

Switching Points of Authentic Assessment for Teachers Era 4.0

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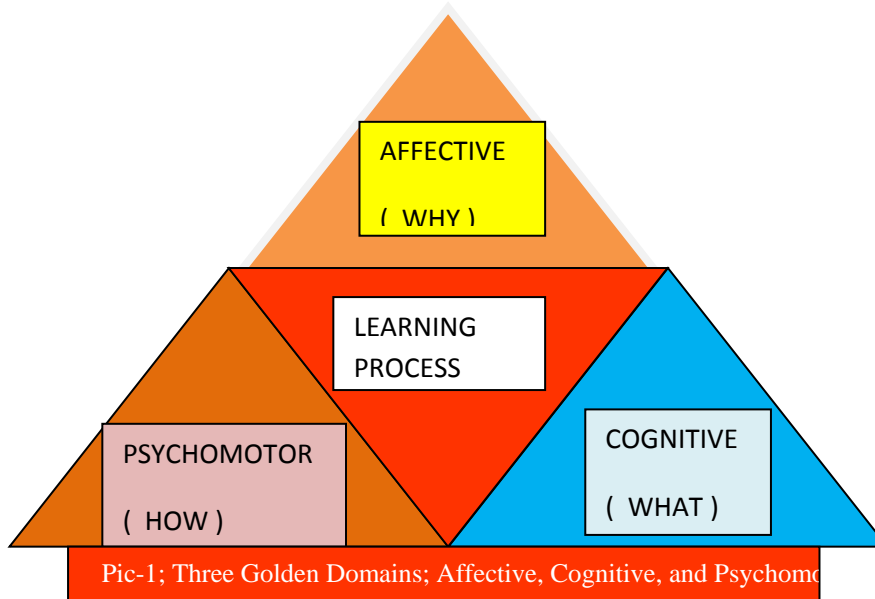
Abstract

Indonesia curriculum is always revised periodically for the purpose of its accomplishment regarding national learners’ needs in Indonesia. The recent newest curriculum is named K-‘13 since it was launched in 2013. Authentic assessment is a distinguisher segment of K-’13 against the former curriculum, coring on scoring rubric that was developed to be a model of assessment that wished to help the teachers out of their obscurity they have about The result of this research was proved by the formula of t-test in which t-obtained (4.6) was further exceeds t-tab (2.518 at $\alpha = 1\%$) and 1.725 at $\alpha = 5\%$) which is symbolizing with : $1.725 < 4.6 > 2.528$. in degrees of freedom (df) 20 (22-2) using two tailed test. Means that quantitatively, H_a is accepted and automatically H_o is rejected, it implies that the developed model is significantly effective to use by the English teachers to assess learning achievement authentically.

Keywords: switching points, authentic assessment, era 4.0

Introduction

Bearing with K-‘13 curriculum as the last periodical change in Indonesia, the specific element of the curriculum is that its evaluation named authentic assessment has a specific system of assessment. The authentic assessment involves Contextual Teaching and Learning (CTL) and scientific learning as the approaches of learning at schools all around Indonesia. Practically, contextual learning is done of which the teacher helps the students to parallelize the content of learning to the real context of life around the society subconsciously, the teacher tailoring the knowledge upon the learners for the purpose of the learners can actualize it in daily life, see (Permendikbud, 2013). By contextual learning the teacher applying a holistic and integrated learning, where there is nurturing process is found towards the learners so that they can actualize and parallelize it in their real life situations. Whereas, scientific learning approach is learning process that emphasizing on empirical creativity and innovation using methods of inquiry in 5 steps : observing, asking, logical thinking, exploring, and collaborating to sharpen the 3 golden domains of learners’ faculty see, Permendikbud no. 65 (2013) about standard of process as allotting at the picture below designed by the author of this article after absorbing from various resources :



Shortly, authentic assessment characterizing about a measurement of the learners learning achievement based on competence that proves their ability in doing something related to the themes they have learned. The core of the competence they have is not on the knowledge they have earned but on the learners ability doing something, demonstrating, taking action, and so

forth, instead, as the result of the knowledge they have obtained to implicate in their life, (Muller, 2008). The term of meaningful is identical with daily needs, that is why the learners requisite to demonstrate the knowledge they have earned to actualize.

Discussion

As the result of the research conducted by the author is that the developed rubric scoring as a part of authentic assessment designed by herself, is helpful and available for the teachers to developed themselves based on the basic competence they ought to teach for learners.

As a matter of fact, the system of assessment is rather weak practically, especially in test design and the rubric of scoring. Whereas, in Indonesia Government regulation, No. 20 by the year of 2007 about standard of Educational Assessment stated that Indonesia ministry for the purpose of controlling the quality of education based on the national standard of education which is developed by BNSP (National Education Standard Deputy), see The Regulation of Indonesia Government No. 17 by year 2010 (2010 ; 787).

Concerning industry 4.0 is the next generated era to the former, by this era it is expected to bring usable values and challenges to human in the world especially the most stakeholders, as cybersecurity risk IT, is the backbone of industry 4.0. This era has a potential to enlarge the level risks exponentially from where we are today that is why the backbone of industry revolution should be able to anticipate the challenges and even to mostly take the benefits for the all the users and servers of the internet though we know that it is very hard for them to struggle as the previous industrial revolution has done. In such efforts, Indonesian education quality needs to improve so as to balance human experiences to the linearity of the industrial revolution to be ready to run life equals to the running era.

According to Dutton (2014) industry 4.0 has identical meaning with smart factory, a virtual copy of physical world and decentralizes decision making for the human (Buhr, 2015). Throughout the physical system the human around the world are enabled to cooperate, communicate, and support one each other in real time. In some discussion regarding digitations talking about industry 4.0 and its global impact growing so fast due to intense of the topic discussion namely digitations, internet use, smart knowledge and systems, see Fries & Ibanes (2014). Furthermore, Vermesan et al. (2014) says that by internet the human can take many positive impacts dealing with economies and societies. All the benefits come about by adopting and adapting a holistic approach or empowering mechanism of work regarding industry 4.0 especially in the field of education for all engaged educators to meet the social and environmental challenges, to minimize negative effects and destructed influences of the rapid technological innovation but to improve social benefits instead, protecting public interest especially on education field.

Regarding the authentic assessment requirement and the concept of industrial 4.0 above, the result of this research gave switching points for teachers to manipulate or conditioning the problems they have had during their obscurity in running K-13 curriculum, especially on authentic assessment that coring on scoring rubric. Switching points is a means of beneficial impacts after knowing what authentic assessment is, to more engaging the learners to actualize the knowledge and science they have earned in now on era, that is industry 4.0. The switching points emphasizing here is the way of the teachers to accommodate various issues about their learners development and learning achievement for the sake of assessment throughout social media, such as : whats app media, youtube, facebook, messenger, ruang guru (online learning), synchronous & asynchronous media of learning, and so forth.

This research belongs to R&D research, using mixed methods. Transformative concurrent technique in this study was carried on by gathering the data of qualitative and quantitative as well, together. In conducting such a type, the starting point is by carrying out both the methods together namely qualitative and quantitative due to the research problems in this case about authentic assessment that coring on scoring rubric, it is equal whether prioritizing qualitative or quantitative or the vice versa, but in data analysis process, both were merging, integrating, and embedding. Bearing to this study, both were applied concurrently qualitative and quantitative methods. In fact, firstly to analyze was the qualitative data then came to quantitative data by the reason that qualitative data needs a very deep observation upon the reality which was arisen in the field. To enrich the result of qualitative and to be most confirmed, the quantitative data was analyzed then, since quantitative method is a kind of manipulative or settled method to do.

Comparing from the first trial towards the prototype of the used model it seemed that the teachers/lecturers needed a more proper scoring rubric as an authentic assessment dealing with K-13 curriculum, since the conventional one was not enough and not met to what the K-13 curriculum accustomed to. In such a problem, the writer designed a new model of scoring rubric based on the K-13 curriculum standard of assessment. Reasoning from the teachers/lecturers need upon the scoring rubric, the conventional scoring rubric was made as the prototype of the designed model by the writer.

The unmatched components of the conventional model were shown as the following :

Table 1. Conventional vs K-'13 curriculum

Contents of Assessment	Conventional model (Prototype)	K-'13 model	New Model
Authentic assessment measuring the process as a whole	Assessment was emphasized on paper/pencil test.	The process was integrated in other components	Assessment was emphasized on the learning process which is integrated in the 3 domains; affective, cognitive, and psychomotor domains.
Attitude	Only 2 subject matters assessing attitude, and the way of measuring was not objective, focusing for casuistic learners, only. The learners without any cases got scoring predicate on A, or B.	All subject matters assessing attitude objectively during the process of learning, Scoring predicate decision is based on the strong or weak positive character they have. All is observed throughout behavior observation form.	English and other languages measure attitude boldly and it is as the main and the first domain to measure, in order all the learners possess good characters as the result of learning that can be actualized in daily life.
Cognitive scoring rubric	Cognitive scoring was done based on the teacher's logical thinking without rubric, no standard to give score 40, 75, or 100.	Teachers must design scoring rubric to make assessment system being objective, but there is no pattern or model to follow.	It is very important to design a new model based on the K-13 suggestion. The new model is available as the product of this research
Cognition assessment	It was not integrately assessed along the process of learning.	It must be integrately assessed along the process of learning, but there isn't any example.	In this new model, there are hints and examples of how to develop cognitive assessment.
Psychomotor	It was separately measured at an uncertain timing, the scoring has no standard as the rubric of psychomotor which was similar to action along the process	It should be integrately measured in all sides of the learners work: in product (portfolio) assessment and in project assessment, peer & self assessment, and at the cognition test. Measuring psychomotor should be on the basis of certain scoring rubric.	Supported by K-'13 description about psychomotor assessment, it was preferable to illustrate by using the 6 segments of scoring rubric in this new model.
Peer & Self assessment	These 2 components were not taken in account as one of the authenticity of assessment in K-'13 curriculum. The three scoring domains were not involved namely; affective, cognitive, and psychomotor ability.	These 2 components are as part of compulsory of the authenticity of assessment in K-'13 curriculum. The three scoring domains are boldly integrated inside namely; affective, cognitive, and psychomotor ability are measured.	Theory and description are not enough to familiarize for the teachers, it needs hints and exemplifying how to develop a new mode for such scoring rubric.
Score Accumulation	The six segments of authentic assessment of K-'13 were not completely available. Moreover, all the faculties are not allowed to be accumulated since each of them is different one another.	The six segments of authentic assessment are a compulsory in K-'13 curriculum and the 3 domains are measured integrately in each of the segment. It is only a theory we can meet in K-'13.	To help the teachers understanding the theory in K-'13, it is important to design a new model based on the theory above, henceforth, they easily develop their own scoring rubric empirically.

Source : PPRI no.17, 2013

The result of the research shows that designed scoring rubric of authentic assessment is very helpful, valuable, effective, and practical to use by the teachers. It can be proved both qualitatively and quantitatively, as well as the following : The result of the accumulation shows that $t\text{-obt.} : 4.6$ was much exceeds $t\text{-tab}$ with degrees of freedom (df) $22-2 = 20$ in two-tail test at significant level of either $\alpha 5\%$ (1.721) or $\alpha 1\%$ (2.518) it was simply symbolized numerically with ; $1.725 < 4.6 > 2.528$. It indicated that quantitatively alternative hypothesis (H_a) was accepted and automatically null hypothesis (H_0) was rejected, because $t\text{-obt}$ was more than $t\text{-tab}$ with degrees of freedom (df) 20 (22-2) with two tailed test.

It can be interpreted that both the instrument and the developed model were strong practically to use. They were measured by validity, reliability, and practicality test. Moreover, it was also proved from the degrees of freedom (df = 22-2), in two tailed test. Why should be in two tailed test?, the writer at the first conducting of the research was certainly in still stay in question whether the designed model would be valid and practical for the users, especially for the teachers, or not at all. In trial-1 the respondents' experiences become auspicious prior to pre-trial besides outer experiences they have ever heard, hence, their knowledge about the model is improved that can be seen from the obtained score in trial-1, most of the responses are in position of 4 scale as the highest scale in trial-1, the average score is improved from trial-1 to trial-2, it is from average 3.05 of 4 scale to 4.59 of 5 scale or equals to 92% - 76% = 16%, means that the developed model is a bit improved namely 16% from trial-1 to trial-2, since the model has been good enough when it was applying in trial-1. The value of 3.05 in trial-1 is closest similar to 3 of the scale of which descriptor says it needs a little enhancing. On the other hand, the improvement of value to 4.73 in trial-2 which is in closest similar to 5 from 5 scale, of which descriptor says that the respondents are strongly agree about the format and content of PA segment, implies that the developed model is well improved. In fact, at the first trial, the result showed that the designed model was valid, reliable, and practical to use though it was not too significant. Then, the second trial was taken to the same subject of the research after revising and improving the quality of the designed model based on the users comments and additional ideas and suggestion upon the first trial of the designed model. The data analysis result of trial-2 seemed that the quality and practicality of the research product was more significant than the first trial, which was proved by the following steps ;1) finding Standard Deviation (SD), 2). Finding Standard of Error (\overline{SD}), using match t-test formula, if the t-obt exceeds or similar to t-tab., means that the developed model was significantly effective to use, by the English teachers, automatically, H0 was rejected and Ha was accepted, as the following :

$$t\text{-obt} = \frac{\overline{X1} - \overline{X2}}{SD}$$

$$\overline{X1} = \frac{\sum X}{N} = \frac{626}{22} = 28.45$$

$$\overline{X2} = \frac{\sum X}{N} = \frac{242}{22} = 11$$

$$t\text{-obt} = \frac{28.45 - 11}{3.8}$$

$$t\text{-obt} = \frac{17.45}{3.8}$$

$$t\text{-obt} = 4.6$$

Based on the calculation above that the result of the formula showed that t-obtained : **4.6 was much exceeds t-tab** with degrees of freedom (df) 22-2 = 20 in two-tail test at significant level of either α 5% (1.721) or α 1% (2.518) it was simply symbolized numerically with ; **1.725 < 4.6 > 2.528**. It indicated that quantitatively alternative hypothesis (Ha) was accepted and automatically null hypothesis (H0) was rejected, because t-obt was more than t-tab with degrees of freedom (df) 20 (22-2) with two tailed test.

It can be interpreted that the instrument and the developed model were strong practically to use. The writer stated that both instrumentation and the designed model were practical to use by the teachers/lecturers since the tabulated score that was administered by the formula, resourced from the score of pre-test and post-test which were contained questions about the content of the developed model which is named " English Scoring Rubric of Authentic Assessment" a guidebook for the teachers, and the questions were in the form of Questionnaire and interview that have being tested (as pre-test) before applying by the teachers in the classroom. According to Sugiyono (2010) that the stronger the value of coefficient correlation, the better the quality of the practicality of the measured things. In conclusion, the correlation of coefficient of the two tests in this study proved that both questionnaire and the developed model are significantly practical.

Conclusion

Switching points of developing scoring rubric of authentic assessment enable the teachers to create and conditioning the way of their learning by engaging the learners to take participation throughout various media as part of industry 4.0, such as : Whats app media, youtube, messenger, facebook, synchronous & asynchronous, and so forth.

The novelty of this study is, by this research the senior high schools English teachers in Lubuklinggau, South Sumatera feel fruitful since they got valuable knowledge of what authentic assessment is, and how to develop scoring rubric of authentic assessment based on K-'13 demands. Since English teachers were involved as the subject of this research, they have known well and even they are able to develop their own scoring rubric based on K-'13 curriculum, and share the ways of how to create with other subject teachers.

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