Competitivenes and Readines of SMALB Graduate for Entering World of Work and Further Study to 4.0 Based Higher Education"

Subagya[a], Munawir Yusuf[b], Erma Kumalasari[c], Ravik Karsidi[d], Priyono[e], Arsy Anggrellanggi[f]

Universitas Sebelas Maret

E-mail: subagya60@staff.uns.ac.id

Abstract: This research aim to evaluate the competitiveness of Special High School (SMALB) graduates to enter the world of work and further study to higher education. SMALB curriculum consist of 70% vocational and 26 lesson hours and every student is given flexibility to choose two vocations. For SMALB graduates who are not ready to achieve industrial readiness, labor readiness, cultural access, job creation, it will be challenging. Tracer study used as evaluation technique for readiness of SLMAB to further study and enter the world of work. Researchers traced alumni especially in term of job search and further study and the use of competency gains at SMALB. The methodology design that used for the implementation of tracer study consist of four stages, preparation stages, implementation stages, and analytical stages lastly evaluation stages. The subject of this research were teachers and students of SMALB around Central Java Province. Accidental sampling used as sampling technique, which is a sampling technique based on google form which is distributed to all SMALB in Central Java. This was caused by the Covid-19 pandemic, resulting all the data acquired through anyone who accidentally or willing by its consent to responds the questionnaire sent to them. The research results shows that respondents have competitiveness, Alumni of SMALB have a high opportunity to enter higher education and enter the world of work, however it is not in line with the data filled by teacher that the majority (46%), alumni do not work and live at home.

Keyword: competitiveness: graduate; world of work, further study

INTRODUCTION

There are different definitions of competitiveness from one institution to another, however, in general the essence of the various definitions mostly goes to and goes into the context of increasing quality and productivity. *World Bank* (2009). World bank, for example, defines competitiveness as a process of The World Bank (2009), for example, defines competitiveness as a process of change and increasing value added per unit of input. Conceptually, increasing the competitiveness of the workforce is actually an integral part of human resource development (World Bank, 2010a). The education system need a new movement for responding the industry 4.0 era. One of the movements planned by the government is the new literacy movement to strengthen and even shift the old literacy movement. the new literacy movement intended to focused in three main literacy, which 1. digital literacy 2. technology literacy and 3. human literacy (Aoun, 2018). these three skills are predicted to be skills needed in the future or in industry 4.0 era. digital literacy is directed at the purpose of improving reading skill, analytical and the use of information in digital world (big data), technology literacy aims to provide understanding on how the machine work and technology application, and human literacy is directed at improving communication skills and mastery of design

(Aoun, 2017). The new literacy provided is expected to create competitive graduates by perfecting the old literacy movement which only focuses on improving reading, writing and math skills. the adaptation of new literacy movement only can be integrated by adjusting the curriculum and education system as a response of industry 4.0 era (Yahya, 2018).

The industrial revolution is now entering a new phase, it has been in the industry 4.0 revolution where this industry is a worldwide production process that combines 3 important elements, human, machine/robot, and big data (Prasetyo and Sutopo, 2018). The combination of these three elements will drive the entire production to be more efficient, faster and more massive.In accordance with the objectives of the Industrial Revolution initiated by Klaus Schwab, a German economist and founder of the World Economic Forum, that the world will be focused on increasing production by utilizing the latest technology and replacing the use of human-derived resources with tools (technology). Technology advance is getting faster, so humans should be able to adapt faster. Seeing that the role of technology has covered what was previously done by human labor. The adaptation that need to be done is to increase the competitiveness and quality of domestic workforce in order to adapt to the changing of job market.

Irianto (2017) simplifies the challenges of industry 4.0, namely; (1) industrial readiness; (2) trusted workforce; (3) 2017 socio-cultural arrangements; and (4) diversification and achievement of employment opportunities and industry 4.0 opportunities, namely; (1) ecosystem innovation; (2) competitive industrial base; (3) investing in technology; and (4) Integration of Small and Medium Enterprises (SME) and entrepreneurship.

In every challenges there are opportunities. The four challenges above are for SMALB graduates, who are not ready to reach industrial readiness, workforce readiness, and cultural access which includes work. When compared with SMK graduates, the number of unemployed SMK graduates is 11.24% (BPS, 2018). Unemployment for SMK graduates is ironic , because SMK designed to be ready fo the world of work. In contrast to high school graduates who are designed to enter further studies, the unemployment rate is smaller, SMA within 7.95% (BPS, 2018). This of course must be the concern of policy makers because, according to Presidential Regulation Number 41 of 2015 concerning 2 Grand Design for Teaching Factory Development, vocational education has not been able to realize its original purpose, which is to help bridge the gap that exists between industry and the world of education. Data on SMALB graduates have not been found, but it can be assumed that they are not better than SMK or SMA. The results of a survey conducted by the researchers in 2015 on 159 high school graduates in Central Java, who were interested in entering tertiary institutions with 19 children (12%) and 140 children (88%) interested in other vocations (Gunarhadi, Yusuf, & Subagya, 2019). Their specialization has not been facilitated by the school and parents.

Noticing the SMALB curriculum that 26 lesson hours (70%) are the allocation of vocational subjects, then the direction of SMALB graduates to enter the vocational field, although it does not rule out the possibility of continuing their studies at higher education. The curriculum has been prepared, the teacher has received training, it is necessary to evaluate the readiness of SMALB graduates for further study or to enter the world of work based on the industry 4.0 revolution

METHOD

The population in this research were teachers and alumni of SMALB 2020 in Central Java Province. The sampling technique used was incidental sampling technique, in which the researcher sent a questionnaire to all heads of special schools in Central Java via google form. This is due to the government's policy to face the Covid-19 pandemic by studying at home.

The technique of evaluating the readiness of SMALB graduates to further study or enter the world of work uses a Tracer study. Researchers tracked alumni, especially in terms of job search and further studies and the use of competency gains while at SMALB. The methodological design used in the implementation of the tracer study consisted of 4 (four) stages, namely the preparation stage, the implementation stage and the analysis stage, and the evaluation stage.

The preparation stage is developing readiness indicators for entering the world of work and indicators of readiness for further studies, developing research instruments, preparing the media used, and determining sampling techniques. The sampling technique used is the incidental technique, namely the technique of determining the sample based on chance, that is, anyone who accidentally / incidentally meets the researcher can be used as a sample. If it is considered that someone who happened to be met is suitable as a source of data (Sugiyono, 2009).

Implementation stage: This research uses an ex-post facto approach. Primary data were collected by using online questionnaires (google form), secondary data through documentary studies.

Analysis stage: is a documentary study processed with descriptively-quantitative. With the help of SPSS 23. Data were analyzed based on 2 (two) components, namely based on indicators of the readiness of high school graduates to enter the world of work and readiness of special high school graduates to enter further studies. Evaluation and reporting stage: the stage of preparing an evaluation report.

FINDINGS & DISCUSSIONS

Findings

Work Competitiveness

There were 28 respondents (18 men and 10 women) who sent / responded to a questionnaire from 90 special schools who had a high school level in Central Java. This is because not all students have smart phones, the principal's reluctance to forward it to his alumni or the possibility that the school principal sends it to the person concerned but does not respond.

The disabilities of the respondents consisted of deaf, Intellectual disorder and Double handicap. It turned out that visually impaired and disabled people, as well as autism, did not respond to the questionnaire that the researchers distributed. This is because not all special schools in Central Java have alumni of these three types of disabilities.
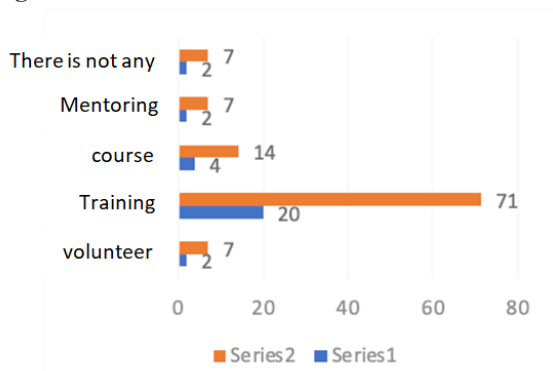
Table 1. Type of Disability

Disability Type	N	%
Double handicap	8	28
Deaf	16	57
Intellectual disorder	4	14

Table 2. Mastered Skill

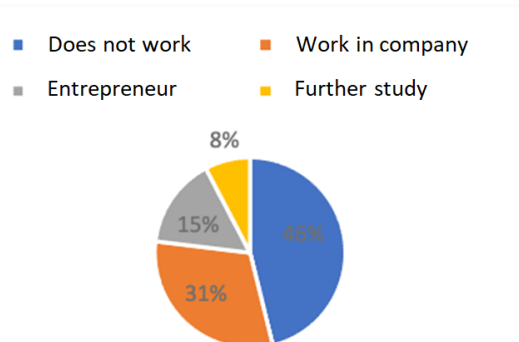| Type of skills	N	%
Housekeeping	2	7
Fashion designer	4	14
Wood crafts	2	7
Dance	2	7
Painting	4	14
workshop	2	7
Beauty salon	2	7
IT	2	7
Screen Printing	2	7
Culinary	4	14
Batik	2	7

Figure 1. School efforts

Figure 2. Work Readiness
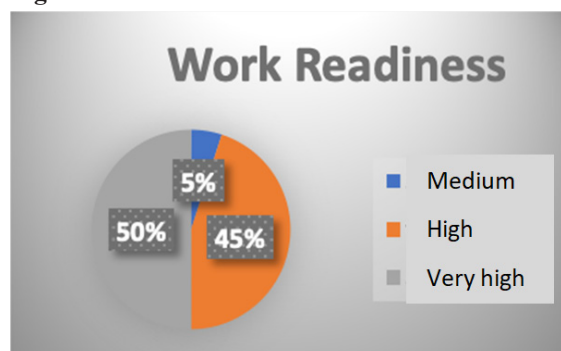
Figure 3. Alumni status

From 28 respondents, it turns out that there are 3 selected skills that are most mastered by the respondents, namely fashion designer, painting, and culinary, respectively 14%. The qualification of teachers in teaching skills subjects was 64% in accordance with the qualifications required and 36% did not match the qualifications as skills teachers.. When viewed from the competency aspect, 71% stated that they had the appropriate competence and 29% were not competent to teach skills. Skills equipment infrastructure states 64% of the equipment is complete and 36% incomplete. Schools that have special skills classes (64%), general skills classes (7%) and regular classes (29%). Schools make various efforts to improve the competitiveness of alumni in the world of work with various ways, the following chart is an illustration of the efforts made by the school. The blue color represents the amount and the yellow represents the percentage, figure 1.

The readiness or work competitiveness of the SMALB alumni is revealed through 31 items showing that 50% have very high work readiness, and the remaining 45% are high. For more details, it can be checked in the figure 2..

The data above is not in line with the confession of those who are ready to work but 48% of them do not work / at home. The status of SMALB alumni in 2020 can be shown in the figure 3.

Higher Education Entrance Competitiveness

There were 20 respondents who responded to the questionnaire. Consisting of 12 men and 8 women. The types of disabilities of the alumni can be checked in the table 3.

Interest in continuing to study in higher education requires sufficient academic. Not everyone who has high interest can be accepted into higher education (public). The highest course scores owned by the respondents were 30% stated that mathematics, Indonesian, and skills were 20% respectively, table 4.

Table 3. Type of Disability Entering Higher Education

Type of Disability	N	%
Visually impaired	3	15%
deaf	12	60%
physically disabled	1	5%
speech impaired	1	5%
Deaf and mute	1	5%
Children with emotional and behavioral disorder	1	5%
Intellectual disorder	1	5%

Table 4. Highest course scores

Course	N	%
Indonesian	4	20
social Sciences	1	5
Skills	4	20
physical Education	1	5
Cultural art	1	5
mathematics	6	30
Religion education	2	10

Table 5. Majors of interest

Majors	N	%
Informatics	1	5
Library	3	15
Agriculture	1	5
Cullinary art	2	10
Entrepreneur	1	5
Graphic design	2	10
PLB	3	15
sport education	2	10
Art painting	1	5
Art	1	5
Computer	1	5
Indonesian	1	5
Not know	1	5

Figure 4. Student Efforts
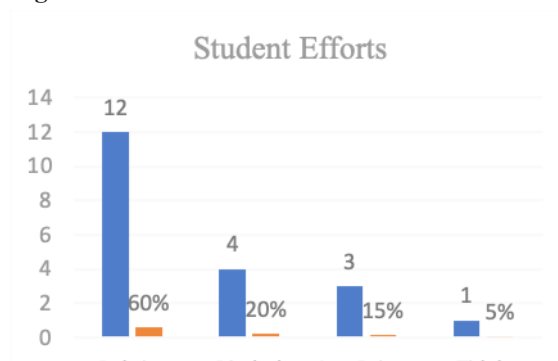
Figure 5. The belief to take a part in Higher Education learning

	Very confiden	convinced	Pretty sure
Percentage (%)	20	50	30
amount	4	10	6
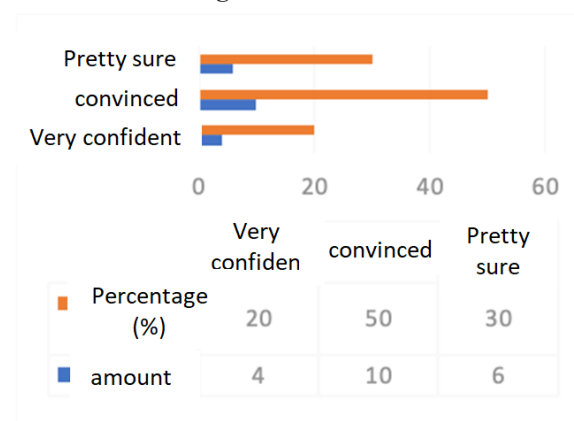
The tendency of SMALB alumni to choose study programs at higher education is Special Education Study Program (15%), Library (15%), Culinary, Sports, Graphics, each 10%, table 5.

To achieved competence graduates who be able to compete at higher education student make various efforts. The effort must be done, because the SMALB curriculum is full of special skill and does not prepare alumni to enter higher education. These efforts can be initiated by the school or the family / students concerned. This effort can be illustrated by the Figure 4. The confidence of alumni being able to take part in learning in higher education is 50% high and 30% very high, figure 5.

In addition to high confidence, it turns out if alumni are accepted into higher education, they still need various forms of assistance, namely 30% sign language services, because they are deaf, require 20% accessibility, table 6.

Behind the belief and need for special services, there are still obstacles that will arise, namely communication (50%), mobility (15%), socialization (10%), table 7.

Table 6. Types of Services Needed in Higher Education

Type of Services	N	%
Sign Language	6	30
Easy study access	4	20
Training and consulting	1	5
Papers	1	5
Accompaniment	2	10
Private lesson	1	5
Not filling	2	10
Sport facilities	1	5
Communication	1	5

Table 7. Obstacle

Type of obstacle	N	%
Communication	10	50
Mobility	3	15
Socialization	2	10
Lack of concentration	1	5
Mastery of the material	1	5
No obstacle	2	10
No answer	1	5

Discussion

Alumni readiness to enter higher education is actually high, reaching 45% and very high 50%. This recognition is not in accordance with the fact that 14 out of 33 children with special needs received at UNS are not all from SMALB but come from SMA/ SMK that provide Inclusive Education.

The readiness of the SMALB alumni is not followed by the trust of the business world to accept them. The business world must accommodate them to make inclusive policies. It has been proven that providing opportunities for persons with disabilities in companies has shown strong loyalty, lower turnover, dependence and increased productivity, as well as physical and psychological safety in the workplace. Creating a disability-friendly culture that benefits and supports employees with disabilities is very important in overcoming bias and stereotypes (Kalargyrou, V., 2014). More than 160 countries have ratified the UNCRPD, making it the accepted global standard for human rights for persons with disabilities (ILO, 2016). Indonesia has ratified the UNCRPD into Law number 19 of 2011. More explicit in Law Number 8 of 2016 concerning Persons with Disabilities, article 53 which states that government agencies must provide a minimum opportunity of 2%, and private institutions 1% for persons with disabilities (Law Number 8 of 2016).

CONCLUSIONS

According to the assessment of the SMALB graduates, they have good competitiveness to enter the world of work and continue their studies in higher education. Their readiness to enter the world of work is not accompanied by opportunities for the world of work to accept them, so that most of the SMALB graduates remain unemployed at home. Interest and readiness to enter further studies are not followed by a curriculum that supports the necessary academic mastery, and lacks career guidance, so that even graduates have a high interest in continuing their studies to higher education, still fail to be accepted into higher education (public)

REFERENCES

Afandi, A. (2015) Modul *Participatory Action Research* (PAR) untuk Pengorganisasian Masyarakat (*Community Organizing*). Surabaya: LPPM UIN Sunan Ampel.

Aoun, J.E. (2017). *Robot-proof: higher education in the age of artificial intelligence*. US: MIT Press.

Badan Pusat Statistik. (2018). Tingkat Pengangguran Terbuka (TPT) sebesar 5,34 persen. Retrieved from https://www.bps.go.id/ pressrelease/2018/11/05/1485/agustus-2018-- tingkat-pengangguran-terbuka--tpt--sebesar-5-34- persen.html

Gunarhadi, Yusuf, M., Subagya. (2019). Pengembangan model transisi pasca sekolah untuk anak berkebutuhan khusus. LPPM UNS. Laporan Penelitian.

Kemdikbud. (2017). *Statistik Persekolahan PLB 2016/2017*. PDSPK. Kemdikbud: Jakarta Pusat.

ILO. (2016). *The Competitive Advantage of Hiring Persons with Disabilities. ILO. Diunduh dari:* https://www.ilo.org/wcmsp5/groups/public/- --asia/---ro-bangkok/---ilo-dhaka/documents/ publication/wcms_543490.pdf

Pemerintah. (2016). *Undang-undang Nomor 8 tahun 2016 tentang Penyandang Disabilitas.*dapat diunduh dari: https://peraturan.bpk.go.id/Home/ Details/37251/uu-no-8-tahun-2016

Prasetyo, H., & Sutopo, W. (2018). Industri 4.0: Telaah klasifikasi aspek dan arah perkembangan riset. *Jurnal Teknik Insdustri (J@TI). 13*(1), 17-18.

Sugiyono.(2009). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D. Bandung : Alfabeta.

World Bank. (2010a). *Stepping Up Skills, For More Jobs and Higher Productivity*. Washington: the World Bank.

Kalargyrou, V. (2014). Gaining a Competitive Advantage with Disability Inclusion Initiatives**.** *Journal of Human Resources in Hospitality & Tourism 13*(2),120-145.