge to save a very valuable potential to be explored and used in education one assessment development and remedial. Local knowledge is the hallmark of a particular area or state that has the value of culture, grown in the local scope of generation to the next as a thought wise that reflects how knowledge is generated, stored, applied, maintained and inherited [4], [26], [35]. Based on the background of the problem, this research has the objective to develop assessment and remedial based on local wisdom. In this study are expected at how teachers can innovate to develop assessment and improvement of the students are based on the local wisdom. This study involves student teachers Biology at Pasundan University, Bandung.

2.   RESEARCH METHOD

The method used in this study is quasi-experimental. Data were analyzed using descriptive quantitative technique. The population in this study were 197 student teachers of biology education at Pasundan University, Bandung. A total of 197 students divided into 38 groups of the 38 groups were divided

into two groups, 19 groups of students to develop assessment based on local wisdom and 19 groups of students develop remedial based on local wisdom. The research sample was taken each as much as 13 groups of students. Technique of random sampling (random sampling) based on a formula developed by Isaac and Michael [32] as follows:

$$\text{Sample} = \frac{\lambda^2.N.P.Q}{d^2(N-1)+\lambda^2.P.Q} \tag{1}$$

2.1. Data Collection Technique

Collecting data in this study using non-test techniques. Data obtained from the task of the student report then analyzed. Assessment document (report) is based on several aspects that are developed based on assessment and remedial development based on local wisdom. Aspects of assessment reports refer to indicators Events Unit Class in the subject of Biology Learning Innovation at Pasundan University. Assessment document (report) development assessment based on local wisdom includes several aspects. Assessment report development tasks assessment and remedial students are given a score. Each of the aspects that given the weight of the score. For more details are presented in Table 1.

Table 2. Conversion Score on a Scale of 5

Value	Score	Criteria
1	$x > (Mi + 1,8 \ SBi)$	Excellent
2	$(Mi + 0,6 \ SBi) < x < (Mi + 1,8 \ SBi)$	Good
3	$(Mi - 0,6 \ SBi) < x \leq (Mi + 0,6 \ SBi)$	Sufficient
4	$(Mi - 1,8 \ SBi) < x \leq (Mi - 0,6 \ SBi)$	Deficient
5	$x \leq (Mi - 1,8 \ SBi)$	Lowest

The comparative analysis was conducted to test hypotheses of the study, before hypothesis test first tested the prerequisite. Test prerequisites include tests for normality and homogeneity test. Normality test data is done by testing using Chi-Square test with SPSS v16. Normally it can be seen from the data distribution Chi squared value is calculated, if the calculated value of Chi squared (χ^2 count) is less than or equal to Chi squared table (χ^2 table). If χ^2 count < χ^2 table, then the data came from a normal distribution. Homogeneity test performed using SPSS v16 using Levene test. Or by using F test with the following formula [36]:

$$F = \frac{s^2_{large}}{s^2_{little}} \qquad \text{with} S^2 = \text{variants} \tag{2}$$

Homogeneity of data can be known from SPSS output value V16 significant at p-Value Levene test. If the p-Value> 0.05, then the data is derived from the same variance or homogeneous. Homogeneity test can also be performed by F test, homogeneity of data can be known from the value of significance (2-tailed) output Microsoft Excel, if F count is smaller than F table then the data comes from the same variance or homogeneous. If the test prerequisites are met normal distribution of data and homogeny then proceed to test the hypothesis by using t-test.

3. RESULTS AND ANALYSIS
3.1. The Value of Average Ability Students

The average value of the ability of the student group drawn from the data analysis results assessment report development tasks based assessment and remedial local wisdom. Referring to the formula developed by [10] The average value of students can be classified by category. Each component compared to the reference category is based on the average score ideal (Mi) and the ideal standard deviation score (SBI) is achieved by a sheet instruments. This study uses a questionnaire scale of 5 (five) with the conversion value and a score. For more details are presented in Table 3.

Table 3. Score Average Ability of Students

Criteria	Minimum	Maximum	Average	Ideal Average	Category
Assessment	39	71	62,23	55	Good
Remedial	49	80	64,31	64,5	Sufficient

Based on Table 3. The ability of student groups to develop assessments based on local wisdom included in both categories, while the ability to develop remedial student groups based on local wisdom included in the category sufficient. These categories are taken based on the conversion of the scores presented in Table 4.

Table 4. Conversion Score Scale 5

Assessment	Remedial	Criteria
$x > 64,60$	$x > 73,78$	Excellent
$58,20 < x < 64,60$	$67,60 < x < 73,78$	Good
$51,8 < x \leq 58,20$	$61,41 < x \leq 67,60$	Sufficient
$45,54 < x \leq 51,8$	$55,22 < x \leq 61,41$	Deficient
$x \leq 45,54$	$x \leq 55,22$	Lowest

3.2. Analysis Assessment and Remedial Aspects

Assessment task group report covers several aspects of assessment of students. Aspects of the votes was conceived and developed in accordance with the objectives in the subject of Biology Learning Innovation which has the capability to make an assessment and remedial innovation based on local wisdom, of course, these aspects are developed based on the indicators. Aspects of the development assessment based on local wisdom assessment covers several aspects such as. The results of the data analysis aspects of the development appraisal assessment converted into a percent (%) is presented in Figure 1.

(a)   (b)
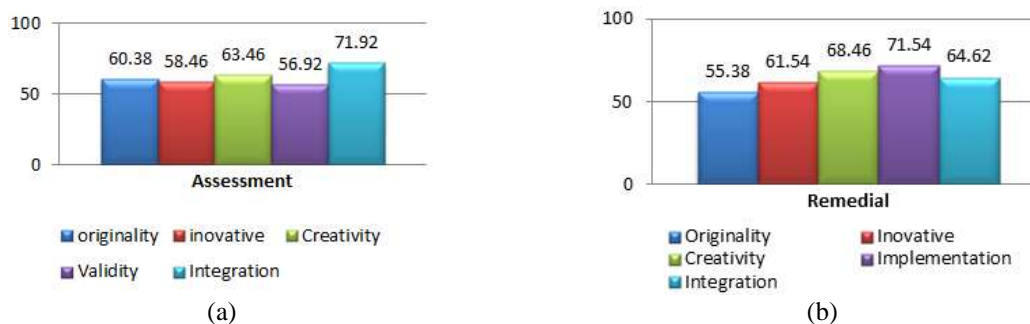
Figure 1. The results of the analysis of several aspects (A) Aspects of development assessment rating, (B) Aspects of development remedial rating

Based on Figure 1 (A) the obtained information that the highest aspect of assessment that votes on the aspects of the integration of local moral values of 71.92%.While the lowest aspect is the aspect of validity assessment by 56, 92%. The results of the data analysis aspects of the development of votes remedial converted to percent (%) is presented in Figure 1 (B). Based on Figure 1 (B) the obtained information that the remedial aspect highest ratings on the implementation aspects of 71.54%, while the lowest is the aspect ratings on aspects of the integration of local moral values of 53.38%. In this study, in addition to describe the ability of a group of students in developing assessment and remedial based on local wisdom also compared the ability of a group of students who developed assessment based on local wisdom and student groups who develop remedial based on local wisdom. Therefore this study tested the hypothesis by parametric tests. Before the parametric test first tested prerequisites, namely normality and homogeneity test. The data normality test Chi Square test, normality test results are presented in Table 5.

Table 5. Normality Test Data

	Assessment	Remedial
Chi-Square	1.615[a]	1.385[b]
df	9	10
Asymp. Sig.	.996	.999

Based on Table 5 values obtained Chi Square (χ^2) assessment of 1,615. Chi Square (χ^2) tables on the degrees of freedom (df)=9 at 16.919. Assuming that χ^2 count smaller than χ^2 table, χ^2 count (1.615) < χ^2 table (16.919), the data group of students who developed the assessment comes from a normal distribution. Value Chi Square (χ^2)remedial amounted to 1,385. Chi Square (χ^2) tables on the degrees of freedom (df)=10 amounted to 18.307. Assuming that χ^2 count smaller than χ^2 table, χ^2 count (1.385) < χ^2 table (18.307), the data group of students who develop remedial come from a normal distribution. Therefore, data normality test met and that both groups of students who developed assessment and remedial based on local wisdom (local wisdom) is derived from the distribution of normal, then followed by a test of homogeneity. homogeneity test was conducted to determine the similarity variant of the student group, if the variant of student groups homogeneous (same) we then do parametric tests. Homogeneity test in this study using F test of homogeneity test results are presented in Table 6.

Table 6. Homogeneity Test Data

	Assessment	Remedial
Mean	62.231	64.308
Variance	103.36	102.73
Observations	13	13
df	12	12
F	1.006	
P(F<=f) one-tail	0.496	
F Critical one-tail	2.687	

Based on Table 6 the obtained calculated F value of 1.006 while the F table at 2.687. Assuming that if F count (Fc) <F table (Ft), in this case 1.006 <2.687, the data group of students who developed the assessment and remedial come from the same variant or homogeneous. The banks have fulfilled the prerequisite test thus test the hypothesis by parametric tests. In this study, using the parametric test two tailed t-test. Hypothesis test results are presented in Table 7.

Table 7.Hypothesis Tests

	Assessment	Remedial
Mean	62.231	64.308
Variance	103.36	102.73
Observations	13	13
t Stat	-0.488	
P(T<=t) one-tail	0.317	
t Critical one-tail	1.782	
P(T<=t) two-tail	0.635	
t Critical two-tail	2.179	

Based on Table 7 the obtained value of the t (t) of -0.488. And t table (t tab) two tails at 2.179. And a p-value of 0.635. Assuming that if t <t tab (-0.488 <2.179) or with a p-value> 0.05 (0.635> 0.05) in accordance with the hypothesis H_0 is accepted. It can be concluded that the ability of a group of students in developing assessment and remedial based on local wisdom has the same ability.

3.3. Discusion

In this study, each group of students to develop assessment and remedial based on local wisdom. The main objective of this study is nothing but revive the cultural values of the area to the area of education that has been fading. Cultural values are reintroduced through assessment and remedial development based on local wisdom highly expected to be an innovation in learning. Before disseminated to teachers, this study conducted on student teachers, especially biology. Students involved in this study were students of VII semester Biology Education courses Pasundan University Bandung. The overall ability of student groups to develop better assessment based on local wisdom. But the ability of a group of students who developed based on local wisdom remedial included in the category sufficient. Based on Table 3, we get an average assessment value of 62.23 and the average value of the ideal (Mi) of 55. This shows that the average value is greater or development assessment is above the average value ideal, thus we can assume that the ability of a group of students who developed assessment based on local wisdom included in either category. The average value of remedial at 64.31 and the average value of the ideal (Mi) of 64.5. This shows that the average value of the development of remedial smaller or be slightly below the average value ideal, so we can assume that the ability of a group of students who developed based on local wisdom remedial included in the category

sufficient. Based on these findings are quite reasonable if the development of assessment by the student group is better than remedial development, this is because most of the students have never had experience of teaching in schools or with the other words have never implement remedial. Most students do not understand how remedial can be developed especially with the integration to the values of local wisdom. As for the development of assessment most students already have a basis on other subjects mainly related to assessment. The development will be difficult remedial developed by students because most of the students are not in direct contact with students, while remedial required to analyze the situation of students either individually or in groups. Therefore, [33] stated that remedial generally include understanding the individual needs of students, coupled with appropriate teaching methods applied by the teacher to assist students in achieving the learning objectives that have been set. On par with the opinion [15] stating that remedial teaching is a form that is a treat, cure or correct teaching and make it better in order to achieve maximum teaching objectives. Logically we can understand how the student is able to develop remedial whereas in the development of remedial demanded their diagnosis of the problem or difficulty faced by students. To determine the ability of student groups to develop local wisdom-based assessment based on the aspects of it can be seen in Figure 1. According to Figure 1 (A) the highest percentage in the aspects of integration values of local wisdom in the development of assessment in the amount of 71.92%. Aspects of local wisdom in this case specifically raised the Sundanese culture. It is quite reasonable because most of the students are from Tatar Sunda that in fact in his daily life are in the neighborhood Sunda. Characteristics someone will awaken in an environment where they live, therefore [4] found local wisdom are characteristic of a region or regions that have cultural value, locally grown in scope from one generation to the next. Something similar was stated by [26] which states that local knowledge or local wisdom can be understood as the ideas of local (local) that are wise, full of wisdom, good value, embedded and followed by members of the community.Based on Figure 1 (A) the lowest aspects of the development of assessment, namely the aspect of validity of 56.92%. Validity question is measurability assessment developed, its relevance to the case to be measured. In this case concerning the suitability of premises indicators and objectives in learning. It is quite logical if students have difficulty especially with the integration of the value of local knowledge in the assessment. Create or design a valid assessment with the new method required student competence is high enough. Designing an assessment is not an easy matter in which there must be compliance with the objectives and indicators of learning that has been designated. For that [1] states that the mismatch between the goals, learning and assessment can cause problems. It is also disclosed by [38] stated that the low contribution to the quality of citizen science might be due to improper use of assessment so that citizens will be prepared to master the knowledge. Standard assessment of science, especially biology adult learning has shifted from "a convenient rated" being "necessary for rated" [38]. In conducting the assessment is not easy to do by teachers especially with the number of students very much. Thus the necessary abilities of teachers in designing appropriate assessment and ideal fit for purpose in learning. Supported by the opinion [5] stated that regardless of the type of assessment, teachers must have confidence that purpose, learning and assessment they are aligned.

The ability of student groups to develop remedial based on local wisdom based aspects of it can be seen in Figure 1 (B). Based on Figure 1 (B) the highest percentage in the aspects of implementation, this aspect is meant is its application in the classroom, that is to say the extent to which the design can be applied in the development of remedial learning in the classroom. Percentage of implementation aspects of 71.54%, this shows that the remedial design developed by student groups can largely be applied in the classroom, especially in remedial teaching. This finding is quite reasonable because most students already have a base in the manufacture of RPP on other subjects, remedial design for the development as well as the regular learning in the classroom only with a different strategy. Along these lines [25] states that students require learning remedial use different strategies to learning usual to better understand the material presented so, learning outcomes become fully stated that For the achievement of the results of the remedial maximum, then the teacher should be able to understand, master and implement a variety of procedures and methods of remedial activities. The same is expressed by [33] remedial generally include understanding the individual needs of students, coupled with appropriate teaching methods applied by the teacher to assist students in achieving the learning objectives that have been set. Based on Figure 1 (B) is the lowest percentage in the aspect of originality of 55.38%. This aspect is quite low and need to be developed in the future will come. These aspects include the development of remedial authenticity form designed by the student group. First in this case concerning the results of floating remedial design really works itself means instead of modified or adoption. Based on the results of a survey report student assignment, remedial development is largely the result of the adoption and modification of various models of learning, combined with the values of local wisdom. This makes the originality aspect had the lowest percentage, only half of the group of students who are capable of designing and developing remedial forms based on their own thoughts. Quite reasonable if students have trouble with remedial development with the integration of local knowledge without having to modify or adoption of some models of learning. For that [35] argued local wisdom is the process of how

knowledge is generated, stored, applied, maintained and inherited. Local knowledge at this time should be lifted back into the realm of education, reintroduce the local culture areas are integrated in the learning process in the classroom. To compare the ability of student groups to develop assessment and remedial in carrying on the study hypothesis test / test of significance. Hypothesis test results are shown in Table 7. Based on Table 7 obtained by the t value of -0.488. And two tail t table amounted to 2,179. And a p-value of 0.635. Assuming that if t <t table (-0.488 <2.179) or with a p-value> 0.05 (0.635> 0.05) in accordance with the hypothesis H_0 is accepted. It can be concluded that the ability of a group of students in developing assessment and remedial based on local wisdom has the same ability. This finding is quite reasonable for their group of students who have the same level in the seventh semester, so it can be assumed that students have the same ability.

4. CONCLUSION

This research aims to design the development of assessment and remedial teaching biology based on local wisdom that as an innovation. Research was conducted on student teachers of biology at Pasundan University with the aim to describe the ability of student teachers in developing assessment and remedial based on local wisdom. Based on the research results can be obtained information that the ability of student teachers of biology in developing assessment based on local wisdom is already quite good. While remedial based on local wisdom can be said enough. It is thus clear that the values of local wisdom can be a potential to develop assessment and remedial, it is not impossible to develop some model or method of learning. Some aspects related to the development of assessment and remedial needs further research and development, some aspects are still low needs to be followed up and developed. The ability of students in developing assessment and remedial based on local wisdom in this study assessed and compared. Based on the results of this study concluded that student teachers Biology Education in developing assessment and remedial based on local wisdom has the same ability.

REFERENCES

[1] Anderson, L. W. &Krathwohl, D. R. A Taxonomy for Learning, Teaching and Assessing: A revision of Bloom's Taxonomy of Educational Objectives. A Bridged Edition. New York: Addison Wesley Longman Inc. 2001.
[2] Arikunto, S. The basic of evaluation in education. Jakarta: BumiAksara.2013.
[3] Basri, I. Y. Student Competence Enhancement in the field of CAD / CAM Through Application of Model-Based Learning Remedial. *Journal of IT & education. Vol. 3, No. 1*. Hal. 19-30. March 2011.
[4] Damayanti, C., Dewi, N. R. &Akhlis, I. Developing CD for Learning Theme Vibration and Waves Based Local Wisdom. *Unnes Science Education Journal. Vol. 2, No. 2.* Hal 274-281. 2013.
[5] Eggen, P. &Kauchak, D. Strategies and Models for Teachers. 6th Edition. Boston: Pearson Inc. 2012.
[6] Hamalik, O.Teacher Education: Based on Competence approach. Bandung: Bumiaksara. 2002.
[7] Haryono, A. Authentic Assessment and Innovative Learning to Depeloving Student Ability.*JPE-Volume 2, Nomor 1*. 2009.
[8] Ischak, S. W. &Warji, R. Remedial Programs in Learning Proccess. Yogyakarta: Liberti.1987.
[9] Jacobs & Chase. Developing and Using Test Effectively: A Guide for faculty. United States of America: Jossey-Bass Inc. 1992.
[10] Jumadi. Mapping CompetencyPedagogy, Professional, Personality and Social Physics Teacher SMA/MA in Yogyakarta. (Papers). LPPKM UNY. Unpublished. 2012.
[11] Kumano, Y. 2001. Authentic Assessment and Portfolio Assessment-Its Theory and Practice. Japan: Shizuoka University.
[12] Mansur. Implementation in the Classroom Based Assessment Unit Level Curriculum (SBC). Education Quality Assurance Agency of South Sulawesi province. Makassar. 2012.
[13] Marzano, R. J. et al.Assessing Student Outcomes: Performance Assessment Using the Dimensions of Learning Model. Alexandria: Association for Supervison and Curriculum Development. 1994.
[14] Masbur. Remedial Teaching As A Solution: *A Theoretical Analysis. Scientific Journal DIDAKTIKA,* Vol. 12 (2),Hal. 348-367. 2012.
[15] Mukhtar&Rukmini. Remedial Teaching. Jakarta: PT. NimasMultima. 2005.
[16] Mulyasa, E.,Teachers Competency Standards and Certification. Bandung: PT. RemajaRosdakarya. 2011.
[17] Muslich, M. Authentic Assessment: Classroom-Based Assessment and Competency. Bandung: PT. RefikaAditama. 2011
[18] Popham, W.J.Classroom Assessment, What Teachers Need it Know. Oxford: Pergamon Press. 1995.
[19] Prawoto.Understanding of High School Biology Teachers Against Yogyakarta Municipality of Teaching and Learning Strategies (Paper).Yogyakarta: IKIP Yogyakarta. 1992.

[20] Purwati A, R.,Harjanti&Pamudji, S. Diagnostic tests and remedial teaching to improve learning outcomes iv graders math sd n utan timber 21 jakarta south east. *Journal of Education Quality Rim.*Vol. 1 (1): 1-8. 2008.

[21] Puspani. Effect of STAD Learning Strategies Using Portfolio Assessment and Academic Ability to Concept Training Junior High School Students in Biology Education. *Journal of Science Education*, Volume 1, Nomor 4, Desember 2013, Hal 352-364. 2012.

[22] Rahayu, T., Purwoko&Zulkardi.The Development of the Realistic Mathematics Education Assessment in Indonesia (PMRI). SMPN 17 in Palembang. *Journal of Mathematics Education* in 2008, Vol. 2, no. 2. Hal 19-35. 2008.

[23] Resnick, D.P. &Resnick, L.B. "Standards, Curriculum, and Performance: A Historical and Comparative Perspektive" *Educational Researcher* 9, 5 -19. 1985.

[24] Rustaman, N. Biology Learning Strategy. Malang: UniversitasNegeri Malang. 2005.

[25] Sari, E. R., Prasetyo, A. P. B. & N. R. Utami. Remedial Learning Using analogies to Content Transport Mechanism Sel. *Unnes Journal of Biology Education.* Vol. 3 (2) (2014)

[26] Sartini. Explores Local Wisdom of Indonesia, a Philosophical Study. *Journal of Philosophy*, Vol. 37, No. 2, Hal. 111-120. 2004.

[27] Sa'ud, U. S.Innovation in Education. Bandung: Alfabeta. 2008.

[28] Shaklee, B.D. *et. al.*,Designing and Using Portfolios. United States of America: Allyn& Bacon. 1997.

[29] Stiggins, R.J.Student-Centered Classroom Assessment. New York : Macmillan College Publishing Company. 1994.

[30] Sudjana.*Statistic Methods*. Edisi 6. Bandung: Tarsito. 2002.

[31] Sudjana. Learning Outcomes Assessment.RemajaRoesdakarya. Bandung. 2005.

[32] Sugiyono. Educational Research Methods. Quantitative Approach, Qualitative and R & D. Bandung: Alfabeta. 2011.

[33] Sukardi.Educational Evaluations. Jakarta: PT BumiAksara. 2008.

[34] Sukidin, Basrowi&Suranto, Action Research Managerial Class. InsanCendikia. 2010.

[35] Surya, P. Etnopedagogi Leadership in Schools. The article published in the magazine Scientific Dynamics UNY May 2011.

[36] Susetyo, B. Statistics for Data Analysis Research. Bandung: RefikaAditama. 2010.

[37] Usman&Setiawati (2004). Completed Learning Guidelines (Mastery Learning). (Www.jip.pdkjateng.go.id accessed January 18, 2016).

[38] Wiggins, G. "A True Test: Toward More Authentic and Equitable Assessment". Phi Delta Kappan 70, (9) 703 – 713. 1984

[39] Wulan, A.R. Use of alternative assessment in learning biology. A national seminar biology: developmental biology and biology education to support the professionalism of the education department of biology *FMIPA UPI.* 2007.