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To cite this article: S F A Widodo *et al* 2020 *J. Phys.: Conf. Ser.* **1446** 012017

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Timekeeping strategy in the oxygen acetylene welding practicum through attendance ranking approach

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Abstract. The culture of industry in vocational schools needs to be applied optimally to shape the work character of graduates who are increasingly fierce in competition. The trade starts to look at graduates with a better attitude than hard skills. This research is directed at how the fundamental problem of timely attendance is a phenomenon that deserves to be studied as part of the formation of soft skills. This study has objectives including (1) observing students' participation at Oxygen Acetylene Welding (OAW) lectures and (2) reading of student attendance patterns after the implementation of timekeeping strategy-based ranking. The research method uses quantitative descriptive by collecting data by observing student attendance directly. The continuing collection was carried out for 14 weeks at the OAW practicum. Based on the results of the study showed that there was a significant increase in timely attendance and was gradually consistent until the end of the meeting. Besides, the presence sequence builds the habits of students to arrive on time.

1. Introduction

Vocational education and training are strictly related to the work culture of the industry [1]. In Indonesia, the culture has a role in shaping the character of students when practicum. The habits that are trained in schools are a reflection of what should be found in the industry [2]. Prosser and Quigley explained that effective vocational education is a work culture of replicating occupational practices like those in the industry [3]. It means what is used in the industry needs to be applied in schools for harmony in developing competencies. The practice of implementing an industrial culture in schools that is a must-have is the 5 S culture with the term *Seiri*, *Seiton*, *Seiso*, *Seiketsu*, *Shitsuke* adopted by Japan [4]–[7].

The industry as the main occupation for vocational school graduates has very high demands. They not only prioritise of hard skills, but they prioritise of soft skills [8]. Soft skill is a working character that is expected by the industry as a provision in resilience at work. A portrait in the manufacturing industry in Yogyakarta states that the level of resistance and reliability of vocational school graduates is shallow as evidenced by the fast pace of workers who quit their jobs because they are unable to work under pressure and monotony. Time discipline as a reflection of work character needs to be trained consistently for students taking education and training in vocational schools. It is a challenge for instructors on how to fundamentally influence learning by paying attention to students' delay when present in the laboratory.

Substantially, being on time shows someone has a high work commitment [9]. Training students to arrive on time is a habit that must be instilled early on so that in the future, they develop the disciplinary character that can be implemented in the workplace. The problem is how to provide concrete steps in



carrying out timekeeping to avoid delays in lectures. Various media are used to build a timekeeping system such as biometrics, fingerprints, and online faces[10]. The multiple media can be tracked in rank on the order of attendance so that it can be observed who often arrives late or is most recently present [11].

Timekeeping studies are directed at practicum learning in oxygen-acetylene welding (OAW) practice subjects. This course has an essential role in the needs of vocational school graduates of Yogyakarta State University (UNY), especially in the concentration of fabrication work. The quality policy applied regarding discipline for students to arrive on time. Delay in attendance can have an impact on the accumulation of student soft-skills at the end of the semester. Based on observations for three days continuously shows that nearly 40% of 84 students from different years of the Force experienced delays in OAW practice. It indicates that the enforcement of the order in workshop practices has not shown significant results. The observation also revealed that individual students did not timely experience attendance habits. It indicates that the patterns inherent in students not arriving on time become routines that are difficult to change. The omission of students who are late will have an impact when they later work in a company.

Timekeeping can be a reminder for students practising OAW to obey the workshop rules. This study offers a timekeeping strategy using presence in the order of attendance. Attendance is limited at 07.30 West Indonesian Time (WIB). This strategy is expected to bring students' habits to an orderly manner before the lecture bell rings. This study aims to reduce the level of student delay in OAW practice with the attendance sequence approach. Researchers will also be photographing patterns of student attendance in one week in divided lectures after the treatment is applied. However, research can help OAW instructors when starting flexible learning effectively and efficiently.

2. Method

This research is included in a descriptive study with a quantitative approach. The method aims to describe the pattern of disciplinary characters both beginning and end shooting when given treatment of the order of attendance in timekeeping. This study was conducted to photograph one class through treatment using the rule of presence in OAW practice courses. The sampling technique used in observing students' perceptions of self-discipline uses purposive sampling, where the sample used is a choice based on time or realtime conditions. Students as sample objects with research samples in the observation were 18 students. Data collection on the application of ranking sequence is done for one semester or 14 meetings. Data analysis uses descriptive statistics. This analysis aims to present a picture and pattern of student delay when practising OAW.

3. Result and Discussion

Observational research provides an overview of the implementation of timekeeping in OAW practice courses. Based on observations and research data collection, it is necessary to describe the two applications of data collection, namely: (1) Data collection for each lecture at the first hour, at 07.30 WIB; and (2) The use of attendance ranking treatment sequences. Stated data and explanation as follows.

3.1. *The presence of students in the first hour of OAW lectures*

Observation of student discipline is carried out by supervising student discipline, especially the presence of classroom at the early hour at 07.30 WIB. Observer began the study from 07.00 WIB until 08.00 WIB. Observations focused on student delays which are divided into three times, namely 5 minutes delay, 10 minutes delay, and delays above 10 minutes. Consideration is devoted to the use of class 3 classes that follow OAW practices. Observations were carried out for one week by tabulating views as follows.

Table 1. Recapitulation of student delay in the first hours of study

No.	Days	Time Delay			Σ
		5'	6-10'	> 10'	
1.	Monday	12	8	8	28
2.	Tuesday	5	6	2	13
3.	Wednesday	5	8	4	17
4.	Thursday	17	10	4	31
5.	Friday	3	9	2	14
Total		42	41	20	103

Based on the table presented above shows that there is a delay in 5 minutes and between 5-10 minutes. High lateness occurred on Monday and Thursday, while the lowest decline occurred on Friday. The result of observations that commonly occur in data collection is the delay of students in groups, where identical students are waiting for other students, especially in entering the classroom. Delays above 10 minutes tend to be done by students individually (not in groups).

3.2. *The pattern of student attendance after using treatment*

Discipline about the presence of students in OAW practicum is a fundamental thing that can lead to punishment for students who are late. Delay by students both in practicum lectures is dealt with by giving numbering treatment for lecture attendance. The numbering treatment is applied to OAW practice courses at 07.30 WIB. The study of observing student attendance was carried out for 14 meetings with TM information as Face to Face. Based on the attendance numbering, attendance maps obtained from each student were observed in the following pattern.

Presence from 1 to 6

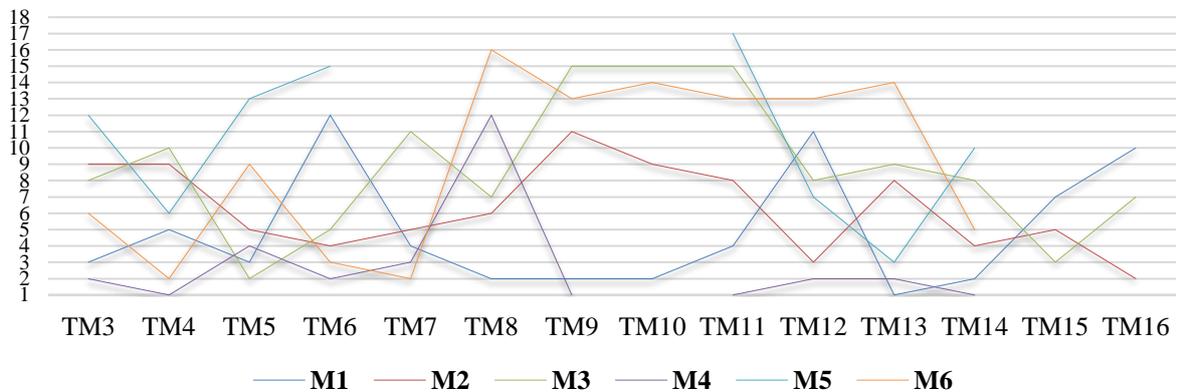


Figure 1. The pattern of discipline of student attendance on presence number 1 to 6

Presence from 7 to 12

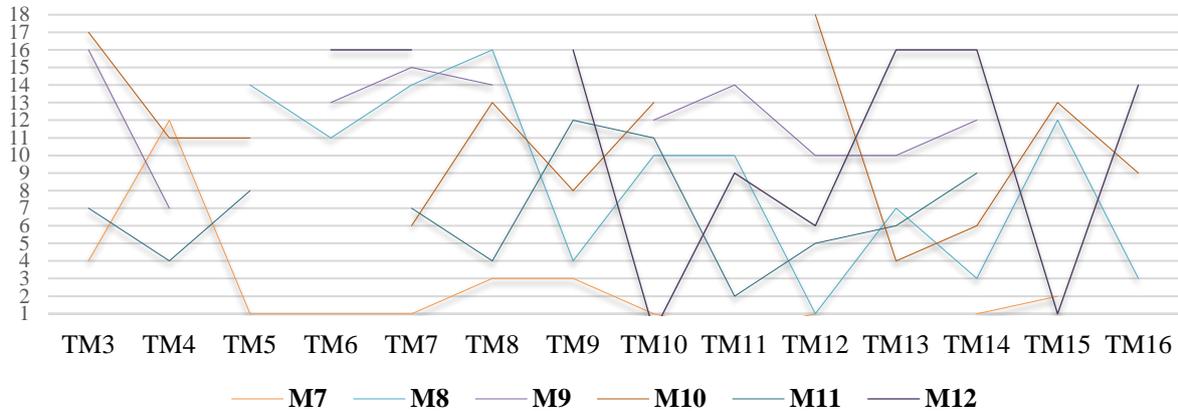


Figure 2. The pattern of discipline of student attendance on presence number 7 to 12

Presence from 13 to 18

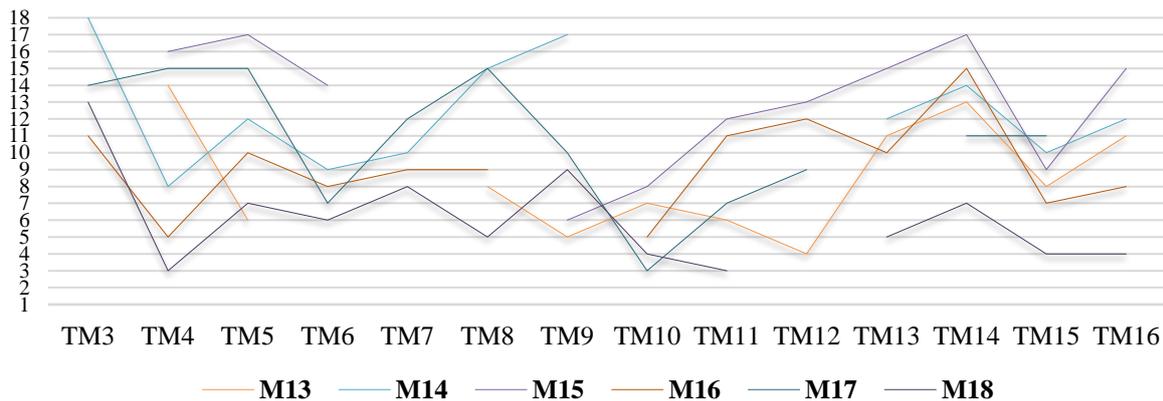


Figure 3. The pattern of discipline of student attendance on presence number 13 to 18

Based on the ranking of attendance seen in Figure 1-3 shows that the stability of students for discipline in meeting time will approach the same line. That is if students are accustomed to coming earlier than other friends, it will become a habit as did students with the initials M2 and M7. The example explains that there has been a change in attendance habits that originally came earlier to arrive earlier. A drastic change in the positive direction is students with the initials M8.

This study also produced a positive impact on the presence of lectures on reducing delays. The results are summarised from observations during 14 meetings, only two people at the third meeting and two people at the sixth meeting. It means that there was a very significant decrease at the seventh meeting and then with a delay value equal to zero. It shows that the treatment given provides success in encouraging students who attend the lecture to arrive on time. The presence of attendance ranking system provides an increase in student learning motivation so that soft talk lectures become more conducive, effective, and efficient.

4. Conclusion

Timely attendance is a necessity that must be obeyed for graduates of UNY students. Aside from being educators and workers in the industry, timekeeping is an alternative strategy in encouraging all students to be present before lectures begin. The results of studies in OAW courses show that without

timekeeping based on ranking and numbering attendance indicates nearly half of students pass at 07.30 WIB. Arrangement of the use of timekeeping based on attendance sequence can suppress on-time turnout optimally. From the results of the study showed that after the sixth meeting, there were no students who came after 07.30 WIB. Besides that, it is also illustrated by the pattern of students' departure where the ones who always go to the last date turn into the earliest. The results of the research are expected to be applied to all vocational instructors to build discipline character and to familiarise themselves with the work culture in the industry.

5. Acknowledgement

We present this paper to the Faculty of Engineering of UNY in funding a research group on the development of character education. Also, we would like to thank the Department of Mechanical Engineering Education who has helped a lot in collecting study data.

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