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Gender and Perception: Implementation of Web-based Character Assessment on Students' Character Outcomes

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This study aims to find out how the differences in students' perceptions of the use of web-based character assessments were analyzed by gender and to determine the differences in the acquisition of students' perception assessments of the use of web-based character assessments in junior high schools in Batanghari Regency, Indonesia. The population in this study was a junior high school in Batanghari Regency, Jambi Province, Indonesia with a sample of 322 students using purposive sampling technique. The quantitative method used in this research is descriptive and inferential analysis method to obtain assumption testing (normality and homogeneity) and hypothesis testing (Anova). The results showed that in the variable of student perceptions of the use of web-based character assessment, there was a significant average difference between female students and male students. Then on the student character variable there is also a significant average difference between female students and male students.

Keywords: character, gender, implementation, perception, web-based assessment

INTRODUCTION

The 21st century has witnessed great technological advances. Advances in technology are characterized by fast access to information and easy communication (Budianingsih et al., 2019; Fitriyana et al., 2020; Francis et al., 2020). There have been many devices designed to support access to information and communication such as laptops and smartphones (Alvarez-Cedillo et al., 2019; Farozin, 2019; Kusuma, 2021). This progress has resulted in well-developed professional system (Racz et al., 2015; Farr,

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2017; Yoon et al., 2018; Lusigi, 2019; Wiebe et al., 2019). Technology has become a necessity for daily activities (Fan et al., 2017; Larsson-Lund et al., 2017; Billman et al., 2018; White, 2019; Teti & Maroni, 2021). Nowadays technology has become a paradigm and has an important role in the world of education (Shodiq & Syamsudin, 2019; Azman et al., 2020; Prasojo & Yuliana, 2021; Subramaniam; 2021). This happens because technology can be integrated into the world of education (Rosana et al., 2017; Mahat et al., 2019; Astuti, 2021). Technology has now been widely used to support education.

Technologyhas played a significant role in developing educational systems in different countries worldwide (Miskiah et al., 2019; Setiawan et al., 2020; Ong et al., 2021). Education is a process to form an individual (Zaenuri et al., 2017; Siswanto et al., 2019; Irmansyah et al., 2020; Marzuki et al.,2021). Education is a means to improve students' abilities (Khasanah et al., 2017; Hartini et al., 2018; Wangid et al., 2018; Sukendar et al., 2019; Maisyaroh et al., 2021; Sojanah et al., 2021). With education, it is intended to be able to form the best generation as the nation's successor (Sumardjoko & Musyiam, 2018; Afandi et al., 2019; Setiawan et al., 2020). Education takes place in the learning process in the form of interaction activities between teachers and students (Ginanjar et al., 2019; Rosidinet al., 2019; Salimi& Safarzadeh, 2019). Teachers and students have an important role in education (Simon, 2020; Yu & Sun, 2020). The ideal education in this world must have an evaluation system as a benchmark for change.

Assessment is a system that has been integrated in education. Assessment can be defined as an objective activity measuring student learning experiences (Ho et al., 2017; Kantor & Lei, 2020). Assessment is very important in education as a source of information about the success or failure of the learning process (Darmawan et al., 2020; Rodriguez-Vasquez & Ariza-Hernandez, 2021). The success or failure of learning can be seen after evaluating students (Sahoglu et al., 2018; Yuhanna et al., 2021). With this evaluation, we can see deficiencies, and prepare ways to fix them and improve students' abilities (Fadiana et al., 2019; Sadhu et al., 2019; Zulfiani et al., 2020). Evaluation activities are generally carried out in the form of tests with various variations (Barua et al., 2017; Ozan, 2019; Violato & King, 2021). However, technology can be used to upgrade this scoring system (Sakar et al., 2017; Ayanwale et al.,2020; Esomonu et al.,2020). This needs to be done to facilitate the scoring system.

An assessment system that can be developed with technology is an e-assessment. This feature makes the assessment process more efficient in terms of time and funding and uses a simple process, namely end to end (Astalini et al.,2019; Aichiet al.,2020). This feature can be accessed easily using a smartphone and becomes a new assessment evaluation strategy (Lai et al.,2020; Rabiman, 2021; Wahyuningsih et al.,2021; Wibowotomo et al.,2021). The advantage of the website is that it can be developed and modified according to needs (Sahidu et al.,2017; Leksono et al.,2021). Using this system can make a positive impact on education and become the latest evaluation system innovation in education (Wenno, 2014; Dunovic et al.,2016; Widiana & Jampel, 2016). This system can be applied to evaluate the character of students.

The character of students needs to be evaluated to see the extent of their development. Building the character of students is very important (Novianti, 2017; Suastra et al., 2017). Character education contains very high moral values (Lapsley & Woodbury, 2016; Harun et al., 2020; Kristjansson, 2020; Suhirman et al., 2021). Character education is essential, it can make students have good character, ethics and attitudes to build their nations (Isdaryanti et al., 2018; Martini et al., 2018). Student character can be built through a learning process in which there is activity, participation and good understanding (Durmus, 2016; Sitorus et al., 2019; Farhan & Rofi'ulmuiz, 2021). This good character evaluation will later foster good perceptions of students.

Students' perceptions on the use of web-based character assessment will show different results. If the student has a good perception, he will support the learning process (Amalia et al., 2018; Egilmez et al., 2018; Sudirman et al., 2020; Tobing & pranowo, 2020). Perception is very important to support every activity because it makes students more sensitive to learning (Purwoko et al., 2017; Suyitno et al., 2021). Perception is an individual's process of receiving impressions using the senses which are then interpreted (Koseoglu, 2018; Goncalves et al., 2020; Muhtar & Dallyono, 2020; Rusidiyah et al., 2020). Students who have good perceptions in learning will tend to have a sense of curiosity to seek information (Meilinda et al., 2017; Tapilouw et al., 2017; Braun et al., 2018; Ayvaz-Tuncel & Tuncel, 2019). This will make it easier for students to solve problems in the learning process (Koseoglu, 2017; Prihadi et., 2017; Prihadi et al.,2018; Kim et al., 2019). Students differ in their levels of perception, according to their respective gender.

Male and female differ in their perceptions of the use of web-based character assessment. Gender is an influential factor in the learning process (Suyatna et al., 2018; Fitriani et al., 2019). For example, female are more skilled in carrying out various activities especially when working in teams (Beddoes, 2018; Saleh & Mazlan, 2019; Rizal et al., 2020). This shows that male and female have significant differences, female have high motivation, intellectuality, sensitivity, positive self-strong psychology and individuality when compared with male (Noh & Khairani, 2020; Astuti, 2021). Gender can be interpreted as a social construction (Xiao & Hong, 2017; Holliday et al., 2019). Female can do more activities and interactions than male (Diningrat et al., 2020). By using an evaluation system that has been integrated with technological advances such as web-based character assessment, researchers can conduct research on student character assessment. The purpose of this study was to find out how the differences in students' perceptions of the use of web-based character assessments were analyzed by gender and to determine the differences in the acquisition of students' perception assessments of the use of web-based character assessments in junior high schools in Batanghari Regency, Indonesia.

METHOD

This study uses a quantitative method used to conduct non-experimental research that can be measured numerically by focusing on object analysis (Pastore, 2017; Akar & Celik, 2019; Supardi et al., 2021). This quantitative study was used to see the effect of students' perceptions of the use of web-based character assessment on the results of

student character assessments. In conducting research using quantitative methods, data are needed from students' perception questionnaires and the results of student character assessments using instruments. The instrument itself must really be able to measure the variables that the researcher wants to measure (Krishanan & Idris, 2018). The student perception instrument was adapted from research Rizki, (2017) with a total of 4 indicators and to measure the results of character assessment, it was obtained from the results of students filling out a web-based character assessment in which the character assessment instrument was adapted from research Harnanto, (2016) with a total of 6 indicators. The grids of the two instruments can be seen in Tables 1 and 2.

Table 1
Perception instrument

Sub Variable	Items
Theory	1, 2, 3, 4, 6, 7, 8, 9
Language	5, 10, 11, 12, 18
Display	13, 14, 19, 25, 26, 27, 28, 29, 30
Benefits	20, 21 22, 23, 24

Table 2
Indicator of perception

Indicator	Items
Independent	1, 2, 3, 4
Religious	5, 6, 7, 8
Discipline	9, 10, 11
Hard work	12, 13, 14
Creative	15, 16

The assessment of the student perception questionnaire in the form of a statement will be converted into a Likert scale with 4 scales. The higher the score on the Likert scale, the more positive the results. From the student perception questionnaire, score 4 was categorized as very good, score 3 was categorized good, score 2 was categorized as bad, and for score 1 was categorized as very bad. To find out which category the student's perception belongs to, it is necessary to use the classification of student perception scores, which can be seen in table 3.

Table 3
Perception rating classification

Range	Category
30,0-52,5	Very Bad
52,6-75,0	Bad
75,1-97,5	Good
97,6-120,0	Very Good

For student character assessment which is also a statement which will be converted into 1likert scale with 5 categories where students scored 5 in the very good category, 4 in the good category, 3 in the good enough category, 2 in the bad category, and 1 in the very bad category. Classification of student character assessment can be seen in table 4.

Table 4
Character rating classification

Range	Category
16,00- 28,80	Very Bad
28,90- 41,60	Bad
41,70- 54,40	Good Enough
54,50- 67,20	Good
67,30- 80,00	Very Good

The population of this study was a junior high school in Batanghari district where the sample of this study was 322 students (133 male and 189 female students). The purposive sampling technique was chosen in this study to determine the sample with the intention of maximizing the results of the information collected (Mosabala, 2018; Rohmah & Sutiarso, 2018). The sample selection has criteria, namely having a cellphone and internet network. So that the sample obtained is in accordance with the research objectives.

The results of the perception and character questionnaires will be analyzed using descriptive and inferential statistics. Descriptive statistics are needed to explain the frequency, mean, median, mode, minimum, and maximum which are very much needed in further inferential tests. After the data is described, it is necessary to test assumptions to meet the research objectives. The assumption test used itself is the normality test, homogeneity test, and linearity test to see the effect of student perceptions on the results of student character assessments and is a requirement before testing the hypothesis with a significance value of 0.05 so that further hypothesis testing can be carried out (Ozdemir et al., 2018; Sugiharto et al 2019; Sugiharto et al., 2019; Ong et al., 2021).

The first assumption test that was carried out was the normality test to see if the data were normally distributed with the condition that the significance value was greater than 0.05 in order to have a normal distribution (Duisembekova, 2021). After that, the homogeneity test was carried out to see if the variance was the same or not, on the condition that when the significance value was greater than 0.05, the data was homogeneous using the Levene test (Hakim et al., 2020). The linearity test is carried out because the researcher will conduct a linear regression test which requires a linearity test to find out whether the data is linear or not, it can be seen from the test results where the data will be linear when the significance value is greater than 0.05 and $F_{value} < F_{table}$ (Setiawan et al., 2020). After all the assumption test conditions are met, the researcher can then test the hypothesis, namely the ANOVA test. The ANOVA test was carried out to determine the difference between each class where the condition is that when the data is smaller than 0.05, there is a difference between classes (Parmaksiz, 2019; Bawaneh et al., 2020; Gomer-Arizaga et al., 2021).

FINDINGS

Electronic assessments such as web-based assessments are expected to provide new experiences for students in filling out student character questionnaires. The novelty of this study comes from its aim to determine the effect of student perceptions on student

character on the use of web-based character assessment based on gender differences. The student character assessment conducted through the website has features that can be easily accessed by users. Electronic assessment (e-assessment) has several advantages so that it is more refreshing to use. Therefore, electronic assessments such as web-based assessments are needed in assessing student character.Theresults of the student character assessment obtained were then analyzed to see whether there were differences in each grade. The description of students' perceptions on the use of web-based character assessment based on gender differences in seventh grade can be seen in Table 5.

Table 5
Seventh grade students' perceptions on the use of web-based character assessment

Gender	Category	f	(%)	Mean	Median	Mode	Min	Max
Female	Very Bad	0	0%	100.61	102	102	85	112
	Bad	0	0%					
	Good	22	34.4%					
	Very Good	42	65.6%					
Male	Very Bad	0	0%	98.33	98	98	88	108
	Bad	0	0%					
	Good	16	33.3%					
	Very Good	32	66.7%					

Based on Table 5, it is found that the seventh grade students' perceptions on the use of web-based character assessment based on gender differences is in the very good category. The percentage of female students' perceptions of 65.6% or 42 of the total 64 female students is in the very good category, 34.4% or 22 of the total 64 female students are in the good category, with a mean of 100.61, a median of 102.00, a mode of 102, a minimum score of 85, and a maximum score of 112. The percentage of male students' perceptions 66.7% or 32 of the total 48 male students are in the very good category, 33.3% or 16 of the total 48 male students are in the good category, with a mean of 98.35, median 98.50, mode 98, minimum value 88, and maximum value 108. Furthermore, the description of the eighth grade students' perceptions on the use of web-based character assessment based on gender differences can be seen in Table 6.

Table 6
Eighth grade students' perceptions on the use of web-based character assessment

Gender	Category	f	(%)	Mean	Median	Mode	Min	Max
Female	Very Bad	0	0%	101.82	102	98	88	112
	Bad	0	0%					
	Good	13	19.4%					
	Very Good	54	80.6%					
Male	Very Bad	0	0%	97.15	98	98	86	106
	Bad	0	0%					
	Good	16	39%					
	Very Good	25	61%					

Based on Table 6, it is found that the eighth grade students' perceptions on the use of web-based character assessment based on gender differences is included in the very

good category. The percentage of female students' perceptions of 80.6% or 54 of the total 67 female students is in the very good category, 19.4% or 13 of the total 67 female students are in the good category, with a mean of 101.82, a median of 102.00, a mode of 98, a minimum score of 88, and a maximum score of 112. The percentage of male students' perceptions 61% or 25 of the total 41 male students are in the very good category, 39% or 16 of the total 41 male students are in the good category, with a mean of 97.15, median 98.00, mode 98, minimum score 86, and maximum score 106. Furthermore, a description of the ninth grade students' perceptions on the use of web-based character assessment based on gender differences can be seen in Table 7.

Table 7
Ninth grade students' perceptions on the use of web-based character assessment

Gender	Category	f	(%)	Mean	Median	Mode	Min	Max
Female	Very Bad	0	0%	99.21	99	95	88	112
	Bad	0	0%					
	Good	27	46.6%					
	Very Good	31	53.4%					
Male	Very Bad	0	0%	100	100.50	102	89	108
	Bad	0	0%					
	Good	11	25%					
	Very Good	33	75%					

Based on Table 7, it is found that the ninth grade students' perceptions on the use of web-based character assessment based on gender differences is in the very good category. The percentage of female students' perceptions of 54.4% or 31 of the total 58 female students is in the very good category, 46.6% or 27 of the total 58 female students are in the good category, with a mean of 99.21, a median of 99.00, a mode of 95, a minimum score of 88, and a maximum score of 112. The percentage of male students' perceptions 75% or 33 of the total 44 male students are in the very good category, 25% or 11 of the total 44 male students are in the good category, with a mean of 100.0, median 100.50, mode 102, minimum score 89, and maximum value 108. Furthermore, character description of seventh grade student using web-based character assessment based on gender differences can be seen in Table 8.

Table 8
Character description of seventh grade student using web-based character assessment

Gender	Category	f	(%)	Mean	Median	Mode	Min	Max
Female	Very Bad	0	0%	66.08	67	68	52	78
	Bad	0	0%					
	Good Enough	1	1.6%					
	Good	33	51.6%					
	Very Good	30	46.9%					
Male	Very Bad	0	0%	69.65	70	68	60	78
	Bad	0	0%					
	Good Enough	0	0%					
	Good	10	20.8%					
	Very Good	38	79.1%					

Based on Table 8, it is found the percentage of female students' character of 51.6% or 33 of the total 64 female students is in the good category, 46.9% or 30 of the total 64 female students are in the very good category, 1.6% or 1 of the total 64 female students are in the good enough category, with a mean of 66.08, median 67.00, mode 68, minimum score of 52, and maximum value of 78. The percentage of male students' character 79.1% or 38 of the total 48 male students are in the very good category, 20.8% or 10 of the total 48 male students are in the good category, with a mean of 69.65, a median of 70.00, a mode of 68, a minimum score of 60, and a maximum value of 78. Furthermore, character description of eighth grade student using web-based character assessment based on gender differences can be seen in Table 9.

Table 9
Character description of eighth grade student using web-based character assessment

Gender	Category	f	(%)	Mean	Median	Mode	Min	Max
Female	Very Bad	0	0%	68.15	68	68	58	78
	Bad	0	0%					
	Good Enough	0	0%					
	Good	26	38.8%					
	Very Good	41	61.2%					
Male	Very Bad	0	0%	68.83	70	70	55	78
	Bad	0	0%					
	Good Enough	0	0%					
	Good	14	34.1%					
	Very Good	27	65.9%					

Based on Table 9, it is found that the character description of eighth grade student using web-based character assessment based based on gender differences is in the very good category. The percentage of female students' character of 61.2% or 41 of the total 67 female students is in the very good category, 38.8% or 26 of the total 67 female students are in the good category, with a mean of 68.15, a median of 68.00, a mode of 68, a minimum score of 58, and a maximum score of 78. The percentage of male students' character 65.9% or 27 of the total 41 male students are in the very good category, 34.1% or 14 of the total 41 male students are in the good category, with a mean of 68.83, median 70.00, mode 70, minimum score 55, and maximum score 78. Furthermore, the character description of ninth grade student using web-based character assessment based based on gender differences can be seen in Table 10.

Table 10
Character description of ninth grade student using web-based character assessment

Gender	Category	f	(%)	Mean	Median	Mode	Min	Max
Female	Very Bad	0	0%	66.90	68	68	55	78
	Bad	0	0%					
	Good Enough	0	0%					
	Good	27	46.6%					
	Very Good	31	53.4%					
Male	Very Bad	0	0%	66.59	67	66	55	78
	Bad	0	0%					
	Good Enough	0	0%					
	Good	24	54.5%					
	Very Good	20	45.5%					

Based on Table 10, it is shown that the percentage of female students' character of 53.4% or 31 of the total 58 female students are in the very good category, 46.6% or 27 of the total 58 female students are in the good category, with a mean of 66.90, median 68.00, mode 68, minimum score of 55, and maximum value of 78. Characters of male students in ninth grade are 54.5% or 24 of the total 44 male students are in good category, 45.5% or 20 of the total 44 male students are in the good category, with mean 66.59, median 67.00, mode 66, minimum value 55, and maximum value 78.

In this study, a prerequisite test was also carried out, namely normality test (to determine whether the data is normally distributed or not), and homogeneity test (to determine whether some population variance is the same or not). The results of the normality test are shown in Table 11 below.

Table 11
Normality test results

	Grade	Gender	Statistic	df	Sig.
Students' Perception	Seventh grade	Female	.966	64	.071
		Male	.968	48	.208
	Eighth grade	Female	.972	67	.135
		Male	.951	41	.075
	Ninth grade	Female	.967	58	.114
		Male	.958	44	.111
Students' Character	Seventh grade	Female	.971	64	.144
		Male	.964	48	.114
	Eighth grade	Female	.968	67	.084
		Male	.956	41	.110
	Ninth grade	Female	.969	58	.136
		Male	.957	44	.101

Based on the analysis of the data in Table 11, it can be seen that the data is normally distributed on both variables, namely the student's perception of the use of web-based character assessment and the student's character variable with the basis for making

decisions, namely the significance value > 0.05. The results of the homogeneity test are shown in Table 12 below.

Table 12
Homogeneity test results

	Gender	Levene Statistic	df1	df2	Sig.
Students' Perception	Female	1.584	2	186	.208
	Male	.165	2	130	.848
Students'Character	Female	.266	2	186	.766
	Male	1.861	2	130	.160

Based on the data analysis in Table 12, it can be seen that the data is homogeneous on both variables, namely students' perceptions of the use of web-based character assessments and student character variables on the basis of decision making, namely the significance value > 0.05. After the data is normally distributed and homogeneous, a hypothesis test is carried out, namely the ANOVA test. The results of the ANOVA test can be observed in Table 13.

Table 13
Oneway ANOVA test results

Gender	Variable	Sig.
Perception	Female	.040
	Male	.032
Character	Female	.021
	Male	.006

Table 13 shows the results of the one way ANOVA test which was analyzed based on the student's perception variable on the use of web-based character assessment and the student's character variable. The ANOVA test was conducted to determine whether or not there were differences in the perceptions of female students and male students on the use of web-based character assessment. Then, the ANOVA test was also carried out to determine whether or not there were differences in the character of female students and male students. In the variable of students' perception on the use of web-based character assessment, the significance value of female students' is 0.040 and the significance value of male students' is 0.032. Because the significance value obtained shows the result < 0.05, it can be interpreted that there is a significant average difference between female students and male students in the variable of students' perception on the use of web-based character assessment.

Then, in the variable of students' character, the significance value of female students' is 0.021 and the significance value of male students' is 0.006. Because the significance value obtained shows the result < 0.05, it can be interpreted that there is a significant average difference between female students and male students in the variable of students'character. Furthermore, to find out which class has a significant average difference in students' perceptions of the use of web-based character assessment, and which class has a significant average difference in students' character variables, it is

necessary to carry out further testing in the form of a post hoc test with Tukey HSD test. The results of the post hoc test are shown in Table 14.

Table 14
Post hoc test results

Multiple Comparisons

Tukey HSD

	Gender	Grade	(J) Grade	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Students' Perception	Female	Seventh	Eighth	-1.212	.995	.444	-3.56	1.14
			Ninth	1.402	.032	.365	-1.04	3.84
		Eighth	Seventh	1.212	.995	.444	-1.14	3.56
			Ninth	2.614*	.021	.030	.20	5.03
		Ninth	Seventh	-1.402	.032	.365	-3.84	1.04
			Eighth	-2.614*	.021	.030	-5.03	-.20
	Male	Seventh	Eighth	1.208	.056	.489	-1.30	3.71
			Ninth	-1.646	.036	.254	-4.10	.81
		Eighth	Seventh	-1.208	.056	.489	-3.71	1.30
			Ninth	-2.854*	.078	.025	-5.41	-.30
		Ninth	Seventh	1.646	.036	.254	-.81	4.10
			Eighth	2.854*	.078	.025	.30	5.41
Students' Character	Female	Seventh	Eighth	-2.071*	.821	.033	-4.01	-.13
			Ninth	-.818	.852	.602	-2.83	1.19
		Eighth	Seventh	2.071*	.821	.033	.13	4.01
			Ninth	1.253	.843	.300	-.74	3.24
		Ninth	Seventh	.818	.852	.602	-1.19	2.83
			Eighth	-1.253	.843	.300	-3.24	.74
	Male	Seventh	Eighth	.817	1.043	.714	-1.66	3.29
			Ninth	3.055*	1.024	.009	.63	5.48
		Eighth	Seventh	-.817	1.043	.714	-3.29	1.66
			Ninth	2.238	1.065	.093	-.29	4.76
		Ninth	Seventh	-3.055*	1.024	.009	-5.48	-.63
			Eighth	-2.238	1.065	.093	-4.76	.29

Table 14 shows the results of the post hoc follow-up test conducted through the Tukey HSD test. In the variable of students' perceptions on the use of web-based character assessment, only eighth and ninth grades female students have a significant average difference with the basis for making decisions, namely the Sig value. 0.030 < 0.05. In addition, the asterisk in the results of the average difference also indicates that the two have a significant average difference. Likewise with male students, only male students in the eighth and ninth grades have a significant average difference with the basis for making decisions, namely the Sig value. 0.025 < 0.05. In addition, the asterisk in the results of the average difference also indicates that the two have a significant average difference. Therefore, in the variable of students' perceptions on the use of web-based character assessments, there is a significant difference in the average in the eighth and ninth grades for both female and male students.

In variable of students' character, only female students in seventh and eighth grades have a significant average difference with the basis for making decisions, namely the value of Sig. of 0.033 < 0.05. In addition, the asterisk in the results of the average difference also indicates that the two have a significant average difference. As for male students, only male students in seventh and ninth grades have a significant average difference with the basis for making decisions, namely the value of Sig. 0.009 < 0.05. In addition, the asterisk in the results of the average difference also indicates that the two have a significant average difference. Therefore, on the student character variable there is a significant average difference between seventh and eighth grades students for female students, and there is a significant average difference between seventh and ninth grades students for male students.

DISCUSSION

Descriptive tests that have been conducted on students in seventh, eighth, and ninth grades will be analyzed by comparing the percentages obtained by students based on predetermined criteria so that a conclusion can be drawn. Descriptive tests were conducted for two variables, namely students' perceptions on the use of web-based character assessment and student character. In the description of students' perceptions on the use of web-based character assessment in seventh, eighth, and ninth grades were analyzed based on gender, namely female and male. The percentage of female students' perceptions on the use of web-based character assessment in seventh grade of 65.6% is in the very good category and the percentage of male students in seventh grade of 66.7% is in the very good category. This shows that the perception of female students and male students on the use of web-based character assessment in seventh grade are in the very good category. Furthermore, the percentage of female students' perceptions on the use of web-based character assessment in eighth grade of 80.6% is in the very good category and the percentage of male students in eighth grade of 61% is in the very good category. This shows that the perception of female students and male students on the use of web-based character assessment in eighth grade are in the very good category. Then, finally in ninth grade, it showed that the perception of female students and male students on the use of web-based character assessment of 53.4% is in the very good category and the percentage of male students of 75% is in the very good category. This shows that the perception of female students and male students on the use of web-based character assessment in ninth grade are in the very good category.

The next variable that must be described is the student's character. In the description of the students' character, students in seventh, eighth, and ninth grades were also analyzed based on gender, namely female and male. The percentage of female students in seventh grade is 51.6% in the good category and the percentage of male students in seventh grade is 79.2% in the very good category. This shows that the character of male students is classified as better than the character of female students in seventh grade. Furthermore, for the character of students in eighth grade, it shows that the percentage of female students of 61.2% is in the very good category and the percentage of male students in the class of 65.9% is in the very good category. This shows the character of female and male students in eighth grade are in a very good category. Then, lastly, in

ninth grade, it showed that the percentage of female students' characters by 53.4% is in the very good category and the percentage of male students of 54.5% is in the good category. This shows that the character of female students is better than the character of male students in ninth grade.

Prerequisite tests were also carried out in this study, namely normality test and homogeneity test. The data in this study were normally distributed with a significance value > 0.05 which had been tested with the normality test. In addition, the data in this study are homogeneous because the value of Sig. > 0.05 through homogeneity test. The fulfillment of the two prerequisite tests is a must in hypothesis testing. If the two prerequisite tests are met, it will also show good results on the hypothesis test, namely the ANOVA test.

The ANOVA test in this study was conducted for two purposes. First, the ANOVA test was conducted to determine whether there were differences in the perceptions of female and male students on the use of web-based character assessment. Second, the ANOVA test was also carried out to determine whether there were differences in the character of female students and male students. In the variable of students' perception on the use of web-based character assessment, the significance value of female students' is 0.040 and the significance value of male students' is 0.032. Because the significance value obtained shows the result < 0.05, it can be interpreted that there is a significant average difference between female students and male students in the variable of students' perception on the use of web-based character assessment. Then, in the variable of students' character, the significance value of female students' is 0.021 and the significance value of male students' is 0.006. Because the significance value obtained shows the result < 0.05, it can be interpreted that there is a significant average difference between female students and male students in the variable of students'character.

Significant mean differences between female students and male students on the variable of student perception on the use of web-based character assessment and on the student character variable can be analyzed in more detail. The more detailed analysis aims to find out which class has the average difference for each variable. This significant difference can be observed in more detail through the post hoc follow-up test and the Tukey HSDa test. Post hoc tests have been carried out on students' perception variables on the use of web-based character assessment and on students' character variables.

In the variable of students' perceptions on the use of web-based character assessment, only eighth and ninth grade female students have a significant average difference with the basis for making decisions, namely the Sig value. 0.030 < 0.05. Likewise with male students, only male students in the eighth and ninth grades have a significant average difference with the basis for making decisions, namely the Sig value. 0.025 < 0.05. Thus, in the variable of student perception on the use of web-based character assessment, female students and male students in the eighth and ninth grades have significant differences. Both female students and male students showed the same grade, namely eighth and ninth grades.

The results of the student perception variable test on the use of web-based character assessment found that eighth grade female students had higher perceptions than seventh grade female students with a mean difference of 1.212 and a significance value of 0.444 which was greater than 0.05 which means that female students' perceptions of the use of web-based character assessment for grade eight and grade seven did not have a significant difference. The results of the comparison of seventh grade and ninth grade female students show that there is a mean difference of 1.402 which means that seventh grade has a higher perception than ninth grade female and has a significance of 0.365 which means that female students' perceptions of the use of web-based character assessment class seventh and ninth grade did not have a significant difference. Then, the results of the comparison of eighth grade and ninth grade female students showed that the eighth grade female student's perception was higher than the ninth grade female student with a mean difference of 2,614 which means that the eighth grade female student had a higher mean than the ninth grade female student and had a significance of 0.030 which is smaller than 0.05 which means that there is a significant difference between the perceptions of eighth grade and ninth grade female students on the use of web-based character assessment. Therefore, a significant difference in the average perception of female students on the use of web-based assessment is found in the eighth and ninth grades. Then, it was found that the perception of the eighth grade female students had a better perception than the other two classes.

The post hoc test results on the perception variable of male students on the use of web-based character assessment showed that seventh grade male students had higher perceptions than eighth grade male students with a mean difference of 1,208 with a significance value of 0.489 which greater than 0.05 which means that the perception of male students in grade seven and grade eight on the use of web-based character assessment does not have a significant difference. The results of the comparison of male students in grade seven and grade nine show that there is a difference in the mean of -1.646 which means that the perception of male students in grade seven is smaller than the perception of grade nine students with a significance value of 0.254 which means that the perception of male students is seventh grade and ninth grade in the use of web-based character assessment did not have a significant difference. The results of the comparison of the mean of the eighth grade and ninth grade male students show that there is a difference in the mean of -2.854 which means that the ninth grade male students have a higher perception than the eighth grade students with a significance value of 0.025 which is less than 0.05 which means that there are there is a significant difference between the perceptions of eighth and ninth grade male students on the use of web-based character assessment. Therefore, a significant difference in the average student perception of the use of web-based assessment is found in the eighth and ninth grades. Then, it was found that the ninth grade male students had better perceptions than the other two classes.

In variable of students' character, only female students in seventh and eighth grades have a significant average difference with the basis for making decisions, namely the value of Sig. of 0.033 < 0.05. As for male students, only male students in seventh and ninth grades have a significant average difference with the basis for making decisions,

namely the value of Sig. 0.009 < 0.05. Therefore, on the student character variable there is a significant average difference between seventh and eighth grades students for female students, and there is a significant average difference between seventh and ninth grades students for male students. This shows that the distribution of student characters is more diverse so that there are class differences between female students and male students.

The results of the post hoc test on the female students' character variables showed that the eighth grade female students had better character than the seventh grade female students with a mean difference of 2,071 with a significance value of 0.033, which means that the results of the assessment of the female character of grade and grade 8 students have a very big difference. significant. Therefore, a significant average difference in student character variables is found in seventh and eighth grades. The results of the character of female students in seventh and ninth grades show that there is a mean difference of 0.818 where female students in ninth grade are better in character than seventh grade students and have a significance value of 0.602 so that there is no significant difference in the character of female students in seventh and ninth grades. The results of the assessment of the character of female students in eighth and ninth grades show that the character of eighth grade students is better than female students in ninth grade with a mean difference of 1.253 and has a significance value of 0.300 so that there is no significant difference between female students in eighth and ninth grades. It was found that the eighth grade female students had better character than the other two classes.

The results of the post hoc test on the male student character variables showed that the seventh grade male students had better character than the eighth grade students with a mean difference of 0.817 with a significance value of 0.714 which means that there is no significant difference between seventh grade students and grade eight. The test results on male students in seventh and ninth grades show that there is a difference in the mean of 3,055 where the seventh grade students have a higher assessment result than the ninth grade students with a significance value of 0.009 which means that there is a very significant difference between male students. - seventh and ninth grade boys. Therefore, a significant average difference in student character variables is found in the seventh and ninth grades. The eighth and ninth grade male students have a mean difference of 2,238 where the eighth grade students have better character than the ninth grade students with a significance value of 0.093 which means that there is a not too significant difference between the character of the eighth grade and ninth grade students. Then it was found that the seventh grade male students had better character than the other two classes.

Students' perceptions of the use of web-based assessment in science learning analyzed by gender can show different results. Web-based character assessment can increase students' interest in learning. The use of the website can train students' independence and activeness online to support the learning process so as to produce a positive attitude of students in learning. In addition, research on student perceptions of student character values will also make the assessment process more complex because it is seen from gender differences. This is in accordance with Akkaya's research, (2016), which shows that combining technological and pedagogical knowledge will develop students'

perceptions. Student perceptions can also be linked to students' perceptions of certain subjects (Meng et al., 2014). The integration of all educational technologies will also enhance the student's educational experience.

The novelty of this research is to find out the differences in students' perceptions on the use of web-based character assessment which is analyzed based on gender. In addition, this study also analyzed the differences in the character of students based on gender. Previous research discussed differences in student perceptions but did not analyze them based on gender. Therefore, this study explores the study of differences in student perceptions on the use of web-based character assessment and differences in student characteristics analyzed by gender.

This research has implications for the science learning process, especially in the assessment process. Assessment is an important thing in the learning process so it must be done carefully. A good assessment process will result in quality science learning. Therefore, this research has an impact on increasing students' ability to operate laptops in the learning process so as to facilitate the learning process itself. Web-based character assessment also makes it easier for teachers because there is no need to manually correct students' answers, so the assessment process is much more effective and efficient. This study aims to determine students' perceptions on the implementation of web-based character assessment in science learning based on gender. Teachers are expected to be able to deal with technological developments by using technology-based assessments so that they are more effective and efficient to use. So that this research is expected to be used as a basis for developing a technology-based assessment process to support the implementation of a better learning process.

CONCLUSION

Based on the results of the research that has been done, it can be concluded that the variable of student perception on the use of web-based character assessment which was analyzed based on female students and male students showed significant average differences in the two classes. For female students, a significant average difference was found in the eighth and ninth grades and for male students, a significant average difference was found in the eighth and ninth grades. Then the student character variables analyzed based on female students and male students showed significant average differences in the two classes. For female students, a significant average difference was found in the seventh and eighth grades and for male students, a significant average difference was found in the seventh and ninth grades. The results of this study can be used as an important indicator in the application of web-based assessment to assess the character that must be applied in schools.

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