The Perceptive of Student Teachers Faculty as Millennial Generations Towards Life Skills Through Learning To Design and Practical Implementation

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Article Info	Abstract
	This study aimed at determining the student teachers' perception, as millennial generations, of life skills through learning design and practical implementation. This research was conducted in July 2018 in the academic year of 2018/2019. Data was collected from 55 Biology education student teachers, who took the practical and laboratory management courses. This study was a descriptive quantitative research, and it was done through collecting and obtaining data that could be quantified. In the descriptive research, the researcher described and interpreted objects as what they were. Meanwhile, descriptive quantitative research was aimed at existing explanation of phenomena by using numbers to explain individual or group characteristics. The data collection techniques used questionnaire, and it was analyzed using a descriptive statistic method. The skills in this study were general, namely personal skills (thinking skills and self-awareness skills) and social skills (communication skills and collaboration skills). The results showed that the perspicacious of the students teachers, as a millennial generations, of personal skills and social skills were about thinking skills with very good category (92.72%), self awareness skills with good category (92.67%), communication skills with very good category (82.87%) and the collaboration skills in the very good category (93.72%). In short, perceptive student teacher as the millennial generations toward life skills were categorized as well as what they received by learning to design and practical implementation. © 2020 Universitas Negeri Semarang

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INTRODUCTION

Student teachers the millennial generations were productively individuals, who did their activity using and utilizing technology until these things could all affect their activities. In the process of utilizing the internet, student teachers should have life skills, which can help them to manage personal aspect and their culture, so that they could be powerful generations, in order to face the change of this world.

The reality of transformation world with the development of technology would affect social element and its social culture. This was not exceptional to influence the same things in Indonesia, and it would directly or indirectly experience the influence of developing the technology itself. The situation would also experience the same for the millennial generations in Indonesia, who encountered developmental technology and its improvement in societies. Millennial generations, according to Hasanuddin and Purwandy, 2017 were generations who were born between 1981 and 2000. The other researchers used to state birth year from 1980 to 2000 to categorize millennial generations (SindoNews, 2017). Therefore, it could be said that millennial generations were born in the periods of 1981-2000, which since the process of growth and development experienced a period of development of technology.

The characteristic from millennial generations was clearly seen in the use of digital media. Statistical Research Agency, 2018, stated that the characteristics from this generation were very familiar with communication and digital media. Reflecting from the educational perspective, millennial generations in Indonesia also had superior quality. Moreover, these generations also had interest to continue their tertiary education because they realized the high priority to achieve it. They had an understanding about open-minded, free, critical, courageous, very informative, productive in technology, and they would relate their job to the technology. These meant that these generations collaborated all aspects of their lives with technology. Through these elements, these kinds of generations had open-communication and very extreme in social media. They were very fast to respond every change, which occurred in the environment. These elements could also be seen from the candidate of student teachers' faculty, who had open-minded thought, critical, courageous, fast, creativity, dynamic, easy to absorb technology, closed to the social media. So, these elements could make them very close with information technology.

Ainiyah, 2018, carried her research data that had relation about the easy access by the millennial generations to use technology, which would reduce the interest of communication directly as a result of being addicted to the use of technology. Therefore, these millennial generations were part of Indonesia societies, which had solidarity and productivity of digital technology, and they could also experience a reduction in the desire to communicate with others. Darajat, (1982) in Wahana, (2015), stated that one effect from technological development reduced morality of students if it did not equalize with the improvement of their quality characters though the technology was needed to compete globally. Student teachers as the millennial generationa had solidarity and productivity with digital media, and they undesrtood technology in every aspects of their lives until they experienced the change in society.

The developmental technology occurred inside of student teachers from Biology education major as the millennial generations, who were born from 1999 to 2002. They were prepared also to become Christian teachers. The candidates of student teachers from Biology education major, they were also prepared to teach and to position with the variety conditions and socials in environment. Therefore, according to Statistical Research Agency, 2018, access to the improvement of information and technology made them to utilize ineffective things. They became unproductive characters, and these could affect personal aspects and social aspects. Student teachers as millennial generations, friendly with technology, if these were not followed by the good thought, they would experience a declined condition to socialize with others.

 Department of Mental Health World Health Organization in Geneva (1999) said that life skills were the abilities that must be trained. Training or practice life skills were about self-consciousness, problem solving, critical thinking, and interpersonal skillw. These were also explained by UNICEF, 2019, that "Life skills" defined as the psychosocial ability to adapt and positively behaviour, which allowed individual to effectively deal with the demands and challenges of everyday life. Therefore, life skills needed to be trained as the psychosocial abilities, which helped someone to face everyday life. The division of skills divided into three parts: cognitive skills such as to analyze and to use information, personal skills

such as to develop private agency and self-management, and interpersonal skills such as to communicate and effectively interaction with others (UNICEF, 2019).

UNICEF (2012), Global Evaluation of Life skills Education Program made grouping generic life skills into three broad categories, which were cognitive, critical thinking and problem solving about the decision maker. Personal skills were the skills about awareness, encouragement, and self-management; interpersonal skills were about communication, negotiation, collaboration, inclusion, empathy, and advocating. Prajapati and Sharma, 2017, defined life skills as the ability for the adaptive and positive behaviour, which could allow individuals to deal effectively with the demands and challenges of daily life. Therefore, life skills were the accomplishment inside of self-management, interpersonal, communication, which were used in daily life.

Another expert also divided life skills in several categories. Hikmawati, 2015, stated that life skills consisted of general skills and specific skills. General skills consisted of personal and social skills. Meanwhile, Specific skills contained vocational and academic skills. Life skills were also classified in big three parts, such as thinking skills, social skills, and emotional skills. Thinking proficient connected with the ability to improve reasonable perception, creative and critical thought, and it was also the capability to overcome issues and able to make a good decision. Social proficiency connected with the skills of interpersonal, communication, management, advocating, teamwork, and team building. Emotional proficiency related to emotional skills, which involved understanding about comfort zone of own self. Thus, life skills divided into two parts, which are general and specific skills. The indicator of the skills in this study were about general skills and social skills. General skills connected with the ability of thinking and the ability of self-knowledge. Social skills connected with the ability to communicate and to cooperate.

One lesson which helped student teachers as millennial generations in terms of teaching general skills and social skills, which was practising. Practice was a part of learning strategy that could help students to use science from the scientific process. Various practical materials revealed fact of science, science theory (Sumintono, 2001 in Windyariani, 2017). According to Subiantoro, 2010, practice could be interpreted as the unity of teaching and learning activity, which could make pupils to apply skills in a practice. Practical learning was made by student teachers, who practiced inside the teaching and learning of natural sciences (IPA). Munandar, 2015, stated that teaching and learning of natural sciences through practising were able to use by student teachers to integrate their cognitive, affection and psychomotor skills. These things were also explained in Ministrial regulation number 22, 2006, which was seen from education/learning of IPA (Natural Sciences). It was then expected to become tools to all pupils, who wanted to study their own and neighbourhood with the further developmental prospect by the implementation in everyday life.

By means of learning to design and practical implementation, student teachers who were the millennial generations and having the fast changes caused by information technology, they needed knowledge about them, in order to enhance their lives as the candidate of teachers. Through this learning, it expected the student teachers to be able to access every life skills that they had, and they could develop their capacity, and did not only focus on the internet or gadget, in terms of avoiding unproductive life. Thus, this research aimed to find out the point of view as millennial generations towards life skills, which could have by learning to design and practical implementation.

RESEARCH METHODOLOGY

This study was a descriptive quantitative research. Quantitative research was research by collecting data and gaining data that could be quantified by numbering (Yusuf M. A, 2017). Furthermore, the descriptive research was describing and interpreting object which based on real data (Sukardi, 2003).

Descriptive quantitative research aimed to describe the phenomenon which used number to describe characteristic from individual or group (Saputra, G. W, 2017). The point of view from student teachers could be accommodated by the questioner and analyzed by it. This study was conducted on July,

2018. The data was collected from 55 student teachers from Biology Education study program, and they were divided into groups and especially who took the subjects of practising and laboratory management.

RESULT AND DSICUSSION

The candidates of student teachers in educational Biology study program were the millennial generations, which were born between 1999 and 2002, and they were prepared also as Christian teachers. Inside of learning to design and practical implementation, they involved actively to design and practice until they could give their own notion to the life skills, which they received the activities. Furthermore, the detail of these result and discussion could be seen bellow.

Learning to design and practical implementation were conducted by 55 student teachers, who classified into 16 groups, and each group consisted of 3-5 people. First group consisted of four people (1 male and 3 females), second group consisted of three people (2 males and 1 female), third group totaled four people (4 females), fourth group totaled four people (3 males and 1 female). Fifth group numbered five people (3 men and 2 women), sixth group numbered four people (2 men and 2 women), seventh group numbered four people (1 men and 3 women), eighth group contained three people (1 male and 2 females). (Ninth group contained three people (3 females), tenth group contained three people (2 males and 1 female), eleventh group had three people (3 females). (Twelfth group had three people (3 women), thirteenth group had three people (3 women), fourteenth group calculated on three people (2 men and 1 man), fifteenth group calculated on three people (2 males and 1 female), last group got three people (1 male and 2 females).

Inside the activity of learning to design, student teachers received the big three topics such as practical Physics, Chemistry and Biology, and they chose their topic independently, to do the design and practice of those subjects. The practical topic was given to the junior school about Biology, 7th grade (Microscope), 9th grade (Natural Selection and Biotechnology), but the practical chemistry was given to 8th (Osmosis Pressure).

Meanwhile, senior high school group got the practical topic about Biology too. This activity was then classified into several classes with different cases, such as in 10th grade about staining grams and environmental pollution, and 11th grade about digesting system. Practical Chemistry was also given to the all graders with different topics following those levels, such as students at 10th grade about filtration, crystallization, electrolyte substance and non-electrolyte, at 11th grade about the characteristic of *koligatif* liquid, and at 12th grade about increased boiling point liquid. At the same time, students at 11th grade were practised about physics with several topics, such as the air pressure from based on the principle of Newton 1 and 2, fluids mechanics, and the implementation of Archimedes principle.

Before the student teachers made a practice, they had to design the lesson plan which was based on its implementation. As the student teachers they had to construct their sequence of learning, this kind of activity then implemented into the lesson plan, based on literature review from Munandar, 2015. To design it, they should construct their lesson plan that basically following the learned condition and using simple equipment. Therefore, their lesson plans were ready to be used.

The activity of the practical design was done by student teachers that implemented in the design of coursebook. According to Farid, 2010 in Rizky Dezricha Fannie R. D. and Rohati, 2014 said that propounding coursebook to students was helpful to deliver conceptual information about systematically learning.

Practical implementation was done interchangeably by each group. This activity referred to the lesson plan and students' coursebook. Practical implementation had the sequences, such as introduction, implementation, and the final activity of the practice. These sequences were also supported by Tesch and Duit in

Hamidah H with companions because they did the same steps. The introductory activity encompassed the explanation of the activity, sequence of works and encouraged students. The sequential implementation was about the process of practice, which was applied using the coursebook. From this sequence, practical candidates seemed enthusiastic to do the work by questioning, and then they did all the sequences of practice, which basically directed in their coursebook. The final step was the result of the practice by taking the conclusion, and it was basically communicated by the result of the activity.

The following table was the evaluative result towards the practical implementation from each group.

Table 1. Practical Result of Evaluation Score Towards the Practical Implementation from Each Group.

No	Name of Students	Groups	Practical Results Evaluation	No	Name of Students	Groups	Practical Results Evaluation
1	AB	5	90,10	29	JR	3	95,83
2	AS	8	92,18	30	JS	8	92,18
3	AE	4	90,62	31	JL	7	92,18
4	AS	2	93,45	32	AS	11	87,50
5	AM	1	90,62	33	AP	15	94,79
6	BS	3	95,83	34	AY	16	93,75
7	BJ	5	90,10	35	AB	9	92,18
8	CS	1	90,62	36	CS	15	94,79
9	DZ	4	90,62	37	CL	16	93,75
10	DN	6	92,71	38	CC	12	93,23
11	DS	4	90,62	39	CA	13	84,89
12	DP	5	90,10	40	DG	15	94,79
13	EW	1	90,62	41	DW	14	87,50
14	EM	8	92,18	42	DM	14	87,50
15	ES	6	92,71	43	DN	11	87,50
16	EM	4	86,87	44	EM	13	84,89
17	EC	3	95,83	45	EH	9	92,18
18	EL	7	92,18	46	EP	12	93,23
19	EE	7	92,18	47	ES	13	84,89
20	FM	2	93,45	48	EN	10	95,23
21	GG	6	92,71	49	FC	10	95,23
22	GM	2	93,45	50	FT	16	93,75
23	GN	5	90,10	51	FI	9	92,18
24	GS	3	95,83	52	IJ	10	95,23
25	HR	5	90,10	53	IS	14	87,50
26	HS	7	92,18	54	IC	11	87,50
27	II	6	92,71	55	JK	12	93,23
28	IM	1	90,62				

The next thing was about scoring, which was given by each group and the lecturer, and they scored according to the standardized criteria. This activity would be done after the end of practising by all groups, which included in designing the lesson plan. The criteria to measure the activities by those groups were classified from practical preparation, implementation, delivery materials, cleanliness and tidiness, safety works, and collaborative groups in accordance to achieve the results, which could be seen on table 1.

The practice has been done based on the lesson plan, which was planned by each group. After the process of practice ended up, some comments were given by the groups inside of the practice as the evaluative items to complete the sustainable exercise. In short, there correlated comments about the practical implementation that has been done, and they were written as the following.

The 1st comment: The given material was exciting, and the practice was implemented as well as it was. The tasks have been equally divided when they conducted the process of teaching and practical implementation. The commentator also gave input that there should be a discussion inside each group of student teachers before teaching, in accordance to minimize different directions from some of them. Furthermore, the commentator said that it was better to preserve the contaminated water by the experimenter, hence students could differentiate contaminated water and clean water.

The 2nd comment: The procedure was clear, organized and directed
Introduction and materials about osmosis pressure to do the practical implementation were clear. The experiment was successfully because they could implement it properly.

The 3rd comment: There were missed some of the directions, but the experimenter until many of students repeated to read the direction for several times. Besides that, there were some of members from the practising group too actively until the other members were opposite.

The 4th comment: There were many questions on student's coursebook, which were to be filled during the experiment. The presentation was quite interesting though the practical procedure needed to be emphasized to the student, in terms of getting the attention from them.

The 5th comment: These groups already made the practice, but they had some weakness, such as inaccurate procedure, incomplete equipment, and incomplete sequence of works. This commentator suggested that they had to complete the practical activities together with student's coursebook as their revision if they would continue it. This person also advised that the class management should be improved whether its discipline, controlling students' activities, delivery material, and its verbal procedure, the things should be very clear and systematically by the student teachers. They should also accompany the students from the other groups if they conducted the practice and collecting data.

The 6th comment: The practical implementation had easy steps because it did not need a complicated process. The tools were easily used because they could be modified according to the needs and availability. For instance, as in a practice, milk was used to change the dough of ice cream, while the plastic bag was used to mix the dough quickly in order to get the proper and smooth sediments The practice was also simple, but it could perform the evidence of the implementation or the direct application from the freezing solution in everyday life.

Table 2. The result of questionnaire of the perceptive student teachers towards life skills through learning design and working performance.

Lively Skills	Indicators	Inadequate (1)	Deficient (2)	Sufficient (3)	Good (4)	Great (5)
Thinking Skills	P1	0	0	6	76	170
	P2	0	0	3	80	170
	P3	0	0	9	112	120
	P4	0	0	3	56	200
Self-Awareness Skills	P5	0	0	0	44	220
	P6	0	0	0	48	215
	P7	0	0	9	88	150
	P8	0	0	12	92	140
	P9	0	6	45	104	55
Communicative	P10	0	0	18	104	115

Skills	P11	0	0	15	100	125
	P12	0	0	12	76	160
	P13	4	22	42	68	45
	P14	0	4	27	88	110
	P15	0	0	18	112	105
	P16	0	6	18	108	95
	P17	1	2	33	88	100
	P18	0	4	24	108	90
	P19	0	2	21	104	105
Collaborative Skills	P20	0	0	0	72	180
	P21	0	0	3	64	190
	P22	0	0	3	48	210
	P23	0	0	0	36	230

1. **Perceptive Student Teachers Towards Thinking Skills.**

Thinking skill indicators had 4 statements. The statements covered the understanding of the practising process (P1), brainstorming to design a practice (P2), problem solving during the practising process (P3), and practical implementation (P4).

P1 : By learning design and practical implementation, 34 student teachers stated that they could understand what would be done very well about the practice inside of the laboratory very good, totally 170 point.

P2 : By learning design and practical implementation, 34 student teachers stated that they could do the brainstorming to prepare the practising material about IPA very good, with 170 point.

P3 : By learning design and practical implementation, 28 student teachers stated that they were able to solve problems very good if there were problems during the activities, with 120 point.

P4 : By learning design and practical implementation, 40 student teachers stated that the activities could help them to have responsibility in doing the practice very good, totally 200 point.

From the perceptive student teachers, they scored 91,36% from thinking skill indicators. This result show that perceptive student teachers towards thinking skill indicators were great according to the learning design and practical implementation. This was also related with the explanation from Santyasa, 2004 in Ariyati, 2010, the learning based on practice was one alternative to enhance the thinking skills. Furhtermore, Kurtdede-Fidan and Aydogdu (2018) in their research journal explained one thing, which stated by the correspondent about life skills were used to change the learning to become the action. Thus, the things involved in thinking skills, in accordance with design and finally to become one practice.

The second and fourth questions were given two points by two student teachers, and each of them represented one point with sufficient category to the problem solving item, for instance, they were responsible to do the brainstorming activity in accordance to solve the problem of practical preparing material of IPA. This thing occurred because student teachers still had hesitation of using another plan if the use equipment damaged.

From the process of design and practical implementation, student teachers made the discussion about the preparation, procured tools and materials throughout the practice. The obstacles of these processes were the student teachers learned to the greater sensitivity from the tools and materials when they discharged back without waiting for each other.

2. Perceptive Student Teachers Towards Self-Awareness Skills

Self-awareness indicators consisted of 5 questions. The questions types were about appreciative talent which was given by GOD (P5), appreciative each friend who had cognitive difference (P6), confidence when gave opinion inside groups before practice (P7), confidence when did the practice in a class (P8), and easy to deal with the stress as well.

P5   : By learning design and practical implementation, 44 student teachers stated they appreciated each talent given by very good, totally 220 point.

P6   : By learning design and practical implementation, 43 student teachers stated that they appreciated different cognition from each friend inside of groups very good, totally 215 point.

P7   : By learning design and practical implementation, 30 students teachers stated that they had courageous to give opinion inside of groups when they prepared practising in a laboratory very good, totally 150 point.

P8   : By learning design and practical implementation, 28 student teachers stated that they had courageous to do the practice in a class very good, totally 140 point.

P9   : By learning design and practical implementation, 26 student teachers stated that they could handle the pressure inside of groups towards themselves very good, totally 104 point.

The result of the questionnaire from the personal skills were about personal awareness through learning design, and worked performance by practicable learning and manageable laboratory. These activities reached 89, 31%. Therefore, we found that personal skills by personal awareness from students teachers of Biology education study program could pass the learning design and practical implementation with the very good category. According to Joseph Luft and harrington Ingham in Tirtawinata, 2013, stated that in relation with the another person, each person could openly learn, and opened up to practice the way you knew yourself. From this study, we could say that student teachers as millennial generation could also interact to design and practical implementation, besides socializing and discussing in order to open up themselves to each given input.

From the ninth question, three student teachers stated that they had a lacking situation to overcome the pressure inside of their self when they did the practice inside of a class. It occurred because they were still learning to overcome the pressure when the given tasks in groups were not based on groups expectation. By this situation, all groups created self evaluation until they might openly give and accept the recommendations to the self-improvement.

3.   Perceptive Student Teachers Towards Communication Skills

Communication skill indicators were given ten statements. The related statements: 1) talk and discuss as well with friends in the same group, 2) talk and discuss with classmate, 3) socialize as well with the other people, 4) did not prefer crowded, 5) could then work individually, 6) could then work collaborative in group, 7) could make a discussion with the lecturer, 8) had assertive action, 9) have capability to understand feeling from the other people, 10) was able to understand the thought from the

other people during speaking and discussion. The results score about the perceptive student teachers towards the communication skill indicator could be seen as following:

P10   : By learning design and practical implementation, 23 student teachers stated that they could then discuss very well with their friends in the same group, totally 115 point.

P11   : By learning design and practical implementation, 25 student teachers stated that they could then discuss way with their classmates in a good way, totally 125 point.

P12   : By learning design and practical implementation, 32 student teachers stated that they could then socialize with the other people very well, totally 160 point.

P13   : By learning design and practical implementation, 17 student teachers stated that they might not prefer in the crowded situation, totally 68 point.

P14   : By learning design and practical implementation, 22 student teachers stated that they could then work individually very good, totally 110 point.

P15   : By learning design and practical implementation, 28 student teachers stated that they could then work collaborative in a good category, totally 112 point.

P16   : By learning design and practical implementation, 27 student teachers stated that they could then discuss together with their lecturers in a good category, totally 108 point.

P17   : By learning design and practical implementation, 20 student teachers stated that they could decisively act in both group and class very good, totally 108 point.

P18   : By learning design and practical implementation, 27 student teachers stated that they could understand their friends thought in a good way, totally 108 point.

P19   : By learning design and practical implementation, 21 student teachers stated that they could understand the other people's thought in a very good way if it was discussed , totally 105 point.

The results of questionnaire from social skills were the understanding through learning design and practical implementation at 82, 87%. Therefore, it could be found that understanding communicative skills together with self-awareness of student teachers from Biology education major had a very good category throughout leaning design and practical implementation. Those things were also supported by the expert explanation, Supriatna 2007, about the communication skills, which were needed by human beings to interact, such as verbal communication and non-verbal communication in accordance to get impressions and opinions from the others. Additionally, Kurnia (2010) in Dwi Puji Hayati said communicatiio skills of student would be better and active in group because of presenting the results during the practical implementation.

4.   Student teachers perception towards cooperative skill.

There were 5 given question indicators about cooperative skill, such as active to prepare practicum, active to adjust practicum lesson plan, active as long as practicum and adjusting evaluation and group report. The results score about perceptive student teachers towards the cooperative skill indicator could be seen as following.

P20:   36 student teachers stated that towards learning to design and implementing practicum, they could actively work to prepare practicum very well.

P21:   38 student teachers stated that towards learning to design and implementing practicum, they could actively work to adjust alesson plan to practicum very well.

P22:   37 student teachers stated that towards learning to design and implementing practicum, they were active during the implementation practicum very well.

P24:   46 student teachers stated that towards learning to design and implementing practicum, they worked together as long as adjusting evaluation and group report very well.

93.72%, the result score from the questioanire about social skill that was the cooperative towards learning to design and implementing practicum. This was found that social skill had been implemented very well by the student teacher from Biology education major. In Supriatna, 2007, explained that cooperative skill has got colleagues skills that are pleasant to build positive relations, able tp socialize between others, and able to build relationship with others openly.

CONCLUSION AND RECOMENDATION

To sum up, student teachers perception as millennial generation towards life skills that were owned by learning to design and implementing practicum, they included inside of very good category. Thinking skill was in a very good category, self-awareness skill was good category, communication skill was in a very good category, and cooperative skill was in very good category too.

Recomandation which can be given according to the study that is needed to measure the life skills profile of life from each student teacher, and this can gain the total figures towards student profiles by learning todesign and practicing implementation.

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