INDUSTRIAL NEEDS ON ENGLISH SKILLS OF NEW EMPLOYEES: A SURVEY

Fikri Asih Wigati[1], Rianita Pupa Sari[2], Made Panji Teguh Santosa[3]

fikri.asihwigati@staff.unsika.ac.id , rianita.puspasari@ft.unsika.ac.id;
made.santoso@staff.unsika.ac.id

UNIVERSITAS SINGAPERBANGSA KARAWANG

ABSTRACT

Employees with good English skills tend to have greater opportunities to get better positions in their careers. Practitioners must consider workforce trends by conducting need analysis to explore how language is used in the workplace. This is important because learning English as a General Basic Course must be aligned with the needs of stakeholders. Karawang is the largest industrial city in Indonesia, the need for employees will certainly continue to increase. The main task of a university is to prepare its students to be ready to work and to have the skills needed by stakeholders. This study aims to identify the industry's need for English competence for employee recruitment from the perspective of corporate HRD both at the company level and at the Industrial area level. This research uses a quantitative approach with multilevel modelling methods. The research process is divided into four stages, namely the preliminary stage, the design of a theoretical framework, data collection and processing, the stage of analysis and drawing conclusions. The results of this research indicate that the ability most needed is the ability to actively communicate both speaking and writing. Reading and terminology mastery are equally important, but all four skills must be integrated in digital knowledge and online code analysis.information already present in the title.

Keywords: Need Analysis, English Competencies, Employee Recruitment, Industry

A. INTRODUCTION

Karawang is a large industrial city in Indonesia. Based on preliminary research data (informal interviews with several Human Resource Development personnel), it was found that employees with good English skills tend to have greater opportunities to get better positions in their careers. New employees with good English skills are also prioritized. English language skills are one of the main qualifications for finding work (Garner,2012). This is in line with Kassim and Ali (2010) which states that English has become dominant in various fields including industry. As a result, English skills become an effective communication tool as well as a vehicle for professional development. To offer this competitive advantage, practitioners must consider workforce trends, need analysis is needed to explore how language is used in the workplace. Educational experts have a strong mandate to include English for Specific Purpose as teaching material in response to the rapid development of needs (Harper & Widodo, 2017).

One of the requirements that is almost an obligation in all job openings is English competence. However, the English competence required may vary and depends on the type of company itself. What's more, Karawang has at least six industrial zones, namely: Industrial Estate Industrial Zone, KIIC Industrial Estate, Karatra MItra Industrial Estate, Kujang Fertilizer Industrial Estate, Surya Cipta Industrial Zone, and PT.Timor Putra Industrial Estate which definitely has a different special characteristic one and others. In the end, English is often a scourge for prospective workers. English is considered a science that only complicates, even hinders in seeking work. In fact, the task of a university level as educational institution is to prepare students to be ready to work. Therefore, researchers plan to conduct a study entitled "identification of English language competency in employee recruitment in the industry in karawang". In this study, researchers conducted an analysis of industry needs from the perspective of Human Research Development regarding the English competencies of the potential employees when recruiting new workers.

B. LITERATURE REVIEW

1. Employee Recruitment

Employees are the human resources of a company. Human resources will be an important part of the plan to dominate the business world, then the employee recruitment plan must be focused on the strength of the company (DeCenzo &Robbins,2010). This strength is the foundation that forms the competitive advantage of a company. These strengths are called core competencies, namely unique capabilities that create high value and differentiate a company from its competitors (Mathis & Jackson, 2012). Based on this, the recruitment of employees is very important. Employee recruitment using a basic competency approach considers how knowledge and skills are used. Competence is an individual capability that can be linked to individual or group performance (Mathis & Jackson, 2010), which refers to knowledge, skills, abilities, and other personal characteristics that can form good performance for a job

2. English Competencies

One of the competences is English Competencies (Europe, 2018). In the world of industry ,language English competencies can be active or passive, and they are often divided into four interconnected skills. These skills are: (1) listening; (2) reading; (3) speaking; and (4) writing (Projects, 2018). It is stated that the minimum (English) language competency of workers in the UK should reach the level of National Vocational Qualification (NVQ) 3. Even for jobs with high communication content and use of formal language required NVQ level 4

3. Education 4,0

After the first Industrial Revolution in the 1780 's, where the steam engines made humans more productive, the second Industrial Revolution were in the 1870 's with their electric energy carrying mass production, the third Industrial revolution then appeared in the 1980 's Decade with information and electronic technology, which led to a more efficient production process. The melting of some advanced technologies and accompanying new knowledge marked the start of Industrial Revolution 4,0. Humans have developed compute capacity to store data in massive scale, which in turn allows for machine learning. The outside of this development is cyber-physical systems (CPSs), which are physical and engineering systems where operations are monitored, coordinated, controlled, and integrated through the core of

computing and Communication. Education, especially higher education, has an important role in shaping the community's transition needed to adapt to Industrial Revolution 4,0.

Education 4.0, should be able to bring students to answer challenges in the areas of demographics, population, health, nuclear proliferation, and so on. After the students graduate, the world of Industrial Revolution 4,0 requires them to work with artificial intelligence technology. What they learn on campus will not determine their work or career. Their content and understanding of their work is important, but most importantly what they can do with it. Education 4,0 have to meet the needs of the community in an innovative era, in accordance with behavioral changes with special characteristics in parallelism, connectivity, and visuals. Teachers must help to develop learners ' ability to implement the new technology. Learning system should also bring learners to grow with lifelong knowledge and skills, not merely able to read and write, but with all its best abilities (Mathis& Jackson, 2012)

C. RESEARCH METHODOLOGY

This research methodology is using statistical data on the identification of English competency factors in employee recruitment in the Karawang industry. In identifying these factors, an analysis using multilevel modeling methods was carried out. The research process is divided into four stages, namely the preliminary stage, the design of a theoretical framework, data collection and processing, to the stage of analysis and drawing conclusions (Luke,2004; Sekaran 2003).

In this study, data collection is primary data in the form of a questionnaire distributed to the company's Human Resource Develpment in Karawang, prior to distributing the questionnaire data, licensing was done first for the legality and ease of data retrieval. Questionnaire Compilation preparation of the Questionnaire as primary research data was developed from the operationalization of variables.

Table.1 Questionaire form

Question number	Variable		Code	Question
1	English Competence		KBI1	Reading ability
2			KBI2	listening ability
3			KBI3	Writing ability
4			KBI4	We need employee who are able to present their idea in English
5	Level of English Competence	Independent user	We need employees who can translate Manual book/ Module into Indonesian	We need employee who are able to present their idea in English
6		Expert	We need employees who have the capability to make English speech and formal conversation	We need employees who can translate Manual book/ Module into Indonesian
7		Independent user	We need employees who are able to be an	We need employees who have the capability to

			interpreter in a teleconference	make English speech and formal conversation
8		Expert	We need employees who are able to translate directly the conversation between management and customers/visitors	We need employees who are able to be an interpreter in a teleconference
9		Expert	We need employees who are able to use online data in English in all context related to factory's needs	We need employees who are able to translate directly the conversation between management and customers/visitors
10		Expert	We need employees who understand English literacy and are able to retell the data well.	We need employees who are able to use online data in English in all context related to factory's needs
11		Independent user	We need employees who can explore and analyze data in English.	We need employees who understand English literacy and are able to retell the data well.
12		Expert	We need employees who are able to summarize statistical data and understand how to set the data.	We need employees who can explore and analyze data in English.
13		Expert	We need employees who are able to visualize and interprets data using English.	We need employees who are able to summarize statistical data and understand how to set the data.
14		Independent user	PIV2	We need employees who are able to visualize and interprets data using English.
15	Education 4.0		P1	Which one do you thing are the important aspects that your employees should have
			P2	
			P3	
			P4	
			P5	
			P6	

D. FINDINGS AND DISCUSSION

Discussion Descriptive Analysis of Respondent Profiles Descriptive analysis is done by descriptive statistical tests to find out the general description of respondents who fill out questionnaires in the form of charts.

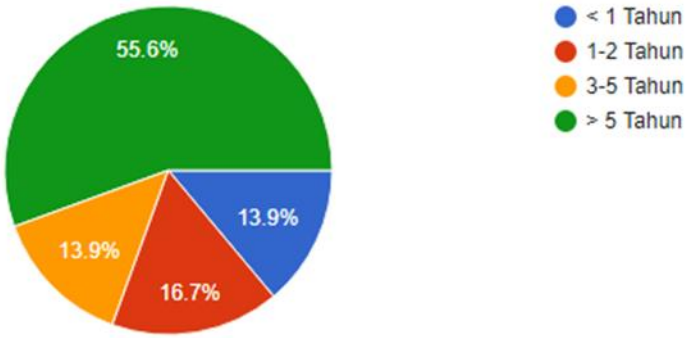


Figure 3 Working Period

Duration of Work in figure 3 shows that respondents who filled out this research questionnaire 55.6% of them were Human Resource Development with a work period of more than 5 years, so this can be indicated that the respondents were experienced senior HRD and knew the company's needs.

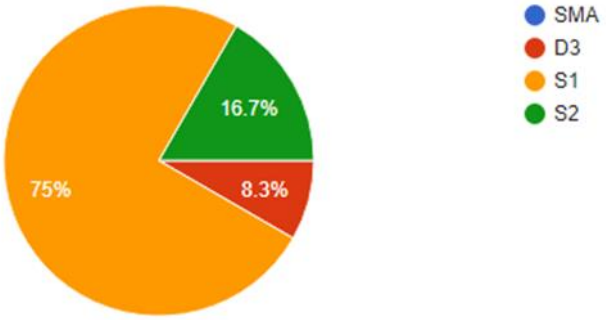


Figure 4. Education

In picture 4 respondents who filled out the questionnaire in this study, 75% had a bachelor degree background, 16.7% had a master education background, and 8.3% had a diploma Education background, thus it could be said that the respondent had sufficient knowledge to pursue the needs of competency in accordance with industry needs in the industrial era 4.0

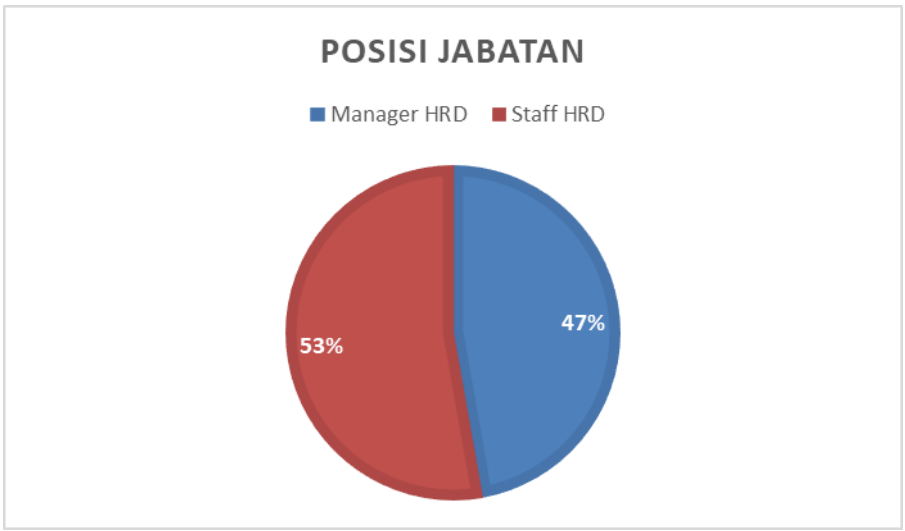


Figure 5 Position

Picture 5 shows that respondents who filled out the research questionnaire, 53% of them were HRD Staff and 47% of them were HRD Manager. Therefore, the questionnaire corresponds to the samples needed in the survey of English language competency needs, because HRD staff and HRD managers do recruitment and conduct performance appraisals for employees in the company. The validity of the questionnaire to find out whether each indicator represents a variable and is sufficiently understood by respondents, thus it can be known whether or not editorial changes are needed in the questionnaire. Test the validity of this study using SPSS 22.0 for Windows software. The results of the validity test compare the correlation coefficient on Corrected item-Total Correlation as r count in SPSS with the rtable calculation results, if r count> rtable then the question item or indicator is declared valid. The number of samples used for this test was 36, so the rtable value for $\alpha = 0.05$ and dof = 34 was 0.2785. Table 5.2 is a recapitulation table of the output validity test spss.

Table 2 Data Processing

Question Number	Code	r count	r table	Valid/not valid
1.	KBI1	0,719	0,2785	Valid
2.	KBI2	0,613	0,2785	Valid
3.	KBI3	0,478	0,2785	Valid
4.	KBI4	0,597	0,2785	Valid
5.	PIV1	0,646	0,2785	Valid
6.	PAK1	0,613	0,2785	Valid
7.	PIT1	0,782	0,2785	Valid
8.	PAM1	0,471	0,2785	Valid
9.	PAM2	0,673	0,2785	Valid
10.	PAK2	0,675	0,2785	Valid
11.	PIT2	0,619	0,2785	Valid
12.	PAK3	0,614	0,2785	Valid
13.	PAK4	0,584	0,2785	Valid
14.	PIV2	0,636	0,2785	Valid
15.	P1	0,166	0,2785	not valid
15.	P2	0,009	0,2785	not valid
15.	P3	0,072	0,2785	not valid
15.	P4	0,085	0,2785	not valid
15.	P5	-0,054	0,2785	not valid
15.	P6	-0,083	0,2785	not valid

It can be seen that the respondents' perceptions on the questionnaire questions can be understood so that no editorial changes are needed, it can be seen from questions 1-14 rcount is bigger than rtable then the indicator is declared valid, whereas in question 15 each indicator code is invalid, but researchers cannot delete or change the editorial because question no 15 is an open question for respondents to choose between indicators P1 through P6 according to the perceptions of conditions in their respective companies. While, the reliability test using the help of SPPS 22.0 software is used to find out whether each question has a reliable measurement result. Gauges are said to be reliable if the value of the reliability coefficient (Cronbach's Alpha) obtained exceeds 0.7.

Table 3 Reliability Statistics

Cronbach's Alpha	N of Items
,861	20

In table 3 the results of data processing (Cronbach's Alpha) obtained by 0.861 which exceeded 0.7, so that the questionnaire distribution had reliable measurement results.Normality testing serves to test the assumptions of using the SEM method, the normality test used to analyze normality can be done with a variety of normality analyzes, one of which is by using Kolmogorov-Smirnov. Normality test is done by basing on the Kolmogorov-Smirnov (KS) test using the help of SPPS 30.0 software by looking at the significance value on 2 sides (two tailed), which must have a p-value criterion ≥ 0.05 then the data can be said to be normally distributed. The summary of normality test results can be seen in the following table

Table 4 Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		36
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	4,23283578
Most Extreme Differences	Absolute	,159
	Positive	,106
	Negative	-,159
Test Statistic		,159
Asymp. Sig. (2-tailed)		,022[c]

From table 4, it can be seen the results of the Kolmogorov-Smirnov (KS) normality test by looking at the significance value on two sides (two tailed) which has a p-value criterion of 0.22 is ≥ 0.05, then the data can be assumed as normal and can be continued in SEM data processing -PLS. Quantitative Analysis using SEM-PLS Quantitative analysis is used to predict the relationship between research variables based on HRD's perception on filling out questionnaires that have been distributed, especially in questions 1 to question 15.

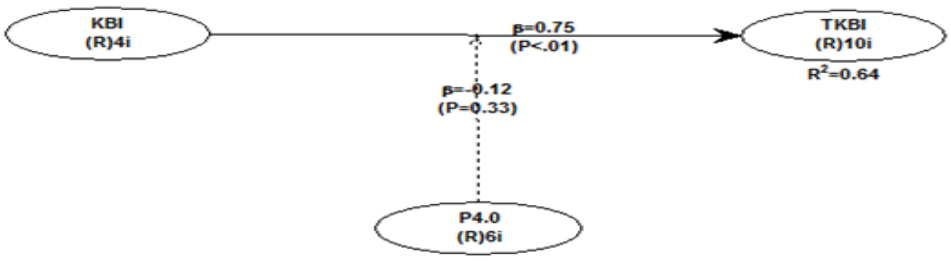


Figure 6 Testing the SEM-PLS Model

Figure 6 shows that the results of data processing using WrapPLS 3.0 software to test the research hypothesis:H1: English Language Competency (KBI) has a positive effect on the level of English language skills (TKBI) of workers required by industry. H2: Education 4.0

(P4.0) moderates positively the effect of English Competence on the level of English skills of workers required by industry

Path coefficients

	KBI	TKBI	P4.0	P4.0*KBI
KBI				
TKBI	0.746			-0.118
P4.0				
P4.0*KBI				

P values

	KBI	TKBI	P4.0	P4.0*KBI
KBI				
TKBI	0.002			0.333
P4.0				
P4.0*KBI				

Picture 7. The result of Coefficient Hypothesis Recruitment

The results of data processing in Figure 6 clearly explained in Figure 7 which then can be indicated that the influence of English language competence (KBI) on the level of English language ability (TKBI) has a positive effect of 0.746 and significant p value of 0.002 (<0.05) so that it can be said that the hypothesis H1 is accepted, whereas based on the results of the sem-pls test analysis H2 decision is rejected which indicates that education 4.0 does not positively moderat the influence of Engineering Students' English Competence at the level of English proficiency and is significant at -0.118 with a p of 0.333 (> 0.05).

Model fit indices and P values

APC=0.432, P=0.006
ARS=0.635, P=0.004
AVIF=1.161, Good if < 5

Figure 8 Testing the Feasibility of the Research Model

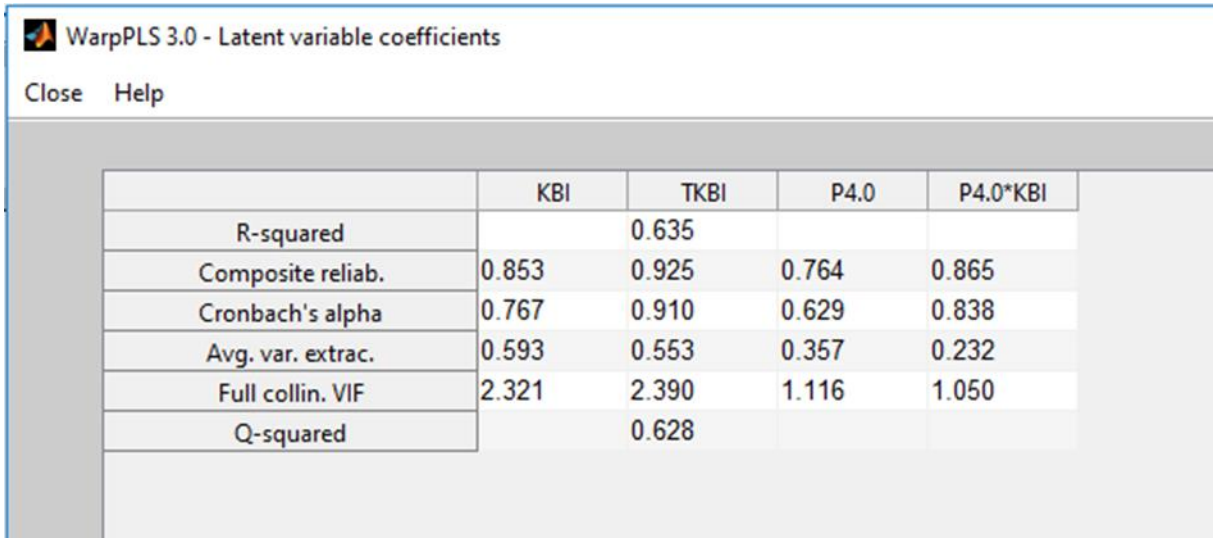
Figure 8 shows the results of data processing using WrapPLS produce p values in APC and ARS less than 0.05 and are significant, and Avif values is less than 5, then goodness of fit has been fulfilled. It can be said that this research model is suitable in measuring the level of English Language competency needs of industrial engineering workers in the context of industry 4.0

Effect sizes for path coefficients

	KBI	TKBI	P4.0	P4.0*KBI
KBI				
TKBI	0.589			0.047
P4.0				
P4.0*KBI				

Figure 9. Effect size results on the path coefficient of the research model

The results of data processing in Figure 9 show the effect size of the influence of English competence on English language proficiency level of 0.589 belonging to the large category, thus English competence has an important role in the level of English language skills of industrial engineering workforce required in industry 4.0.



	KBI	TKBI	P4.0	P4.0*KBI
R-squared		0.635		
Composite reliab.	0.853	0.925	0.764	0.865
Cronbach's alpha	0.767	0.910	0.629	0.838
Avg. var. extrac.	0.593	0.553	0.357	0.232
Full collin. VIF	2.321	2.390	1.116	1.050
Q-squared		0.628		

Figure 10. Results of structural measurements of the inner research model

From figure 10, it can be seen that the reliability of internal consistency is met by looking at composite reliability as a reliability requirement of all KBI, TKBI and P4.0 variables having values greater than 0.7 and VIF below 3.3 which means there is no multicollinearity in the research model, while the AVE value KBI and TKBI above 0.5 which show convergent validity are met. The R-square value in Figure 5.6 is 63.5% which shows the percentage of endogenous / criterion construct variance can be explained moderately by the construct hypothesized to influence it (exogenous / predictor). While the Predictive Relevance (Q2) value of 0.628 indicates the value of predictive validity is very strong and feasible in this research model. The factors that affect the level of English language skills can be seen in table 5.5 which shows the results of testing the reliability of each indicator construction of the variable.

Table 5 Indicator Reliability

No.	Indicator	*Loading Factor*	*P-Value*	**Conclusion**
1	**KBI1**	**0,885**	<0,001	Reliable
2	**KBI2**	**0,745**	<0,001	Reliable
3	**KBI3**	**0,759**	<0,001	Reliable
4	**KBI4**	**0,678**	<0,001	Reliable
5	**PIV1**	**0,723**	<0,001	Reliable
6	**PAK1**	**0,802**	<0,001	Reliable
7	**PIT1**	**0,736**	<0,001	Reliable
8	**PAM1**	**0,658**	0,005	Reliable
9	**PAM2**	**0,753**	<0,001	Reliable

10	**PAK2**	**0,793**	<0,001	Reliable
11	**PIT2**	**0,73**	<0,001	Reliable
12	**PAK3**	**0,737**	<0,001	Reliable
13	**PAK4**	**0,75**	0,003	Reliable
14	**PIV2**	**0,742**	0,006	Reliable
15	**P1**	**0,711**	<0,001	Reliable
16	**P2**	**0,578**	0,095	Less reliable
17	**P3**	**0,388**	0,199	Less reliable
18	**P4**	**0,665**	0,013	Reliable
19	**P5**	**0,64**	0,04	Reliable
20	**P6**	**0,549**	0,036	Less reliable

From table 5, it can be interpreted that the prediction factors that influence the research variables as follows:

1. Factors that affect English proficiency can be reflected by reading indicators (KBI1) with a value of 0.885 is significant, writing (KBI2) with a value of 0.745 is significant, listening (KBI3) with a value of 0.759 is significant, and speaking (KBI4) with a value of 0.678 is significant, so that the English ability of the industrial engineering workforce is reflected in the ability to read, write, listen and speak.

2. Factors that influence the level of English competency can be reflected by 10 indicators PIV1, PAK1, PIT1, PAM1, PAM2, PAK2, PIT2, PAK3, PAK4, PIV2 with loading factor values above 0.7, so that the level of English competence in industrial engineering workforce is reflected at the level of English competence of expert users and independent users, which is reflected in the competence that is able to present ideas, translate modules, understand speech / conversation, translate teleconferences, translate guest conversations, understand online data, understand literacy, explore and analyze English data, summarize statistical data, visualize and interpret English data.

3. Factors that influence the need for the concept of Education 4.0 are reflected in indicators P1, P4, P5 and P6, so that the concept of Education 4.0 is reflected in the workforce in leadership, communicative, digital literacy and emotional intelligence. Quantitative analysis based on the results of a questionnaire distribution survey

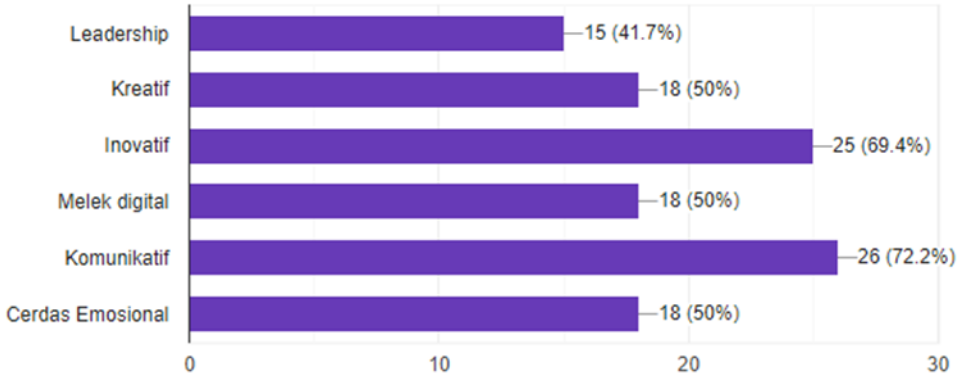


Figure 9 Results of Competency Needs Survey in the Industrial era 4.0

In Figure 9 based on the survey results, the competency requirements needed in the industry 4.0 era for workers in companies are Communicative at 72.2% and Innovative at 69.4%.

Table 6 the Survey of English Needs Ability and Level of Competence

Variable		Min	Max	Mean	SD
English Competence	**KBI1**	3	5	4,36	0,54
	KBI2	3	5	4,17	0,51
	KBI3	4	5	4,39	0,49
	KBI4	3	5	4,25	0,60
Levels of Competence	**PIV1**	3	5	4,00	0,63
	PAK1	2	5	4,00	0,76
	PIT1	3	5	4,11	0,67
	PAM1	2	5	3,92	0,73
	PAM2	3	5	4,08	0,55
	PAK2	2	5	4,08	0,65
	PIT2	2	5	3,89	0,75
	PAK3	2	5	4,11	0,71
	PAK4	2	5	4,11	0,71
	PIV2	2	5	4,11	0,71

Table 6 shows the results of the survey on the range of scale of the level of HRD approval on the capability and competency level needed by the Industrial Engineering graduates in the company in facing the industry era 4.0. The survey results stated that almost all HRD agreed that the English language skills needed by graduates of industrial engineering in the industrial era 4.0 were writing, reading, listening and speaking. The survey results also stated that almost all HRD agreed that the level of English competency required by the workforce industrial engineering graduates in the industrial era 4.0 are expert and independent user categories .From the results obtained from the data analysis, it was found that the results of this study are in line with what was delivered by Kassim and Ali (2010), in his research conducted in Malaysia stated that English became dominant in the field of industry. As a result, English skills become an effective communication tool as well as a vehicle for professional development. Then, Hutchinson&Waters (1986) and Paltridge and Starfield (2013) also suggested that to offer these competitive benefits, practitioners must consider workforce trends, need analysis is needed to explore how language is used in the workplace. Therefore, education experts have a strong mandate to include English for Specific Purpose as teaching material in response to the rapid development of needs (Basturkemen, 2010; Harper & Widodo, 2017) which is the next step after this research. Therefore, this research has followed the existing mandate by analyzing industry needs in order to improve ESP learning in industrial engineering field. Employees are the human resources of a company. The first and foremost thing in the data that appears is that the industry need good speaking and writing skills (productive skills). For speaking abilities, the industry wants workers who are fluent in English in conversation. It is supported by the interview data with some HRD stated that the capability was needed to be used in meetings with stakeholders and superiors from abroad, handling customer visits, customer complaints, negotiations, and training subordinates or colleagues. One HRD leader stated that problem solving, negotiation skills in the production field planner were the skills needed. Negotiations are not only needed for the marketing department, many production planners in industrial engineering graduates are employed by these large manufacturing companies. They are required to negotiate and coordinate well with the relevant departments. For example from setting the production time,

production schedule target, quality checking process by the QC team, until when the results of the production come in, they have to communicate for warehouse finishing, even participate in negotiations with customers from India and Taiwan who only speak English. The second ability is the ability to read. This ability is needed because most production instructions are in the form of procedural or descriptive texts. The module used is mostly English text because the trainers who are invited to train their workers are from the company from abroad. The third ability is the ability to write, the HRD requires employees to have the ability to write in English to make daily, weekly, monthly reports. They were also asked to have fluency in English for correspondence. Not infrequently, employees are also asked to write a kind of project and report in written English. The next ability is mastery of vocabulary related to industrial terminology. This has become a big demand for the students of the Industrial Engineering English course. All English skills are also integrated with digital knowledge, digital automation, online analysis, and coding in English. By using these need analysis we can prepare our students to use English within professional environment (Basturkmen,2006; Harding, 2005)

E. CONCLUSION

The ability of the English industrial engineering workforce is reflected in the ability to read, write, listen and speak while the level of English competence of the industrial engineering workforce is reflected in the level of English competency of expert users and independent users, which is reflected in the competence of being able to present ideas, translate modules, understand speech / conversation, teleconference translators, translate guest conversations, understand online data , understand literacy, explore and analyze English data, summarize statistical data, visualize and interpret English data. Those skills and are integrated with the ability to communicate and digital literacy.

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