

Values Identification for Visualization Development of 21st Century Vocational Teacher Competence which has Java cultural character

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Abstract-*This article aims to: (1) describe the cultural values of Java in accordance with the competence of vocational teachers of the 21st century and (2) obtain a visualization recommendation of Javanese cultural character values in accordance with the competence of vocational teachers of the 21st century. The result of research shows that: (1) there are 22 character of Javanese culture value in learning and innovation skills aspect, there are 17 character of Javanese culture value in life and career skills aspect, and there are 7 character of Javanese culture value on emotional intelligence aspect. The meaning of each character refers to the teacher as a character of the culture of Java in accordance with the skills of vocational teachers of the 21st century connected with the profession and work environment; And (2) visualization of Javanese cultural values in accordance with the skills of vocational teachers of the 21st century can be flexibly attempted in the form of text and or video, as one method of incubation of cultural character of jawa vocational teacher of the 21st century. The results can be used for the basis of determining the degree of importance of character Javanese culture of vocational teachers of the 21st century and subsequently can be visualized in various displays.*

Keywords: *identification, visualization, 21st Vocational Teacher Competence which has Java cultural character*

I. INTRODUCTION

The trained-labor forces of Philippine got the top rank in ASEAN). The availability of qualified teachers as the spearhead of the highly-skilled generation formers are benchmark of the success of the trained-labor forces in Philippine [1]. That highly-skilled is related to the working ability in 21st century that need thinking skill, open information, technology, and also working skill. Besides that, based on the ASEAN business Outlook Survey in 2014, Indonesia is identified as having a low-skilled labor force. It shows that Indonesia still lack of having qualified teachers. In this case, Vocational teachers are taking the responsibility to prepare the working readiness of their students. Thus, it is necessary to prepare the qualified vocational teachers of 21st.

Vocational LPTK or technology LPTK division is the institution that organize the vocational teachers. Vocational LPTK is responsible in forming qualified vocation teachers with high-skilled and good character that will form high-skilled and competing workforce [2],[3],[4],[5]. In 21st century, qualified teachers must be able to synergize technology in learning activities [1],[6],[7]. Education is one

of efforts to suppress and overcome (as filters) the negative impacts of technology advances [8],[9],[10]. Teachers need to instill character on students. Character behaviors possessed by students will make them a tough people and having competitiveness when they plunge into the work world. Vocational High School (VHS) graduates are expected to become a highly competitive workforce in ASEAN, so they are required to be skilled and having good character in the era of technology. It requires teachers to have a good or strong character as the former of strong character of VHS graduates. Character education or character building can be used as a 21st century teacher to skillfully optimize technology in learning while minimizing the negative impact of technology. 21st Vocational teachers need to have a good character to suppress the negative impacts of the technology usage.

Deep understanding of local wisdom can be used as one thing to do in building students' character). One way is by holding the character of Javanese cultures through Javanese language *unggah-ungguh*, *basa pinathok*, Javanese hasta brata leadership, the character of *wayang*, and *Macapat* songs which have high character of life values such as respect to each others, affection, discipline, responsibility, and many more. The integration of character values of Javanese cultures will make the ex-students well educated, highly-skilled, and very strong character of nation personality. The display of Javanese cultural characters which can be continually and specially accessed is expected to be accustomed by students, vocational-teachers-to-be, to recognize the Javanese culture characters suit to the 21st vocation teachers requirements. The display can be accessed through display technology. The effort can suppress the negative impacts of technology usage while utilizing the advantages of technology, as well as *nguri-uri* superior character of Javanese cultural values.

On partnership for 21st century learning, there are three skills that need to be developed (see Fig. 1). They are (1) learning and innovation skills; (2) information, media and technology skills; and (3) life and career skills [11]. Binkley et.al. has organized the 21st century 10 skills into 4 groups (1)ways of thinking consist of (a)creativity and innovation, (2) critical thinking to solve the problem and make a decision (3) study to learn (2) ways of working (d) communication (e) collaboration or team work (3) instruments (f) literacy (g) information (h) open technology (4)living state (h) locally and

globally citizenship (i) life and career (j) personal and social responsibilities including cultural awareness and competence [12]. Next, in order to reach higher objectives and expectation from education in 21st century, it is necessary to develop emotional skills in preparing teachers and students advances [13]. From the various exposures related to the 21st century learning character, then the developed values are *Learning and innovation skills*, *Life and career skills*, dan emotional intelligence.

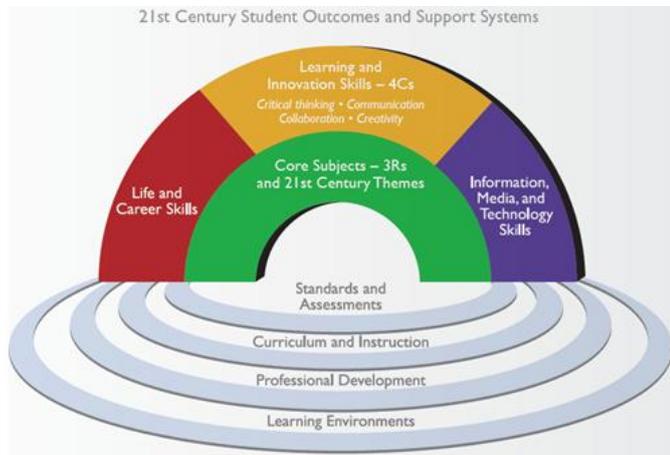


Fig. 1. Partnerships 21 Curriculum Framework [11]

21st century is identical with the usage of technology in every part of life include in the learning process. Facing the situation, teachers on 21st century learning must open technology. Besides technology, vocational teachers have challenges not only in transferring knowledge and skills on students, but also more on educating attitudes that can ultimately guide the knowledge and skills that have been given by the teachers to students. The behaviors are needed to address the use of technology in learning. Teachers are required to have pedagogic competence and area of expertise. 21st century teachers in vocational learning need to prepare the students of facing the work world, eventually it is necessary to carry out 21st century learning through the use of technology with character-based to guide the competence possessed against various negative impacts and technological challenges. Starting from that, it requires an appropriate preparation effort for the comprehensive mastery of a 21st century teacher, which is characterized in the mastery of technology.

Practically Character buliding is a system that hold good character to school members or college including the comonent of knowledge, awareness or willingness and action to carry out those values [14]. There are 16 character values targeted by UNY, including: obedience of worship, honesty, responsibility, discipline, work ethic, independence, synergy, critical, creative-innovative, visionary, affection-caring, sincerity, justice, simplicity, nationalism and internationalism [14]. If we see the Javanese cultures around the environment of UNY, so those 16 character values are already existed in javanese cultures.

Javanese cultures have elements of value education which is the main substance of character building, so it can be used as a source of character building. Variety of Javanese culture that can be used as a reference character values in education such as through the Java language *unggah-ungguh*, pinathok language, hasta brata javanese leadership, *macapat* songs and puppets character. With the use of oral Javanese literature, the learner will recognize implicitly / explicitly the representation of character building, so that it will form the character of smart, ethical and faithful [15]. Classical Javanese literature can be use as the source of the development of content dan pedagogic on character building [16].

Three main functions of javanese language are as communication, educational and cultural tools should be taken as a source of character education. In javanese language apply the use of Javanese language in accordance with politeness. In that *unggah-ungguh* or politeness contained the values of respect among the speakers, ie the person speaking, the person to whom the conversation is being spoken and the person being spoken to. Moral values contained in Javanese language and literature that form of Javanese life values like nor, faith, habit, construct, and symbols that live and develop among the javanese people, tolerance, affection, *gotong-royong*, *andhap asor*, humanity, respect value, be grateful, and etc can be used as the source of character building [17]. Thus, javanese language with variety of philosophical value can be used as the source of content on disply technology of javanese cultural value).

Basa pinathok is the use of language skill. There are high character values that can be taken from *basa pinathok*. *Basa pinathok* that suits to daily life are *paribasan*, *bebasan*, *saloka*, and *parikan*. The use of *basa pinathok* that represents high character value, indirectly impact on the absorbent of the values on students personality. *Paribasan* is the series of words that persistent on the usage, contain no assumption, the meaning of part or the entire part of words are connotation. The example of *paribasan* is *anak polah bapa kepradah* which means that kids behavior becomes parents' responsibility. *Bebasan* is series of words that persistent on the usage, the words meaning are connotative and have assumption about person's condition, characteristics, character and action. The example of *bebasan* is *arep jamure emoh wetenge* which means willing to accept the result that gives pleasure but does not want to work hard. *Saloka* is a series of words that persistent on the usage, the words contain connotative and assumption meaning, in which the assumption is in the form of animals or things. The example of *saloka* is *kebo nusu gudel* which means the old learns to the young. *Parikan* is a javanese poetry that consist of *sampiran* and content [18]. The content of *parikan* represents character values. The example of *parikan* is *tawon madu ngisep sekar, dadi guru kudu sabar*. *That parikan* has the meaning of the patience of teachers. Those examples represent character education values needed to be recognized and understood by students [19]. Thus, *basa pinathok* that represents high character values can be used as the resource of content in videotron as teahing media that implicitly know the javanese cultural character.

Macapat songs can be used as the source of character values. It is as Putut stated that Macapat songs can be the source of local wisdom as teaching media of character building [20]. The characters of macapat songs that contain character values, such as Mijil is advice, sinom for education, gambuh is things related to kinship, advice, education that contains sincerity [21]. The song can be used as backsound on the development of teaching media videotron, thus, the high values that contains can be absorb by students

Nuraini described Hastha Bratha as nature and character of leadership that sourced from eight gods and elements of nature [19]. Nature and character can be used as an example to all creatures in the world, especially to all the leaders. Hasta bratha consist of nature and character of (1) wisnu has the character of patience, eventhough being hijacked, hijacked but give fertility that can cultivate a variety of plants that can be picked, give everything on earth without favoritism and give life to all beings without exception (human, animal and plant); (2) Bathara Bayu spread evenly in all places regardless of clean or dirty place; (3) Bathara Baruna the character of fair and sincere character, have no character of wish to win and get along to all creatures. He has character if separated can converge again and provide life, safety, peace and can purify dirty goods. It also welcomes all voluntarily because ocean is really large; (4) Bethari Ratih, the soft light illuminates the earth and the rest so it will feel please, peaceful to all people and grows a sense of love and affection; (5) Bathara Surya can light, give power evenly to the earth and all others creatures; (6) Bathara Indra give protection to all creatures evenly and spread seasons; (7) Bathara Brahma have the nature of fusion, eradicate the crime, finish the work, small things, big things, smooth and rough can be solved because of the power of fire; (8) Bathara Isamaya has the character of orderly and tough and not to be easily influenced and able to entertain the distress and provide guidance for the confusion. From the various traits of leadership in the hasta brata can be used as a short video creation content.

II. METHODS

Analysis methods used is descriptive method adopted from Mc Cawley [22]. The adoption of that stage are: (1) the discovery of the problems is the needed of putting the value of javanese cultural chaacter according to 21st century vocational teachers-to-be to produce competent and characteristic SMK graduates in ASEAN; (2) determining the purpose is for finding the value of javanese cultural character that suits to 21st vocational teachers as well as form of appearance (audio, video, text or multimedia); (3) determining aspects of data collection aimed at determining the data through the collection, clarification, classification, reduction, summary information: identify 21st century ocalional teachers competence and identify the values of javanese culture according to hastabrata, tembung saloka, unggah-ungguh politeness that applicable in the Java community; (4) the selection of respondents aims to determine the expert judgment to consult the results of the identification of cultural values of Javanese culture accordingto the 21st century

vocational teacher; (5) determination of data collection techniques aims to determine the appropriate and effective techniques for collecting data, namely using the checklist in the form of agree / disagree (validation) and text / video (form of display) with open questions and suggestions; (6) instrument development aims to create instruments; (7) data analysis aims to obtain data findings; dan (8) giving the recommendation as a conclusion of data finding that is describing the values of Javanese cultural character in accordance with vocational teacher of the 21st century as well as the form of appearance (audio, video, text or multimedia). data plan aims to obtain data findings.

In the analysis, the source of the study was obtained from: (1) literature related to Javanese culture, and the demands of vocational teacher competence of the 21st century; (2) character ebuilding experts; dan (3) javanese culture experts. The use of reference sources of character values in the videotron content as a learning media and can be shown as Table 1.

TABLE 1. Budaya jawa as *content*

No.	Budaya jawa	Bentuk media
1	Unggah-ungguh	character values in the form of text and oral language in a video
2	Ungkapan	character values in the form of text
3	Tembang	character values and storyline Backsound
4	Hasta brata	leadership character in video

Based on the theoretical studies prepared information needs are tabulated in Table 2.

TABLE 2. Acquisition of aspects of the cultural character of Javanese vocational teacher of the 21st century

No	Nilai	Aspek
1	Competence of 21st century vocational teachers	<i>Learning and innovation skills, Life and career skills</i> , dan emotional intelligence (skill)
2	Javanese culture	Unggah-ungguh, Ungkapan, Tembang, Hasta brata

Aspects of Learning and innovation skills are the skills of teachers to continue to learn and innovate, including: Critical thinking and problem solving, Communication and collaboration, Creativity and innovation, and Information literacy, media and technology. Aspek *Life and career skills* are the skills of teachers related to their career and interaction with the world of work, including: Flexibility and adaptability, Initiative and directed, Social and intercultural interaction, Productivity and accountability, and leadership and responsibility. The aspect of emotional intelligence is a teacher's skill in self-control. Javanese cultural values taken from the unggah-ungguh, Expressions, Tembang, Hasta brata

that have conformity in the three aspects of vocational teachers of the 21st century.

III. RESULTS

The result of identification followed by validation to the experts shows that overall of three aspects of vocational teacher's skill in the 21st century, so there are 46 values of javanese cultural . Skills of 21st century vocational teachers on this research are consists of 3 aspects: (1) *learning and innovation skills*; (2) *life and career skills*; dan (3) kecerdasan emosi. There are 22 characters of javanese cultural values that suit to the aspect of *learning and innovation skills*: (1) *rawe-rawe rantas malang-malang putung*; (2) *nastiti*; (3) *weruh ing petungan*; (4) *sabda pandita ratu dhatan kena wola-wali*; (5) *ajining dhiri dumunung ana ing lathi, ajining raga ana ing busana, ajining awak saka tumindak*; (6) *rigen*; (7) *panggautan gelaring pambudi*; (8) *taberi tatanya*; (9) *rukun agawe santosa*; (10) *crah agawe bubrah*; (11) *saiyek saeka praya*; (12) *saiyek saeka kapti*; (13) *aja rumangsa bisa, nanging kudu bisa rumangsa*; (14) *ana catur mungkur*; (15) *abot pada dipikul, entheng pada dijunjung*; (16) *jaman iku owah gingsir*; (17) *manjing ajor-ajer*; (18) *mugen*; (19) *reringa*; (20) *deduga*; (21) *watara*; dan (22) *ngati-ati*. There are 17 characters of javanese cultural values that suit to the aspect of *life and career skills*, some of them are: (1) *rumangsa melu handarbeni*; (2) *wajib melu hangrukebi*; (3) *mulat sarira hangrasa wani*; (4) *memayu hayuning pribadi, memayu hayuning kulawarga, memayu hayuning sesama, memayu hayuning bawana*; (5) *awatak bumi*; (6) *awatak matahari*; (7) *awatak samudra*; (8) *awatak bulan*; (9) *awatak bintang*; (10) *awatak angin*; (11) *awatak api*; (12) *awatak air*; (13) *ing ngarsa sung tulada*; (14) *ing madya mangun karsa*; (15) *tut wuri handayani*; (16) *manut empan papane*; dan (17) *nuju inggiling papan munggah saba ngisor baka disik-disik*. There are 7 characters of javanese cultural values that suit to the aspect emotional intelligence, some of them are: (1) *sura dira jayaningrat lebur dening pangastuti*; (2) *nglurug tanpa bala, menang tanpa ngasorake*; (3) *memayu hayuning bawana*; (4) *wani ngalah, luhur wekasane*; (5) *nyegah kayun pepinginan*; (6) *temen ing seja*; dan (7) *nek lagi rekasa aja nggersula, lakonana lan dongaa wae lebih becik*. From those 46 aspects, it is determined the level of urgency through the filling of questionnaire of some respondents. Then, got the 12 highest score for the aspects of character of javanes culture that appropriate with 21st century vocational teachers who get 4,2 so that include in highly important category and the results can be shown at Fig.2.



Fig 2. the importance degree of competence development in 21st century Vocational Teacher Competence which has Java cultural character

12 characters of javanese culture that suit to 21st century vocational teachers have highly urgency to be developed as the teachers' competency of javanese cultural character in 21st century. Knowing every character refers to teacher as a figure who has the intended character and also the connection that related with the profession and work environment. Thus, it can really put students as teachers-to-be as the figure with visualized character, so that students can get knowledge that related with javanese cultural values that suit to the skill of 21st century vocational teachers. That knowledge is one of components in instilling character values to school or college members. The well-built environment, one of it is get used to the introduction of the knowledge of javanese cultural values that suit to skill of 21st century vocational teachers, is the form of responsibility of education institution [14]. It is expected that the the knowledge of javanese cultural values that suit to skill of 21st century vocational teachers to students and academic personels will increase the awareness of making serious efforts on developing the character of educational culture in colleges. Prospective teachers who are currently accustomed to educate will crystallize the skills of vocational teachers of the 21st century character of Javanese culture, so that later as a vocational teacher will be able to apply these skills and can be followed by VHS students. It is as stated Brian Schreuder said that Teachers need to understand that 21st century skills are not taught but modelled [23].

Generally, the visualization of javanese cultural values that suit to 21st century vocational teachers to students and other academic personel are flexible to be attempted in the form of texts and videos as well. Experts judgement state that display media to show those characters will be useful for developing the skills of 21st century vocational teachers that have javanese cultural characters. The display of those values as the form of visualized character is one of the inculcation methods [14] by using the development of visualization strategies in the form of texts and written on led running text and videotron.

The selected display of javanese cultural values and meaning is flexible and needs to consider the display duration, considering the amount (46), so that it is needed more research related with the payback duration and the order or priority of development or playback on the visualized media. Besides that, from the result of discussion is also stated that the importance of point of view of putting the display needs to be noticed with considering the legibility of diplay access by students and other academic personels. The other things to be considered is the visualization in the form of videos is possible to have longer duration than text visualization. It is the effort in order the visualization of 21st century vocational teachers with javanese cultural character is easier to be accesed by stdents. If the visualization of text and vdeo form has built, so it is needed more advanced thinking related with cultivation effort as continuance of *inkulkasi* efforts of javanese cultural values that suit to the skill of 21st century vocational teachers especially to students..

The recommendation of research team related with discussion result with expert judgement and appearance of other considerations, such as: (1) the development of

storyboard to each good value in the form of text or vieo, so that the duration needed is identified; (2) the development of visualization of each values can be done by assigning the students in class, so thus values can be integrated in learning process [14]; (3) determining the strategic location of setting up led running text and videotron with the consideration of the availability access of visualization media; (4) the production of text and video visualization which can be accesed through other media beside videotron, like websites or android based for the flexibility of access; dan (5) the strategy in order studnets really can access the visualization of javanese ccultura values that suitto skill of 21st century vocational teachers, i.e. uploading students' production (assignment of character values visualization) throug youtube and review is a must as an assignment or in briefly, there is an integration in the learning process. Considering some recommandations of the researcher, so for the next is expected an advance research related with the development of visualization media of 21st century vocational teachers competence.

From the discussion result with the expert judgement, it is known that display media to show those characters have benefits to develop skills of 21st century vocational teachers with javanese cultural charracter. The chosen display of javanese cultural values and meanings is flexible anad needs to consider the duration. According to the caseso the opinion offered is making storyboard to visualize the sill of 21st century vocational teachers with javanese cultural character. Besides that, from the discussion also stated that the importance of point of view on putting the display needs to be noticed by considering the availabilty access of legible display for students and other academic personels. In addition, considering the visualization in the form of video is possible to have longer duration than text visualization, so there are suggestions in producing video that can be accesed by media besides videotron. Thus, the visualization of 21st century vocational teachers with javanes cultural character is easier to be accesed bystudents

IV. FINDING

21st century Vocational Teacher Competence which has Java cultural divided into: (a) *learning and innovation skills* terdiri dari 22 karakter nilai budaya jawa, consist of 22 characters of javanese cultural values; (b) *life and career skills*, consist of 17 characters of javanese cultural values; dan (c) emotional intelligence, consists of 7 characters of javanese cultural values. There are 12 characters of javanese cultural values considered of having high importance level, they are: *rawe-rawe rantas malang-malang putung; ajining dhiri dumunung ana ing ing lathi, ajining raga ana ing busana, ajining awak saka tumindak; Rigen; taberi tatanya; Saiyek saeka praya;; ing ngarsa sung tuladha; Ing madya mangun karsa; tut wuri handayani; nuju inggiling papan munggah saba ngisor baka disik-disik; nglurug tanpa bala, menang tanpa ngasorake; wani ngalah, luhur wekasane; dan temen ing seja*. The meaning of each character refers to teachers as figure that have the character and also the connection related with the profession and working environment. Generally

visualization of javanese cultural values that suit to the skills of 21st century vocational teachers to students or other academic personels flexibly can be attempted in the form of text and also video. The values display as the form of character visualization is one of instill methods by using various visualization media. The recommendations for further research are related to the realization of visualization in the form of text and video with attention to flexibility access either through videotron, running text, website, android-based smartphone or other and the integration of visual media production of 21st century Vocational Teacher Competence which has Java cultural.

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