

# Teaching Factory Model Strengthening Academic Culture and Work Culture

Wanapri Pangaribuan<sup>1\*</sup>, Sukarman Purba<sup>2</sup>, Marsangkap Silitonga<sup>3</sup>

{wanapri@unimed.ac.id<sup>1</sup>, sukarmanpurba@unimed.ac.id<sup>2</sup>, marsangkap@unimed.ac.id<sup>3</sup>}

Electrical Engineering Education Study Program, Faculty of Engineering, Universitas Negeri Medan, Medan, Indonesia

**Abstract.** Teaching Factory (TEFA) is the integration of academic learning and real practice in industry carried out through collaboration between universities and industry. TEFA builds academic and work culture. Academic culture is a system that runs by itself based on academic rules by the University, regarding theoretical learning, practicum, research, and service. Work culture is a system that runs with the rules and standard operating procedures formulated by the industry in producing products. The integration of strengthening academic culture and work culture has a positive impact on the competence of University graduates required by industry.

**Keywords:** Teaching Factory, Academic Culture, Work Culture, Competence

## 1 Introduction

Higher education has the task of learning, research, and community service called the tri dharma perguruan tinggi. These tasks are carried out based on academic culture and are shown by the entire academic community in their way of thinking, behaving, and acting. Peter [1] said that academic culture will build ethics in its owner. Academic culture is the foundation for all learning, research, and community service activities.

The culture of the community will be built according to the demands and conditions of the community. The academic community will build an academic culture, and the academic community who come from various ethnicities must adapt themselves to the academic culture; and will slowly leave some if not the entire culture of origin. The multiculturalism carried by the academic community turned into an academic culture occupying the campus and even affecting outside the campus. Hollins[2] stated that a culture can be lost when there is a conflict with another, stronger culture.

Many models of change have their roots in the work of Kurt Lewin. His book, entitled 'Field Theory in Social Science', describes a three-step model of change that is often called the unfreeze-change-refreeze model [3]. The culture that was previously embraced by an academic student will disappear in part, maybe even completely, which is replaced by an academic culture. Academic culture is based on value system in campus [4]. Academic culture and value system build character [5].

Academic culture is viewed from the perspective of learning and research to build scientific and technological concepts and mindsets. The development is based on learning about

propositions, concepts, and theories. Propositions, concepts, and theories that are studied in depth must be proven, re-confirmed through research. Research also functions in the development of propositions, concepts and theories, and supports the quality of work when implemented in the world of work. In line with this, research functions as a confirmation tool, as well as development tool.

Academic culture is oriented to the process of developing analytical, synthetic, evaluative and innovative mindsets. This mindset will be able to overcome various challenges and problems faced today and also in the future. This mindset can also adapt to the progress of the times, even as a pioneer of progress itself.

Work culture is identified with intensive work habits [6]. The work habit that is carried out continuously will become a work culture; according to the culture established by the industry. Work culture is derived from organizational culture, especially in the industry under study which is oriented towards process and results orientation. The work process is in accordance with standard operating procedures, and results orientation is in accordance with quality standards and on time as well as customer satisfaction.

Academic culture and work culture will be strengthened in the process of integrating learning on campus and industry. Knowledge of propositions, concepts, and theories is also needed in industry, especially when improving the quality of processes and products. Likewise, real practice in the industry in the context of implementing theoretical knowledge is needed. In line with this, the academic culture and work culture can increase in campus-based learning and industry (teaching factory).

Teaching factory is defined as integrated learning in the learning process on campus and work activities in industry. The teaching factory builds academic and industrial synergies [7]. Industrial work activity-based learning will increase competence in the academic field as well as work competence. In line with this. Work experience will also strengthen academic competence and work competence [8].

Teaching factory develops students' ability to work in industry in accordance with industry work standards that are oriented to production speed. Teaching Factory model which emphasizes the learning process and work process oriented fast time, and the knowledge learned is broader [9]. The fast-paced work process will result in a fast learning culture as well. Fast work culture will have an impact on fast learning culture.

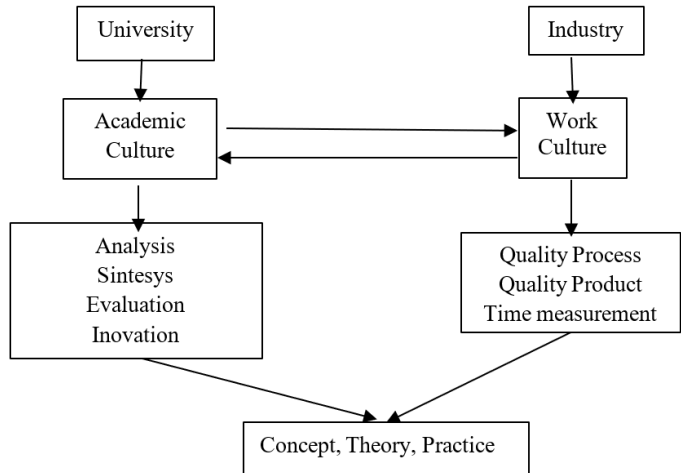
The teaching factory model strengthens the academic culture and work culture together. The model must be able to solve problems in the industry through the study of propositions, concepts, and theories, as well as the industry as a place of research. The research carried out is confirmatory and developmental.

## **2 Research Method**

This research was conducted in 10 industries in the city of Medan and involved 30 students. The research model used is research and development research, with 4D methods, namely Define, Design, Develop, and Disseminate.

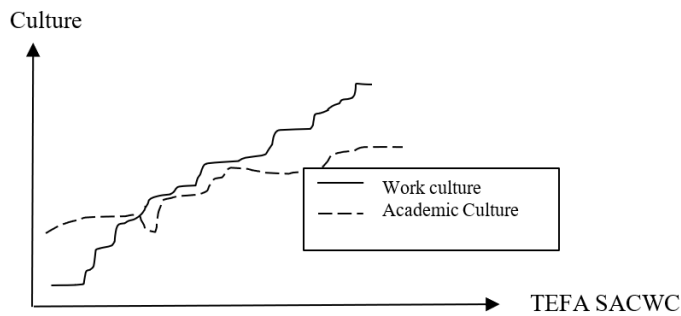
## **3 Result and Discussion**

The model developed in this study is shown in Figure 1 below.



**Figure 1** Teaching Factory Model Strengthening Academic Culture and Work Culture (TEFA SACWC)

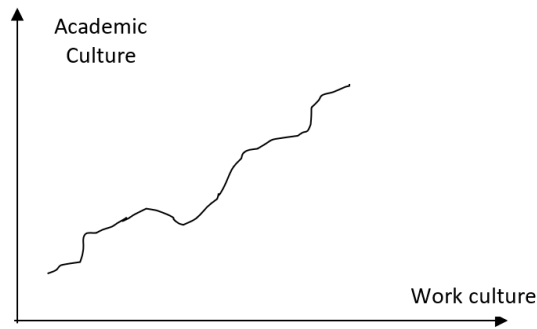
This TEFA Model (TEFA SACWC) has an impact on enhancing academic and workplace cultures. Academic culture and work culture have been developed in university lectures, but work culture remains low. Figure 2 demonstrates that, in accordance with the application of the TEFA SACWC



**Figure 2** TEFASACWC effect on Academic Culture and Work Culture

The university develops and implements an academic culture in on-campus learning for mastery of concepts and theory as well as practice. Campus culture includes a learning culture that develops analytical, synthesis, evaluation, and innovation skills. Industry work culture is oriented to process quality, product quality, and time-measured. The interaction of academic culture with work culture results in increased mastery of concepts, theories and practices.

The interaction of academic culture and work culture reinforce each other linearly, as shown in the graph in Figure 3 below. The increasing of academic culture causes increasing of work culture; and the increasing of work culture causes increasing academic culture.



**Figure 3.** The graph of interaction between academic culture and work culture

#### 4 Conclusions

The teaching factory model effects on academic culture and work culture positively and significantly. The TEFA processing has learning, practicing, and value system, which strengthen academic culture and work culture. . The TEFA model builds the interaction of academic culture and work culture, so that they mutually reinforce each other. The strengthening of the two cultures resulted in an increase in understanding of concepts, theories, and an increase in practical skills. This research is also corroborated by the research of Sulistyono et al. [10] which says that teaching factory increases competence.

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