

LEARNING STYLE OF PPNS' STUDENTS TO INDONESIAN SUBJECT IN APPROACHING THE ERA OF INDUSTRIAL REVOLUTION 4.0

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Abstract

The issue of industrial revolution 4.0 is being discussed nowadays. This issue even takes its part to the education sector too. Today, Politeknik Perkapalan Negeri Surabaya is in its act welcoming the presence of the changes in industrial revolution 4.0. Indonesian as one of the college subjects at Politeknik Perkapalan Negeri Surabaya wants to support the success of the government in preparing universities for the 4.0 industrial revolution. Students' learning styles and its suitability with the 4.0 industrial revolution are kinds of problems that will be discussed in this research. The data collection were carried out by distributing questionnaires and doing interviews with the students of Politeknik Perkapalan Negeri Surabaya in March 2019. As many as 52% students had online learning styles and 48% with offline learning styles. Based on the description of that learning style, it turned out that 69% students stated that it was in accordance with the industrial revolution 4.0, meanwhile the rest 31% felt that it had not been appropriate.

Keywords: learning style, Indonesian, industrial revolution 4.0

Abstrak

Isu revolusi industri 4.0 sedang hangat dibicarakan. Isu ini juga masuk pada bidang pendidikan. Politeknik Perkapalan Negeri Surabaya bersiap menyambut kehadiran revolusi industri 4.0. Matakuliah bahasa Indonesia di Politeknik Perkapalan Negeri Surabaya ingin mendukung keberhasilan pemerintah dalam mempersiapkan perguruan tinggi menyongsong revolusi industri 4.0. Gaya belajar mahasiswa dan kesesuaiannya dengan revolusi industri 4.0 merupakan masalah yang hendak dibahas dalam penelitian kali ini. Pengumpulan data dilakukan melalui penyebaran kuesioner serta wawancara kepada mahasiswa Politeknik Perkapalan Negeri Surabaya pada bulan Maret 2019. Sebanyak 52% mahasiswa memiliki gaya belajar online dan 48% dengan gaya belajar offline. Berdasarkan deskripsi gaya belajar tersebut ternyata 69% menyatakan telah sesuai dengan revolusi industri 4.0 dan 31% belum sesuai.

Kata Kunci: gaya belajar, bahasa Indonesia, revolusi industri 4.0

1. INTRODUCTION

Human civilization is progressing as technology is successfully developed. Technological advances affect the pattern of human life. The desire to get things more easily and quickly can be realized with the technology that has been developed. The presence of machines has resulted

in increasingly diverse and faster transportation methods. Robots and machines are able to deliver goods production in a quick and easy way. Genetic engineering shortens the planting period and strengthens the resistance to pests. In the health sector, various latest inventions have been able to increase human life expectancy. Various other fields in human life cannot be separated from the presence of modern technology.

Today issue which currently being discussed, is regarding to the technological progress as above is the existence of the 4.0 industrial revolution. The education sector does not escape from the presence of this issue. In the world of education, it is currently being talked about how the world of education must adjust to the presence of the industrial revolution 4.0 era. Academics conduct various studies related to the system even learning media that are in accordance with the issue. The studies carried out, generally present a range of opinions. This difference of opinion is reasonable, considering that each opinion has a different background in welcoming the era of industrial revolution 4.0.

Universities all around Indonesia are currently preparing to welcome the existence of the new industrial era, industrial revolution 4.0. Curriculum development and relevant learning models are underway of construction. This is in accordance with the results of the 2018 Indonesian Chancellors Forum Conference, which was attended by the President of Indonesia. The results of the conference were in the form of six recommendations which essentially were joint efforts in development in the era of industrial competition 4.0 (Maemunah, 2018). Colleges nowadays are developing curriculum and learning models that are relevant to the industrial revolution 4.0 to prepare students to learn according to their needs in the future. The assumption that the industrial revolution 4.0 era connected with modern technology, raises the assumption that education in the era of industrial revolution 4.0 must also be integrated to modern technology in teaching and learning system. Considering the differences in the level of Indonesian economy development, the demand for the existence of modern technology in education will certainly be these present problems. The existence of these problems in Indonesian college education requires the intervention of many parties to get the best solution.

Politeknik Perkapalan Negeri Surabaya, or usually called by “PPNS”, as one of the Indonesian universities has its own problems related to the issue of industrial revolution 4.0. Through the Polytechnic revitalization program, Politeknik Perkapalan Negeri Surabaya is trying to develop the curriculum according to the demands of the central government and all at once adjusting it to the current emerging issues. The curriculum development that is being carried out takes impact on all college subjects at Politeknik Perkapalan Negeri Surabaya. Combined all of the college subjects and made change to the amount of SKS weight was carried out by Politeknik Perkapalan Negeri Surabaya to create the “factory-teaching” curriculum and dual systems. Regarding to the issue of industrial revolution 4.0, this Polytechnic seeks that the learning methods delivered by lecturers should use at least one learning application. But unfortunately, there are still obstacles encountered by lecturers, especially subjects in practice. They are generally still reluctant to use online learning applications because they think practical lecture activities cannot be done with online applications. Another problem that often arises is the complaints of lecturers itself, who stated that online learning can’t make students more skilled or master the material well, because in the conventional teaching system before, in face-to-face learning, students are still having difficulties.

Indonesian subject, as one of the general subjects in Politeknik Perkapalan Negeri Surabaya, also have problems in facing curriculum development. This is due to the limited amount of lecturers which needs to take into consideration to implement the new PPNS’ curriculum in the

future. In PPNS' factory-teaching curriculum and the dual system, it is possible for Indonesian subject to be in the list of practical subjects that have longer time than theoretical subjects, but the consequence is that the lecturers must be able to truly bring linguistic theory to be more applicable according to the learning styles of polytechnic students. The Indonesian subject must also be able to bring students to study according to their time, which now enter the industrial revolution 4.0. The learning of Indonesian subject which appropriate with the spirit of industrial revolution 4.0 should be familiar with online media. Today, some opinions at the level of that implementation still face several kinds of problems. The problems faced by the Indonesian subject in welcoming the arrival of the industrial revolution era is in the form of difference opinions about what are the relevant way to face industrial revolution 4.0 according to the teaching style of lecturers and student learning styles. This difference is caused by too many methods and learning media, not to forget also the different learning styles of study for this subject implemented by every single type of students.

Learning method is a technique or path that is passed by the lecturer to provide knowledge/skills to students, so that learning objectives can be achieved. The knowledge and skills that are going to be conveyed have been established from the beginning, and the lecturers are trying to make clear that it is achieved (Darmadi, 2017). Another opinion states that the learning method is a technique used to implement a predetermined plan so that learning objectives can be achieved well (Mariyaningsih & Hidayati, 2018). Based on the understanding of the experts above, it can be seen that the learning method is all the efforts made by the lecturer to achieve the learning objectives.

What are the appropriate learning methods to use in the industrial revolution 4.0 era still being an interesting topic to be discussed. The 4.0 industrial revolution itself is a time when people have an activity pattern that prioritizes the use of robots, artificial intelligence, big data, digital economics and others which are often called "disruptive innovation" phenomena (Imaduddin, 2018). Still in his book, Imaduddin also explained the right learning method in the era of 4.0 industrial revolution. In industrial revolution 4.0 era, learning can be done based on e-learning (Imaduddin, 2018). Talking about e-learning, there are various types of ways of presenting teaching materials in the form of: text, audio visual, simulation, and animation (Imaduddin, 2018). When considering this opinion, the learning method with e-learning is very appropriate to be applied to the 4.0 industrial revolution.

Regarding to what learning styles are common in the era of the 4.0 industrial revolution, Susana will initiate opinions. In the generation of Z, also known as Generation Net, there are some characteristics including: 1) having speed in reaching information from various sources, 2) being able to do several jobs at the same time (multitasking), 3) interested in multimedia nuances, 4) like to make interaction in cyberspace, social networks (Facebook, Twitter, Yahoo Messenger, BBM, etc.), and 5) when learning, more interested in things that are fun and applicable (Susana, 2012). The Z generation is a generation that fled between 1998 until middle 2000s. Based on the opinion of Imaduddin and Susana, it can be seen that student learning styles in the industrial revolution era 4.0 are more directed towards the utilization of online applications.

Learning style is the way of children get new information and steps they take to learn (Priyatna, 2013). Furthermore, in his book, Priyatna also outlines three learning styles, which called seeing, auditory, and kinesthetic. This learning style is generally not absolute, means that a child whose learning style is dominant in the certain styles does not mean that he cannot learn by using other styles. The existence of learning media is expected to be able to accommodate

different learning styles. If it's said that learning media that are suitable for the era of industrial revolution 4.0 are online applications, then this media must also be able to accommodate kinesthetic, auditory, and also visual learning styles. Furthermore, in this research, we will try to describe the learning styles of PPNS' students towards the industrial revolution 4.0, specifically on Indonesian subject.

2. RESEARCH METHODS

Research data collection was conducted in March 2019 by using online questionnaires and interviews. The population of PPNS' students are around 2,600 people consisting of 14 study programs. The tenth Diploma 4 study programs owned by PPNS are D4-Design and Manufacture Engineering, D4-Automation Engineering, D4-Electrical Engineering, D4-Mechanical Engineering, D4-Safety Engineering, D4-Welding Engineering, D4-Waste Treatment Engineering, D4-Design and Construction Engineering, D4-Piping Engineering, and D4-Business Management. In the Diploma 3 level, PPNS have four study programs, which are D3-Ship Building Engineering, D3-Design and Construction Engineering, D3-Electrical Engineering, and D3-Mechanical Engineering. From the total population, the researchers did not take all of the population, but considered just the sample of representation in every study program with the existing year of generation 2015 to 2018. So that the report on the results of this research can be accounted for, the researchers check the validity of the data based on its adequacy, the theory that supports it relevant research and performs several techniques in data collection. The collected data is analyzed and displayed to facilitate conclusions.

3. FINDINGS AND DISCUSSION

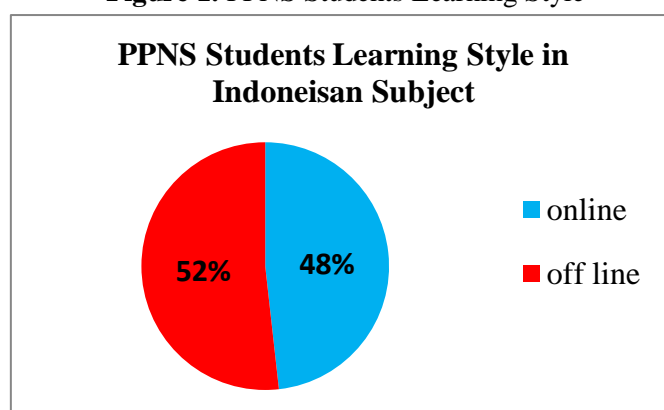
3.1 General Condition

Politeknik Perkapalan Negeri Surabaya started its independency in 2014. ITS was the founder of this PPNS. That is why the location of Politeknik Perkapalan Negeri Surabaya is in the inside campus complex of ITS. PPNS can be said to be a lucky polytechnic, because after being established, it is still permissible to use, even own existing assets own by ITS before. PPNS currently holds an "A" accreditation for institutional management lately. The changes level of accreditation is also felt to provide changes in terms of service for students. The existence of facilities inside certainly has an effect on students as users of teaching services including non-field subjects such as Indonesian. Nevertheless, Polytechnics still be the number two choice for high school graduates to continue their education. Although accepting students from all over the archipelago, PPNS is still dominated by students from East Java. Regarding the existence of Indonesian lecturers, PPNS this day only has one permanent lecturer. When the lecture's load of Indonesian subject is too big, PPNS will present a guest lecturer. The number of PPNS' students in 2017/2018 study year is 2,639 students. Given the limitation of researchers in retrieving data, this research uses samples. The distribution of respondents who have expressed their opinions on the learning style of Indonesian in the industrial revolution era 4.0 consists of 16 students of Design and Construction engineering, 26 students of Design and Manufacturing Engineering, 19 students from Safety Engineering, 30 for Business Management students, 11 students of Mechanical Engineering, 8 students of Electrical Engineering, 12 Waste Treatment Engineering students, 11 students of Ship Building Engineering, 14 Welding Engineering students, 11 Automation Engineering students, and 12 Piping Engineering students at last.

1.2 Students' Learning Style

In accordance with the results of the questionnaires, PPNS' students still have relatively balanced results between those who have an online learning style and the offline one. To make it clearer, it can be seen in this following pie chart.

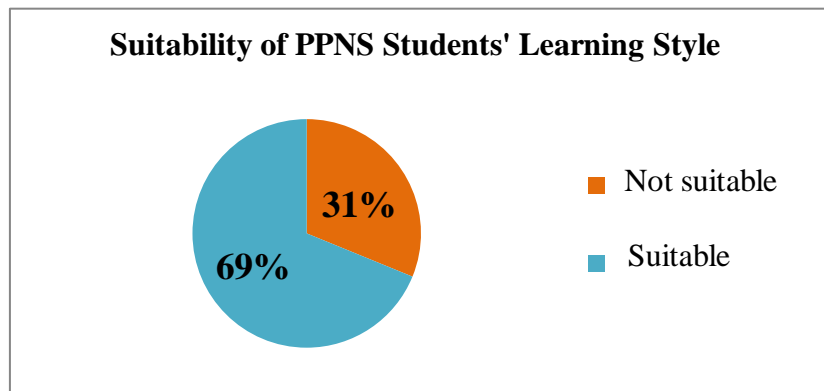
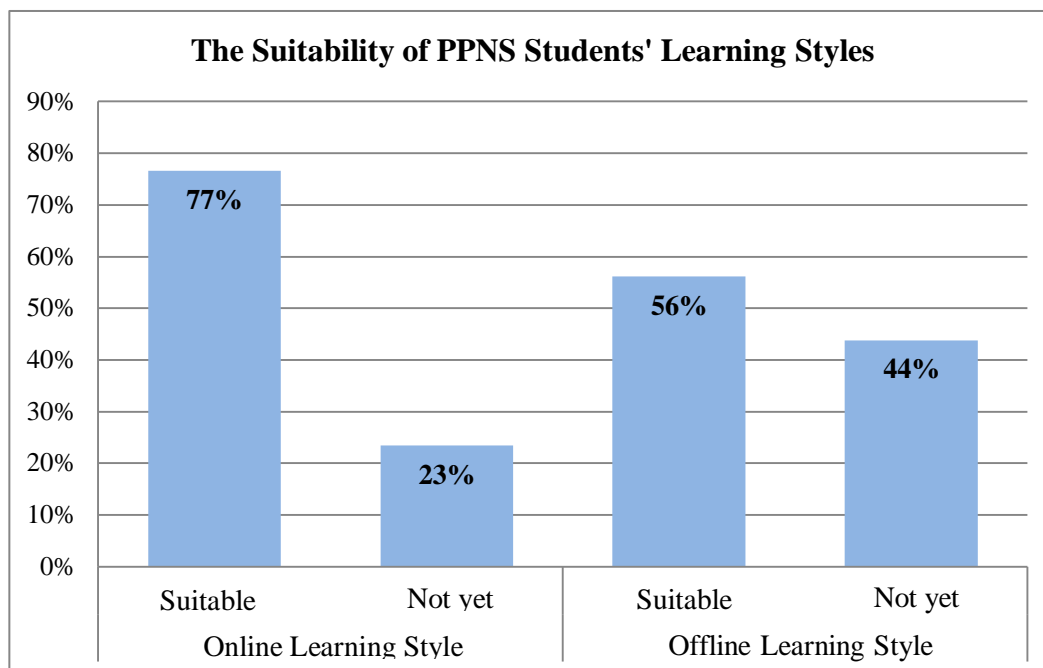
Figure 1. PPNS Students Learning Style



In the circle diagram above from Figure 1, it can be seen that offline learning styles for Indonesian subject in PPNS dominates a little higher, in the number of 52%. This means learning styles by reading books, taking notes, group assignments, listening to lectures, working on questions and direct practice are still be the main learning styles for PPNS' students in attending Indonesian subject in their college life. While as the rest, in amount of forty eight percent of students or 82 respondents, stated that their learning styles are in online way, which mean that they were studying for Indonesian subject at PPNS by browsing the internet, chatting, video calling, viewing the online videos, and also communicating in games.

Regarding to the learning style of PPNS' students in Indonesian subject, it turns out that there are still be the differences for point of views on the suitability of their learning styles. This is very possible, knowing that the learning styles between one student and others are different. Students have different perceptions of the right learning style in a particular subject. The different perceptions are very possible, considering that the lectures in PPNS consist of theoretical and practical lectures. Differences in perceptions of appropriate learning styles in theoretical with practical subjects are also possible in Indonesian subject. Even though, the Indonesian subject is still characterized as the theoretical one, but the student's learning style in this lecture is also different as a type of learning style in the form of visual, auditory and kinesthetic. Differences opinion regarding their learning styles in Indonesian subject can be seen in the following diagram below.

The diagram below (Figure 2) shows the recognition of PPNS' students about the suitability of their learning styles in Indonesian subject. As many as sixty nine percent respondents stated that their learning styles were appropriate for Indonesian subject. Although the dominant respondents stated that their learning styles were appropriate, there were still thirty one percent of respondents who stated that their learning styles were not suitable for Indonesian subject in PPNS. Thus, indicates that the transfer of knowledge for Indonesian subject in PPNS has not been optimal. As a breakdown of the statements from respondents, it can be seen in the following diagram.

Figure 2. Suitability of PPNS Students' Learning Style**Figure 3.** Suitability of PPNS Student' Learning Styles

The bar diagram above (Figure 3) shows a variety of difference opinions about the suitability of the learning style for PPNS' students in Indonesian subject. It turned out that respondents who had both online and offline learning styles had different perceptions of the suitability of their learning styles in Indonesian subject.

1.3 Students Suggestions

Interviews as an attempt to retrieve data on appropriate learning styles in the era of industrial revolution have been carried out. Based on the results of the interviews obtained, students of PPNS suggested a different strategy and learning media for the industrial revolution era 4.0. The use of social media applications in learning is recommended considering this application can be used as a means of communication, exchanging information, and discussion too. The game application was also suggested by students as a form of learning media in accordance with the industrial revolution 4.0. Game application as a learning media is an interesting form of media

in the industrial revolution era 4.0. In the future, various forms of game applications will be emerged to support learning with a variety of different characters. There are also different suggestions and appear to be irrelevant to the 4.0 industrial revolution, but that opinion could be motivated by its success in learning so far. The suggestion is that there is still activity to record and discuss. Record and discussion activities are indeed complex learning styles because there are visual, auditory, and kinetic activities in the form of writing. The use of special learning applications is also a suggestion for PPNS' students in facing the industrial revolution era 4.0. The implementation of this suggestion has been very realistic because there are already available learning applications both paid and free. The use of e-books as a learning resource is also conveyed by students as a suggestion for learning styles in the era of industrial revolution 4.0. The existence of e-books as learning materials is indeed, very practical because it can be stored on a smart phone, as human daily partner to accompany their activities. The hope of the next student is that, learning must be realized in everyday life. This suggestion also seems appropriate in the industrial revolution 4.0 where people are more interested in easy and applicable things. The use of projectors and presentations are also still considered important in the era of industrial revolution 4.0. Although the media might be replaced with a more modern one, an opinion still has a very significant value. Learning styles that is in accordance with the industrial revolution 4.0 are learning processes which is not bound by distance and time. This opinion is felt to be very appropriate for the industrial revolution era 4.0, where technological advances can erase various existing boundaries around things

2. CONCLUSION

PPNS' students have different learning styles when attending the Indonesian subject. Fifty-two percent of students take Indonesian subject with an online learning style and as the rest, 48%, are choosing the offline way. From the composition, 69% students stated that the learning style they used was in accordance with the industrial revolution 4.0, while 31% stated it was not appropriate. Suggestions for PPNS' students in learning styles for this advance industrial revolution era, are by using social media applications, learning from applications, and from game applications. The internet and e-books as teaching materials are recommended to get great benefit from it. Activities to record and discuss, the use of projectors, and presentations, are still needed today, before being replaced with more modern media. Learning activities must be applied to everyday life style. Learning styles that are in accordance with the industrial revolution 4.0 are learning processes that are not bound by any distance and time. This opinion is felt to be very appropriate in the industrial revolution era 4.0, where technological advances can erase various existing boundaries in every single kind of things.

3. REFERENCES

- Darmadi. (2017). *Pengembangan Model dan Metode Pembelajaran dalam Dinamika Belajar Siswa*. Yogyakarta: Deepublish.
- Imaduddin, M. (2018). *Membuat Kelas Online Berbasis Android Dengan Google Classroom: terobosan pembelajaran era revolusi industri 4.0*. Yogyakarta: Garudhawaca. Retrieved from [https://books.google.co.id/books?id=ILF7DwAAQBAJ&pg=PA1&dq=revolusi+industri+4.0&hl=id&sa=X&ved=0ahUKEwimx5WOhoPhAhUDTI8KHYPfDgoQ6AEIMjAC#v=onepage&q=revolusi industri 4.0&f=false](https://books.google.co.id/books?id=ILF7DwAAQBAJ&pg=PA1&dq=revolusi+industri+4.0&hl=id&sa=X&ved=0ahUKEwimx5WOhoPhAhUDTI8KHYPfDgoQ6AEIMjAC#v=onepage&q=revolusi%20industri%204.0&f=false)
- Maemunah. (2018). Membangun Pendidikan yang Mandiri dan Berkualitas pada Era Revolusi Industri 4.0. In *Kebijakan Pendidikan pada Era Revolusi Industri 4.0* (pp. 1–9). Mataram:

Universitas Muhammadiyah Mataram.

Mariyaningsih, N., & Hidayati, M. (2018). *Bukan Kelas Biasa: Teori dan Praktik Berbagai model dan Metode Pembelajaran Menerapkan Inovasi Pembelajaran di Kelas-kelas Inspiratif*. Surakarta: Kekata Publisher.

Priyatna, A. (2013). *Pahami Gaya Belajar Anak!: Memaksimalkan Potensi Anak dengan Memodifikasi Gaya Belajar*. Jakarta: PT Elex Media Komputindo.

Susana, T. (2012). Kesetiaan Pada Panggilan di Era Digital. *Orientasi Baru*, 21(1), 55–78.