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## **The Competence Readiness of the Electrical Engineering Vocational High School Teachers in Manado towards the ASEAN Economic Community Blueprint in 2025**

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### **Abstract**

This paper presents the competence readiness of the electrical engineering vocational high school teachers in Manado towards ASEAN Economic Community blueprint in 2025. The objective of this study is to get the competencies readiness description of the electrical engineering vocational high school teachers in Manado towards ASEAN Economic Community blueprint in 2025. Method used quantitative and qualitative approach which the statistical analysis in quantitative and the inductive analysis used in qualitative. There were 46 teachers of the electrical engineering vocational high school in Manado observed. The results have shown that the competencies readiness of the electrical engineering vocational high school teachers in Manado such as: pedagogical, professional, personality, and social were 13.04%, 19.56%, 19.56%, and 19.56% respectively. The results were still far from the focus of the ASEAN economic community blueprint in 2025, so they need to be improved through in-house training, internship programs, school partnerships, distance learning, tiered training and special training, short courses in educational institutions, internal coaching by schools, discussion of educational issues, workshops, research and community service, textbook writing, learning media making, and the creation of technology and art.

**Keywords:** *competence readiness, vocational high school teacher, ASEAN economic community*

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## Introduction

There are five characteristics of the ASEAN Economic Community (AEC) Blueprint 2025 that interrelated and mutually reinforcing, such as: (i) A highly integrated and cohesive economy; (ii) A competitive, innovative, and dynamic ASEAN; (iii) Enhanced connectivity and sectoral cooperation; (iv) A resilient, inclusive, people-oriented, and people-centred ASEAN; and (v) A global ASEAN. These characteristics support the vision for the AEC as envisaged in the ASEAN Community Vision 2025. The common market launched in the AEC is the freedom of the factors of production to flow freely between countries, such as capital and labour (Yudhawirawan, 2017). Tangkitvanich and Rattanakhamfu (2017) said that the ASEAN has achieved very little in terms of promoting cross-border movement of labour. The opening up of unskilled labour markets through Free Trade Area (FTA) would be a useful policy option, given the relative abundance of unskilled labour in many ASEAN countries, but the AEC blueprint attempts to facilitate only the mobility of skilled professionals, currently comprising just eight professions. However, the management of these professionals is also problematic.

Indonesia's readiness is urgently needed to face the AEC if it does not want Indonesia to become another ASEAN country market (Prasetyo, 2015). Also, the free market of commodities and services will result in foreign workers easily entering and working in Indonesia so increasingly tight labor competition in the field of employment. Wuryandani (2014) and Setuju (2015) declared that one of the leading issues related to the implementation of the AEC is the readiness of human resources who's reliable and competent. Implementation strategies for enhancing national competitiveness and meeting AEC, namely: the development of labour through increased competitiveness, competence, and productivity (Kresna, 2015). To achieve that, Vocational High School (SMK) teachers, especially electrical engineering, are needed to have competencies that can produce unquestionable graduates. If teachers have undoubted competence then allows graduate students to compete with the labour of the countries incorporated in ASEAN. A teacher said to be competent when dominated four basic competencies, i.e. pedagogical competence, professional competence, personality competence, and social competence (Indonesian Republic Regulations No. 14, 2005, Indonesian Republic Government Regulation No. 19, 2005). The four competencies are not independent, but interconnected and mutually influence each other and a hierarchical relationship, meaning they are mutually based on one another-one competence underlying another (Saud, 2009).

## Methods

### Study approach

The quantitative and qualitative approach used to achieve the objectives of this study. Researchers as a primary tool in filtering data and analyzed inductively that considered to be accurate to find the required data. The collection of data on the competence of the electrical engineering vocational high school teachers in Manado requires as much information as possible. Any information given by the subject of study has not been a conclusion but is still a working hypothesis to find new questions which will become the guidelines in the next interview or observation. The subjects of this study consist of 46 the electrical engineering vocational high school teachers in Manado, North Sulawesi, Indonesia. There were four instruments for the data collect. The instruments formed by a Likert scale questionnaire consisting of five alternative answers per item. The questionnaire consisted of positive and negative items with the lowest one and the highest score being five. For positive items answered strongly agree were given a score of five, agreed the score was four, did not think the score of three, disagreed the score of two, and strongly disagreed the score of one. For negative items were reversal the positive score items.

### Pedagogical competence instrument

Indicators of the instrument i.e.: mastering the characteristics of learners; mastering the theory and principles of learning; developing curriculum/designing learning; organizing educational learning; utilizing information and communication technology for the benefit of learning; facilitating the development of potential learners; communicating empathic and polite effectively with participants educate; organize and utilize the evaluation; take action reflection. The items number of 180 with score number positive and negative sentences of 90 respectively.

### Professional competence instrument

The indicators of the instrument consist of: the importance of professional competence; mastering the material, the concept of structure and the scientific mindset; using information and communication technology in improving the effectiveness of learning; utilizing the purpose to improve the quality of learning; mastering philosophy, methodology, technical, and practical; self-development

and professional performance; improve performance and commitment of community service. The items number of 140 and score number positive and negative sentences of 70 respectively.

### Personality competence instrument

Indicators of this instrument have aspects: spirited educators and act according to prevailing norms; honest, be noble, and to be exemplary; adult, stable, and authoritative; own a work ethic, responsibility, and confidence. The items number of 80 with score number positive and negative sentences of 40 respectively.

### Social competence instrument

The indicators of this instrument such as: behave and act objectively; adapt to the environment; communicate effectively; empathic and polite in communicating. The items number of 80 with score number positive and negative sentences of 40 respectively.

### Data analysis

The all of data analysed by statistical with using the application program of SPSS 17 for achievement the objective of this study. The start from making as: the instruments analysis, maximum and minimum scores, average, deviation standard, variance, and the final, we conducted the frequency distribution for decision in answer of this study problematic.

### Results and Discussion

The results of data analysis showed in Table 1-5. Table 1 shows the results shown such as: maximum and minimum scores, average, deviation standard, variant, modus, and median. We can see that the value differences between personality competence and social competence to the others are small.

Table 1. The Results of statistical Analysis by Questioner Data Collect to the Electrical Engineering Vocational High School Teachers in Manado on the Competencies Consisting Pedagogical (X1), Professional (X2), Personality (X3), and Social (X4)

No	Values	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>
1	Maximum	796	632	347	372
2	Minimum	294	215	156	148
3	Average	520.5	420	251	256.8
4	Deviation standard	160	119	58	63
5	Variant	25600	14161	3364	3969
6	Modus	626.7	490	170	320
7	Median	529	519	255	320

Table 2 shows that there were 13.04 % or 6 teachers which showed good in the pedagogical competence, 24 teachers (52.18 %) showed enough, and poor of 16 teachers (34.78 %). The meaning that the teachers need to improve competence such as mastering the characteristics of learners, mastering the theory and principles of learning, developing curriculum/designing learning, organizing educational learning, utilizing information and communication technology for the benefit of learning, facilitating the development of potential learners, communicating empathic and polite effectively with participants educate, organize and utilize the evaluation, and take action reflection. The improvement through in-house training (IHT), short courses, further study, learning workshop, internship program, research and community service, textbooks writing, and making of learning media. Febrianis et al (2014) are suggested IHT, specific training, and short courses as effective training methods to improve pedagogical competence of the natural science teachers. Also, Syahrudin et al (2013) described that teachers' pedagogical competence through independent learning, workshops, further studies, and group discussions.

Table 2. The Relative Frequency to the Electrical Engineering Vocational High School Teachers in Manado on the Pedagogical Competence (X1)

No	Class interval	Absolute frequency	Relative frequency (%)
1	161 - 280	0	0.00
2	281 - 400	16	34.78
3	401 - 520	6	13.05
4	521 - 640	18	39.13
5	641 - 760	6	13.04
6	761 - 880	0	0.00
Total		46	100

Table 3. The Relative Frequency to the Electrical Engineering Vocational High School Teachers in Manado on the Professional Competence (X2)

No	Class interval	Absolute frequency	Relative frequency (%)
1	64 - 182	0	0.00
2	183 - 301	8	17.39
3	302 - 420	18	39.14
4	421 - 539	11	23.91
5	540 - 658	9	19.56
6	659 - 777	0	0.00
Total		46	100,

Table 3 shows that there were 19.56 % or 9 teachers which showed good in the professional competence, 29 teachers (63.05 %) showed enough, and poor of 8 teachers (34.78 %). The results showed that the professional competence is still need improved through the importance of professional competence, mastering as the material, the concept of structure and the scientific mindset, using information and communication technology in improving the effectiveness of learning, utilizing the purpose to improve the quality of learning, mastering as philosophy, methodology, technical, and practical, self-development and professional performance, and improve performance and commitment of community service. In order to increase that competence then we have to conduct: training in institutions and industries, school partnerships, internship program, gradual and special training, workshop in learning and teaching, research and community service, creation of the technology and art. Oluremi (2015) found that the strategies to improve the professional competence, must conducted by the Government and Teachers Organizations. The Government must to improve the full professional teachers through the Nigerian Certificate in Education, Post-Graduate Diploma in Education or a Bachelor's degree in education. The teachers' organizations have to develop professionals such as teaching, codes of ethics, culture and refrain from unethical values, cooperative with the government to staff development programmes as in-service education, on-the-job training, workshops, seminars, conferences, and vacation programmes for teachers.

There were 19.56 % or 9 teachers which showed good in the personality competence, 27 teachers (58.70 %) showed enough, and poor of 10 teachers (21.74 %). The results are still far from expectations, so we need to be improving aspects such as: spirited educators and act according to prevailing norms, honest, be noble, and to be exemplary, adult, stable, and authoritative, own a work ethic, responsibility, and confidence. The activities can be done as follows: mental and spiritual coaching from principals (internal coaching and religious activities), IHT, school partnerships, internship program, and discussion of educational issues. The effect of personality values of principal influence on work attitude, work quality, and work communication of teachers at school (Settaraming et al, 2012, Settaraming and Rahman, 2014, Asri and Tahir, 2015).

Table 4. The Relative Frequency to the Electrical Engineering Vocational High School Teachers in Manado on the Personality Competence (X3)

No	Class interval	Absolute frequency	Relative frequency (%)
1	78 - 135	0	0.00
2	136 - 193	10	21.74
3	194 - 251	12	26.09
4	252 - 309	15	32.61
5	310 - 367	9	19.56
6	368 - 425	0	0.00
Total		46	100

Table 5. The Relative Frequency to the Electrical Engineering Vocational High School Teachers in Manado on the Social Competence (X4)

No	Class interval	Absolute frequency	Relative frequency (%)
1	69 - 131	0	0.00
2	132 - 194	9	19.56
3	195 - 257	14	30.44
4	258 - 320	14	30.44
5	321 - 383	9	19.56
6	384 - 446	0	0.00
	Total	46	100

Table 5 shows that 19.56 % or 9 teachers in the social competence were showed good, 28 teachers (60.66 %) were showed enough, and 9 teachers (19.56 %) were showed poor. The teachers were seen to be lacking in aspects such as: behave and act objectively, adapt to the environment, communicate effectively, and empathic and polite in communicating. The aspects need to improve through activities as IHT, training in institutions and industries, school partnerships, internship program, open and distance learning (ODL), gradual and special training, workshop in communication, mental and spiritual coaching from headmaster (internal coaching and religious activities), discussion of educational issues, to conduct research and community service. Huda (2015) concluded that ODL can be to improve the social competence of agricultural extension workers.

The results in table 3-5 were still far from the focus of the ASEAN economic community blueprint on 2025, so the electrical engineering vocational high school teachers in Manado need to be improved through IHT, internship programs, school partnerships, open and distance learning, tiered training and special training, short courses in educational institutions, internal coaching by schools, discussion of educational issues, workshops, research and community service, textbooks writing, learning media making, and the creation of technology and art.

### Conclusions

The competencies readiness of the electrical engineering vocational high school teachers such as: pedagogical, professional, personality, and social were 13.04%, 19.56%, 19.56%, and 19.56% respectively. The results were still far from the focus of the ASEAN economic community, so they need to be improved through in-house training, internship programs, school partnerships, open and distance learning, tiered training and special training, short courses in educational institutions, internal coaching by schools, discussion of educational issues, workshops, research and community service, textbook writing, learning media making, and the creation of technology and art.

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