

Professional Identity of Vocational Teachers in the 21st Century in Indonesia

Muhammad Nurtanto^{1,2}, Putu Sudira³, Herminarto Sofyan⁴, Nur Kholifah⁵, Triyanto Triyanto⁶

¹PhD Student of Postgraduate Programme, Yogyakarta State University, Yogyakarta - Indonesia

²Department of Mechanical Engineering Education, Universitas Sultan Ageng Tirtayasa, Banten- Indonesia

^{3,4}Postgraduate Programme, Yogyakarta State University, Yogyakarta - Indonesia

^{5,6}Department of Fashion Design Education, Yogyakarta State University, Yogyakarta - Indonesia

³putupanji@uny.ac.id

Abstract: This article focuses on the professional identity needs of vocational teachers in the 21st century in Indonesia. Challenges in the 21st century have changed and caused major changes for vocational teachers, while vocational teachers have heterogeneous characteristics, including learning experience, educational background, employment status, and other determinants. An important objective of this study is to analyze the proxies of professional identity of vocational teachers in the 21st century in preparing future vocational teachers. This research uses a descriptive qualitative approach. A total of 139 vocational teachers participated in describing the professional skills needs of vocational teachers for the future. The findings describe that (1) technology skills and ICT are defined as hard skills and apart from the 4Cs, literacy strengthening is needed to strengthen soft skills; and (2) vocational teachers need hands-on experience in the business world, industry, and the world of work (DUIKA). This study recommends that the professional competence of vocational teachers needs to be improved through self-development training and continuous professional development (CPD).

Keywords: vocational teacher, professional teacher, professional identity, technology skills, real experience

1. Introduction

Teachers are important figures on the agenda in every country. The important role of teachers is to disseminate knowledge and produce competent human resources [1], [2] who contribute to the development of a country. More than that, the teacher is the last bastion of civilization, meaning that without the role of the teacher many people are lacking in ethics, lacking in morals, and low in character. As a result, damage occurs due to uneducated human behaviour. The teacher is a noble, superior, professional figure who builds good character with his knowledge, wisdom, enlightenment, and authority in guiding others. Thus, teachers are not limited to, teaching tasks, but also transporters for students.

Teachers in Indonesia are starting to lose “the meaning of teacher” as a transfer of knowledge (logos), due to a shift in orientation towards finance. The logos teacher values are commitment, love, and full awareness of working as a teacher, some teachers are hesitant in making decisions, but the best decision is to do work as a teacher with totality. The Logos values must be lived deeply (ethos) into everyday life (pathos) because the teacher is a roles model for students, we call it “ing madyo mangun karso” which means setting an example. Teachers who understand

Putu Sudira³

²Department of Mechanical Engineering Education,
Universitas Sultan Ageng Tirtayasa, Banten- Indonesia

³putupanji@uny.ac.id

and practice and put forward the values of logos, ethos, and pathos and then provide unlimited service are professional teachers.

The concept of teacher professionalism is important to be fully and comprehensively interpreted from the perspective of historical, political, and social contexts. This concept has undergone changes and developments from time to time, one of which is influenced by stakeholder groups [3]. More simply, the concept of professionalism is defined as success which refers to behavior in a particular job [4]. Boyt, Lusch, and Naylor, define the professional concept as a multi-dimensional structure of a person's attitudes and behaviour towards his work with high standards of achievement [5]. If it refers to professional goals, it is more to improve the quality of service.

Referring to the above professional understanding in the teaching profession, it is deemed necessary to improve services in achieving goals. However, the quality of teachers in vocational education is improved through mastery of the 4 competencies (pedagogic competence, personality competence, social competence, and professional competence) and 4 awareness (philosophical, theoretical, ethical, and technical). Vocational education teachers must master vocational philosophy, vocational theory, vocational principles, foundations, and assumptions in vocational education. For example, the pragmatism Reconstructionist strand has a great influence in achieving the goals of vocational education [6]. Vocational teachers must also master the theory of learning and student development. For example, the learning theory of cognitivism, behaviourism, constructivism, and humanism. Teachers must understand and apply the teachers' code of ethics in everyday life, [7]. Technically, teachers must collaborate with other teachers, between competence and integrated learning. Competence and awareness are important as professional teachers in vocational education in the future.

Finally, in finding the concept of becoming a professional teacher in vocational education, it can be found through the professional identity of the teacher that is formed. Researchers realize that the challenges in the 21st century are full of uncertainty, unpredictability, and require speed and accuracy in action [8]. Thus, the readiness of teachers to face change and the need to become professional teachers in the future is important to reveal. The focus of this research will be to explore the needs of professional

teachers in vocational education in the future. This study was conducted by constructing the perceptions of professional teachers with more than 8 years of work experience, to predict future events.

2. Research Method

This study uses a qualitative descriptive approach [9]. Participants as many as 139 teachers in vocational education from various provinces in Indonesia, gave the perception of becoming a professional teacher in the future. The distribution of respondent data is presented in the following table.

Table 1 : Distribution of respondent by gender, province, and teaching experience

No	Respondent distribution	Nu (%)
1	Gender	
	Male	117 (84.17)
	Female	22 (15.83)
2	Province	
	Daerah Istimewa Yogyakarta	54 (38.85)
	Banda Aceh	2 (1.44)
	Banten	11 (7.91)
	Jawa Barat	3 (2.16)
	Jawa Tengah	2 (1.44)
	Jawa Timur	9 (6.47)
	Kalimantan	4 (2.88)
	Kepulauan Riau	4 (2.88)
	Lampung	6 (4.32)
	Nusa Tenggara Barat (NTB)	14 (10.07)
	Nusa Tenggara Timur (NTT)	14 (10.07)
	Sulawesi	7 (5.04)
	Sumatera	7 (5.04%)
	Jambi	1 (0.72)
	Bangka Belitung	1 (0.72)
3	Teaching experience	
	7 Years	39 (28.06)
	8-17 Years	44 (31.65)
	18 - 27 Years	37 (26.62)
	≥ 28 Years	19 (16.67)
	Total	139 (100)

Note: Nu = Number

The response of the male sex was 84.17% and female sex was 15.83%. Distributed in 15 provinces, and the highest distribution is in Yogyakarta at 38.85%, Java Island at 10.07%, NTB at 10.07%, NTT at 10.07%, and Banten in fifth place at 7.91%, followed by other provinces. This distribution is sufficient for representing in Indonesia, where Yogyakarta with the branding as a "student city" and followed by the island of Java is the largest population, which is 56.10% in Indonesia. Another criterion is teachers teaching experience of more than

8 years as much as 72.94%. Thus, triangulation of sources of informants can be trusted or has high credibility.

2.1. Questioner Research

The research was conducted using a questionnaire designed in the form of google form. The questionnaire consists of 2 open statements that aim to give professional vocational teachers the freedom to express their perceptions. The research questions (RQ) are:

(a) RQ 1: What are the skills or identities professional needed by professional teachers in vocational education in the 21st century?

(b) RQ 2: What are the strategies of professional teachers in vocational education in enhancing professional identity in the 21st Century?

2.2. Data Analysis

Respondents' answers were grouped based on the theme of the research question, then grouped by gender, distribution of provincial data, and their teaching experience. The findings as a recommendation for professional teacher understanding in 2021, of course, will be different if the perception is the following year. However, these results illustrate the identity of professional teachers that is important to explore. The data are presented in tables and figures to facilitate understanding and are described based on the research findings.

3. Findings and Discussion

3.1. Skills or professional identity in Professional Teachers in Vocational Education in the 21st Century

Qualitative data in open statements that measure teachers' perceptions in vocational education about the "meaning of professional teachers" in the future have been categorized into two main aspects, namely hard skills, and soft skills which describe professional identity. The concept of hard skills and soft skills or life skills has been going on for a long time. However, the perception of teachers in vocational education finds several new meanings. The hard skills aspect consists of technology and ICT skills, technical competencies, entrepreneurial skills, and pedagogical skills. So far, teachers are only limited to developing pedagogic skills [10], and little in self-development in

training activities and strengthening competencies. An interesting finding from hard skills is that 77.50% state that technology's ability is a very important skill. This is in line with core skills in the 21st century, namely information, media, and technology skills [11], [12].

Based on the analysis of the findings obtained, it is in line with the current learning challenges, namely the application of technology-based learning and technological change 4.0 in the industry, [13], [14]. This competency needs to be improved by teachers in vocational education in carrying out their profession as professional teachers, [15]. [16], Technical competence and entrepreneurial skills are perceptions expressed by teachers in vocational education in Indonesia. This means that vocational school teachers must develop skills according to their technical competence or expertise competence, [17], [18]. By mastering technical competencies, teachers will be more confident in practical learning in workshops or laboratories. The fact in the field that occurs is that teachers in vocational education are considered capable and competent for all learning in the field of engineering in schools. This assumption can reduce the professional meaning if the teacher doesn't certify technical competence. The main priority of becoming a teacher in vocational education is self-development through various trainings that are relevant to field competencies, [19], [20]. In addition, teachers in future vocational education must master entrepreneurial skills. This finding is in line with the purpose of holding vocational education, namely graduates who can work, become entrepreneurs, and continue to college (BMW).

Furthermore, the findings on the skills or professional identity of teachers in vocational education are pedagogic competencies, [21]. Vocational teachers must be able to master the management of learning. These competencies are interrelated with the use of ICT in learning. The teacher must be a learner, however generational differences between teachers and students must be recognized. Students are born in the era of technology and digitalization, if teachers do not adjust, develop and apply them to learning, conventional learning is not recommended by students. They feel bored and uninterested in teachers with old concepts. The results of perceptions about the main aspects and skills or professional identity of teachers in vocational education are described in fig. 1.

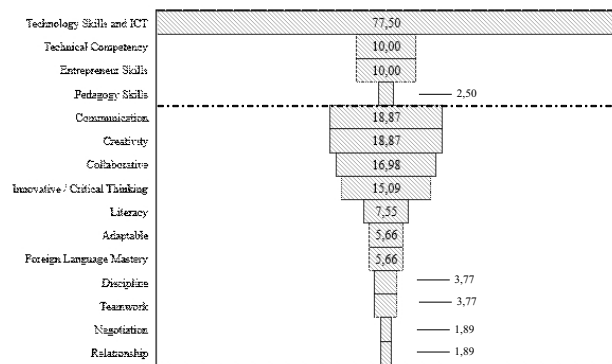


Fig. 1: Distribution of skills and professional identity of vocational teacher

The second aspect is the soft skills of professional teachers in vocational education. The results of the study revealed 11 skills or personal identities, including the 4Cs, namely communication, collaborative, creative, innovative, or critical thinking, literacy, adaptation, mastery of foreign languages, discipline, teamwork, negotiation, and work relations. The characteristics of learning in the 21st century are the 4Cs globally [22]. These skills are not sufficient for teachers in vocational education in Indonesia. Perceptions of vocational teachers are of the opinion that communication skills, creativity, collaboration, and critical thinking are positioned in the main cluster with 18.97% gains each; 18.87%; 16.98%; and 15.09%. 4Cs skills in vocational learning in Indonesia are contained in the stages of the learning process and become a characteristic of the new curriculum that has been implemented. The rest, the application of learning models with a scientific approach requires that 4Cs skills be included in it. Although vocational teachers in generations X and Y, have difficulty in implementing the 4Cs, they must be trained and trained on an ongoing basis.

The next professional identity is literacy mastery of 7.55%; adaptation by 5.66%; foreign language proficiency by 5.66%; discipline and teamwork by 3.77%; and negotiation and relationship by 1.89%. Although there are still many other professional identities theoretical, the size of the professional teacher describing the identity above is an important indicator that must be mastered at this time. Literacy skills are basic skills that must be mastered by a teacher, in the era of broad information, if you do not want to be left behind. Likewise, mastery of foreign languages is an important thing in communication. Discipline and teamwork are row models as

vocational teachers, [23]. Teachers must be examples for their students and must be able to work together with other field teachers, after completing joint projects. While negotiations and relationships are the keys to success in achieving goals. Researchers are in line with the findings, that learning in the 21st century requires broader abilities. Thus, vocational teachers are ready to face global competition.

3.2.Strategies for improving the professional identity of vocational teachers

Professional teachers in vocational education should be as close as possible to the industrial world. Vocational teachers as facilitators or instructors who replace the industry to teach competencies according to industry needs [24, p. 0], [25]. This is a form of awareness of professional teachers who must be aware of the philosophy of vocational education, awareness of learning theory and student development in vocational education, awareness of ethics, and aware of the techniques. A vocational teacher who does not have experience or insight into the industrial world where graduates work, of course, makes the experience biased. Therefore, one of the strategies is the involvement of DUIKA in learning and the participation of teachers and students involved in work in the industry.

In Indonesian regulations, the qualification to become a vocational teacher is a bachelor's degree or diploma IV. However, many teachers who carry out learning practices do not meet the qualifications [26]. This is a form of loss to students. So vocational teachers must carry out self-development as a form of strategy in improving student competence.

The interpretation of the perception of professional teachers states that vocational teachers are required to do internships at DUIKA. Several strong reasons have been presented in fig. 2 including direct experience as a major consideration to become a vocational teacher. Researchers have the perception that vocational teachers never have direct experience as workers, while internship or OJT experience is not enough to contribute real experience. An important reason to convey is to improve skills. The researcher describes that teacher development with industrial development has quite far limitations. However, the demands of the industry are much faster than the demands of the vocational schools. There is a skill mastery gap if vocational teachers do not improve their skills. Some other considerations include technological change,

broad horizons, employment issues, culture, and management in the industry, integrity, and EQ. Of the eight perceptions of vocational school teachers to improve professionalism that teachers and industry have the same goal. Based on the results of the Based

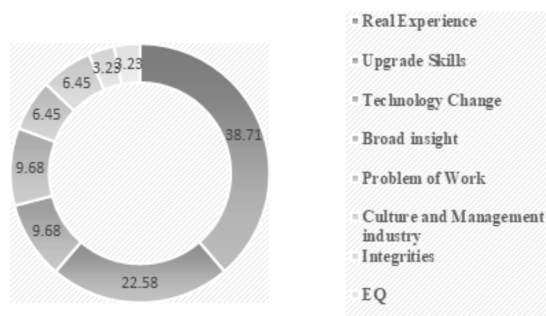


Fig. 2: Strategies for improving the professional identity of vocational teacher

Based on the results of the perceptual analysis of professional teachers in vocational, strategies in increasing self-development include direct experience of 38.71%, the highest among other identities. Vocational teachers have a strong belief that being a teacher must have experience, according to the field of work or develop skills in the vocational field. Furthermore, another strategy is the ability to upgrade skills by 22.58%. The concern of teachers in vocational education is that they will be abandoned if they do not immediately upgrade their skills, because of the obsolescence of the skills possessed in the past or present. Followed by other abilities are adopting the latest technology, broad insight, problems of work, culture and industry management, integrity, and emotional quotient (emotional intelligence).

Researchers claim that professional identity in the aspects of hard skills, soft skills, and life skills are integrated (integrated). Professional teachers in vocational education must have this identity in a complete and balanced way. Many perceptions have not been disclosed and show different variables in each country. However, a professional teacher begins with awareness, sincerity, loves his job, full of sincerity, has a high commitment. Thus, self-development in professional teachers is easy to improve.

4. Conclusion

The research findings describe the perception of professional teachers in vocational education in Indonesia, it is concluded that: (1) the professional

identity of vocational teachers consists of ICT skills, technical competence, entrepreneurial and pedagogic abilities, while the identity of life skills consists of 4Cs skills, literacy, adaptation, mastery foreign language, discipline, teamwork, negotiation, and relationship. (2) self-development strategies for professional teachers include direct experience, upgrading skills, following technological changes, broad insight, problems of work, culture and industry management, integrity, and emotional quotient (emotional intelligence). Overall, the skills that emerge become the professional identity of vocational teachers. An important finding in this study is that ICT skills and hands-on experience-based learning are priority aspects for future vocational teachers.

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References

- [1] Saha, L. J. (2009). The Dissemination of Knowledge about Research on Teachers, to the Teachers. In L. J. Saha & A. G. Dworkin (Eds.), *International Handbook of Research on Teachers and Teaching* (pp. 71–79). Springer US. https://doi.org/10.1007/978-0-387-73317-3_5
- [2] Todorescu, L.-L., Popescu-Mitroi, M.-M., & Greculescu, A. (2015). Students' Views on the Teacher as An Information Provider. *Procedia - Social and Behavioral Sciences*, 197, 184–189. <https://doi.org/10.1016/j.sbspro.2015.07.121>
- [3] Hilferty, F. (2008). Teacher professionalism and cultural diversity: Skills, knowledge and values for a changing Australia. *The Australian Educational Researcher*, 35(3), 53–70. <https://doi.org/10.1007/BF03246289>
- [4] Tichenor, M. S., & Tichenor, J. M. (2005). Understanding Teachers' Perspectives on Professionalism. *Professional Educator*, 27, 89–95. <https://eric.ed.gov/?id=EJ728484>
- [5] Boyt, T. E., Lusch, R. F., & Naylor, G. (2001). The Role of Professionalism in Determining Job

- Satisfaction in Professional Services: A Study of Marketing Researchers. *Journal of Service Research*, 3 (4) , 3 2 1 – 3 3 0 . <https://doi.org/10.1177/109467050134005>
- [6] Rojewski, J. W. (2009). A Conceptual Framework for Technical and Vocational Education and Training. In R. Maclean & D. Wilson (Eds.), *International Handbook of Education for the Changing World of Work: Bridging Academic and Vocational Learning* (pp. 19–39). Springer Netherlands. https://doi.org/10.1007/978-1-4020-5281-1_2
- [7] Gluchmanova, M. (2015). The Importance of Ethics in the Teaching Profession. *Procedia - Social and Behavioral Sciences*, 176(n/a), 509–513. <https://doi.org/10.1016/j.sbspro.2015.01.504>
- [8] Schwab, K. (2016). The Fourth Industrial Revolution.
- [9] Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2), 129–132. <https://doi.org/10.1177/1362168815572747>
- [10] Voinea, M., & Pălășan, T. (2014). Teachers' Professional Identity in the 21st Century Romania. *Procedia - Social and Behavioral Sciences*, 128, 361–365. <https://doi.org/10.1016/j.sbspro.2014.03.172>
- [11] Trilling, B., & Fadel, C. (2012). *21st Century Skills: Learning for Life in Our Times* (1st edition). John Wiley And Sons Inc.
- [12] Majid, N. W. A., Fuada, S., Fajri, M. K., Nurtanto, M., & Akbar, R. (2020). Progress report of cyber society v1.0 development as a learning media for Indonesian society to support EFA. *International Journal of Engineering Pedagogy*, 10(4), 133–145. Scopus. <https://doi.org/10.3991/ijep.v10i4.13085>
- [13] Gunadi, Sofyan, H., Nurtanto, M., Arifin, Z., & Sudira, P. (2020). Vocational Teachers Readiness in Face of the Industrial Revolution 4.0: Vocational Teachers Perceptions in Yogyakarta-Indonesia. *Journal of Physics: Conference Series*, 1700, 012082. <https://doi.org/10.1088/1742-6596/1700/1/012082>
- [14] Arifin, Z., Nurtanto, M., Warju, W., Rabiman, R., & Kholifah, N. (2020). The TAWOCK conceptual model at content knowledge for professional teaching in vocational education. *International Journal of Evaluation and Research in Education (IJERE)*, 9(3), 697–703. <https://doi.org/10.11591/ijere.v9i3.20561>
- [15] Kholifah, N., Sofyan, H., Pardjono, P., Sudira, P., & Nurtanto, M. (2021). Explicating the Experience of Beginner Vocational Teachers. *TEM Journal*, 10(2), 719–723. Scopus. <https://doi.org/10.18421/TEM102-28>
- [16] Sumual, H., & Soputan, G. J. (2018). Entrepreneurship Education through Industrial Internship for Technical and Vocational Students. *IOP Conference Series: Materials Science and Engineering*, 306, 012053. <https://doi.org/10.1088/1757-899X/306/1/012053>
- [17] Tampang, B. L. L., & Wonggo, D. (2018). Teacher Professionalism in Technical and Vocational Education. *IOP Conference Series: Materials Science and Engineering*, 306, 012017. <https://doi.org/10.1088/1757-899X/306/1/012017>
- [18] Sulaiman, J., Yunus, F. A. N., & Ahmad, W. M. R. W. (2019). Professionalism of Technical Teacher in Vocational Education: : *Online Journal for TVET Practitioners*, 4(2), 42–48. <https://publisher.uthm.edu.my/ojs/index.php/oj-tp/article/view/5091>
- [19] Klotz, V. K., Billett, S., & Winther, E. (2014). Promoting workforce excellence: Formation and relevance of vocational identity for vocational educational training. *Empirical Research in Vocational Education and Training*, 6(1), 6. <https://doi.org/10.1186/s40461-014-0006-0>
- [20] Nurtanto, M., Arifin, Z., Sofyan, H., Warju, W., & Nurhaji, S. (2020). Development of Model for Professional Competency Assessment (PCA) in Vocational Education: Study of the Engine Tune-Up Injection System Assessment Scheme. *Journal of Technical Education and Training*, 12(2), 34–45. <https://publisher.uthm.edu.my/ojs/index.php/JTET/article/view/5152>
- [21] Nellitawati, N. (2019). Teacher's pedagogical competencies on the vocational high school of Padang City. *Jurnal Konseling Dan Pendidikan*,

- 7(2), 58–61. <https://doi.org/10.29210/133300>
- [22] Trilling, B., & Fadel, C. (2009). Bernie Trilling, Charles Fadel-21st Century Skills_ Learning for Life in Our Times -. 243.
- [23] Nurzanna, & Purba, S. (2019). Relationship between work discipline, teamwork, and altruistic with teacher's affective commitment state vocational schools in Padangsidempuan City. AIP Conference Proceedings, 2194(1), 020145. <https://doi.org/10.1063/1.5139877>
- [24] Maknun, J., Barliana, M. S., Rahmawati, Y., & Wahyudin, D. (2021). Teacher Competency of Vocational High School (SMK) in the Era of Industrial Revolution 4.0. 168–171. <https://doi.org/10.2991/assehr.k.210203.110>
- [25] Sudarsono, B., Santosa, B., & Sofyan, H. (2020). Improving The Competency of Automotive Vocational Teachers with Partnership-Based Training Model (PBK). JTP - Jurnal Teknologi Pendidikan, 22(3), 200–208. <https://doi.org/10.21009/jtp.v22i3.18690>
- [26] Setiawan, A., & Hamdani, A. (2021). Current Development of Vocational Professional Teacher Education in Indonesia. 16, 11