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Entrepreneurship Integration and Digital Technology in Vocational Education: Factors

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ABSTRACT

There must be an evaluation of new approaches to entrepreneurship in the domain of education in fulfilling the demands of the current era, that is to adapt with the environmental business changes and digital technology that occur in a country. This research aims to study the condition of integration implementation factors in vocational education related to entrepreneurship and digital technology. The method used is quantitative descriptive, including the evaluation research category with data processing and analysis of instrument test such as; validity test, reliability instrument, and then by using Respondent Level Achievement (RLA) technique to analyze the collected data. Research findings of the results and discussions show that the value of variable aspects indicators of vocational education is varied and there tend to be many indicators that still have low value. It indicates that there must be improvement for the school that scores low and development for the school that scores good. The cooperation among schools can become one of alternative solutions to improve the downsides that exist at schools. The schools that score the highest value of aspects/indicators can be best practice for the schools that still have low scores.

Introduction

In 2020, the United States of America (US) through the Office of the US Trade Representative (USTR) in the World Trade Organization (WTO) has classified Indonesia as one of the developed countries, no longer as a developing country. A developed country is a country that enjoys a relatively high living standard and an equitable economy. One of the impacts as a developed country

is that Indonesia must be able to push and increase product competitiveness (goods/services). To retain and improve this progress, a continuous effort through sustainable development is needed. The concept of sustainable development according to (Salim, 2020) is a process of development that optimizes the benefits of human and nature resources, to improve the community welfare in accordance with their needs, without sacrificing the skills and needs of the future generation. In reality, Indonesia still faces many challenges and problems in development, for example in the efforts to increase per capita and equity, access improvement and quality of education, mastery of science and technology, and expansion of employment opportunities.

The data condition of employment opportunities expansion according to Central Bureau of Statistics (BPS, 2020) in June 2022, the number of populations in Indonesia was 275,36 million people with a level open unemployment rate of 8,4 million people. One of the factors thought to contribute to this increasing unemployment level is the dependence of workers on the formal sector. On the contrary, the entrepreneurial sector still has not developed yet as it has in developing countries. The ratio of the number of entrepreneurs in Indonesia in 2022 was only 3,47%, still lower than the neighbouring countries, for instance, Singapore which had an 8,5% ratio of the number of entrepreneurs, likewise Malaysia and Thailand reached 4,5%. The data is strengthened by the Global Entrepreneurship Index (GEI), Indonesia is still in 75th out of 137 countries. Policies and regulations need breakthroughs such as learning models that must be relevant to the teaching factory (TEFA) concept, using Project-Based Learning (PBL) and digital technology or online markets to sell products. This model is needed by teachers to improve their competence and develop a more integrated creative economy learning model (Swaramarinda & Nurmalasari, 2017).

The implementation of the Indonesian government to improve the competence of vocational education graduates, in 2018, created the "Entrepreneurial School (SPW)" program, a collaboration between the Directorate of Vocational High School Development and the Southeast Asian Ministers of Education Organization (SEAMEO). The main goal of vocationalization is to improve the relevance of education and vocational guidance with the needs of the world of work's development (Business Sector) in realizing a competitive wealthy country and sustainable development-oriented (Sudira, 2012).

Vocational education, entrepreneurship, and digital technology in today's era are some of the important components in the development of a country. The decree of the Minister of Education and Culture Number 17/M/2021 about the Vocational High School Centre of Excellence which explains the program of Vocational High School Centre of Excellence that aims to produce graduates who will be absorbed in the world of work or become an entrepreneur through alignment of in-depth and

comprehensive vocational education with the world of work and is expected to be the center of quality improvement and reference for another vocational high school. One of the efforts to push entrepreneurship growth in Indonesia is the increment of synergy among educational institutes, business sectors, and industry. The partnership must be built based on a collaborative entrepreneurship learning framework to conduct relevant entrepreneurship projects in a knowledge-intensive company (Van Horne et al., 2021).

Result of the research shows that entrepreneurship in the educational area needs a new approach evaluation in pedagogy, that is to adapt to business environment change happening in a country (Ncube & Lekhanya, 2021). The factors that affect the intention to become an entrepreneur, the key of success in entrepreneur learning is in innovation and the teacher's creativity, specifically in the utilization of learning strategy (Raveendra et al., 2018). Vocational education and entrepreneurship education are two things that cannot be separated and the graduates cannot depend only on the availability of employment opportunities, instead, they can open up more employment opportunities (Ganefri et al., 2022). The development of the business world these days has been developing by the emergence of digital technology. Various terms regarding entrepreneurship and digital technology pop up, such as; e-commerce, mobile commerce, Artificial Intelligence, Internet of Things (IoT), and so on. The result of research shows that digital technology has brought many advantages for organizations in several essential parts like centralization, access to the new market, transparency, and long-distance relationships related to the use of digital technology in business operations (Bai, 2021). To connect entrepreneurship skills and digital technology, the role of education is highly needed to increase human resource skills.

The results of the study recommend that learning entrepreneurship requires real activities (hands-on) by involving students in real business activities in production units in entrepreneurship learning (Mahfud, 2012). The learning model for entrepreneurship subjects so far in vocational schools is still classical, characterized by teacher-centeredness, so that the learning objectives achieved are only theoretical cognitive aspects, while the affective and psychomotor aspects are less achieved. Entrepreneurship education and learning need to evaluate new approaches in pedagogy, namely adapting to changes in the business environment that occur in the country (Ncube & Lekhanya, 2021). Factors that influence entrepreneurial intention, in addition to adjusting the pedagogical approach to changes in the business environment in a country, namely the key to the success of entrepreneurship learning, lie in the innovation and creativity of teachers, especially in the use of learning strategies (Sudarmiatin et al., 2017). Because educational strategies with lecture and experiential learning methods do not achieve the desired results to ensure that graduates can

become entrepreneurs and create jobs in Zimbabwe (Mawonedzo et al., 2021).

The increasingly rapid development of digital technology has greatly influenced the development of the business and education world. The impact of digital technology makes the business world and education must be able to adapt. The rapid development of digital technology can become solutions or problems depending on the readiness of institutions and business sectors. Many researches have been done in the field of education and entrepreneurship that are in accordance with metadata information. However, the data publication research which is related to entrepreneurship for the vocational field and digital technology is still limited. So there is a need for the research about vocation, entrepreneurship and digital technology that is more comprehensive and deeper. Therefore, this research studies the condition of integration implementation factors in vocational education regarding entrepreneurship and digital technology.

Method

Participants

The participants consist of teachers and vocational high school students. By utilizing population data of teachers and SMK Negeri (State Vocational High School) spread around West Java Province. The criteria of SMK (Vocational High School) which has superiority in every regency, that is Bandung City, Bandung Regency, West Bandung Regency, Tasikmalaya City, Ciamis Regency, and Sukabumi Regency. The chosen vocational schools in this research are the schools that have superiority in the service area. The criteria used to identify the superiority is seen from accreditation, internet speed, and certification of ISO 9001:2008.

The main data of education from the Ministry of Education, Research, Technology, and Culture of the Republic of Indonesia shows that West Java Province has 288 (10%) of state schools and 2634 (90%) of private schools, this research uses the population of state schools in West Java. The data population consists of teachers and final year students with the details of the number of teachers' population is 1.644 and 7.784 of final year students. In order to obtain participants, this research exerts Slovin method with stratified sample analysis. From the analysis, it is obtained that the result per school needs minimally 5 teachers and 31 students. The participants from six vocational high schools in West Java consist of 261 participants, that is 43 of teachers and 218 of students. The data of participant percentage seen from gender consists of 55,17% female and 44,83% male, and it is also gained from the data percentage of students' aspirations who are the participants that after graduating from the school, 52,72% of them want to work, 19,67% want to continue their study, and 27,62% want to be entrepreneurs.

Instruments and Data analysis

The instruments used in this research are questionnaire, with the scale of measurement which is used is five likert scale consists of level 1 to 5, that is: (1) totally inappropriate, (2) inappropriate, (3) sufficiently appropriate, (4) appropriate, and (5) very appropriate. The research instruments consist of seven aspects of the vocational high school activities process, such as: school subjects, extracurricular, self-development/career-guidance, the switch of concept from theory to practice, learning materials, school culture, local content subject (Mulyani, 2010).

This research uses quantitative descriptive method, descriptive quantitative analysis technique which is used for testing, and a measurement based on calculation of mathematics and statistics. The data collecting method uses survey, observation, and questionnaire. The research by using quantitative methods utilizes theory deductively with the aim to test or verify a theory rather than develop it. Hence, a quantitative research should propose a theory, collect the data to examine the theory and declare a confirmation or disconfirmation for the theory in accordance with the obtained result (Creswell, 2016).

The stages of processing and analyzing data instrument tests are; first, instrument validity test to find out whether the questions of instruments are already matched with the built theory concept. In general, an item is declared valid if it has an rxy value above 0.3, although there are also experts who say that an item validity value of 0.25 is said to be valid (Idrus 2009). The validation test criteria are if the price of t count > t table with a confidence level of 95% and degrees of freedom (n-2) then the question item is said to be valid. We conducted the validity test using Office Excel software and the SPSS program.24.

The result of instrument validity is that from all indicators, there is only one invalid instrument in the four variable items of entrepreneurship ecosystem aspect of actors (business communities surrounding the schools contribute in the development of educational entrepreneurship). Second, the result of the reliability test on each construct has Cronbach's alpha value with > 0,06 on each. The result indicates that the collected data by using questionnaire instruments either variable X1 (entrepreneurship ecosystem), X2 (digital technology ecosystem), or variable Y (vocational high school) are reliable.

Third, this research uses the frequency distribution analysis RLA (Respondents' Level of Achievement) technique to analyze the collected data. Respondents' Level of Achievement is an evaluation method by arranging evaluated persons based on their level towards the varieties of evaluated characteristics. The research method shows a scale assessment, "Master Scale", it is a measurement scale that generally displays five levels of certain characteristics; very good, good,

sufficient, insufficient, and not good (Sugiyono, 2012).

Frequency distribution is a statistical method used to present data in the form of tables or graphs, with the aim of showing the distribution or spread of values in a group of data. Frequency distribution is used to find out how respondents' achievements are spread across various categories or certain intervals. This is important to know the patterns, tendencies, and characteristics of respondent data. Several stages determine the analysis of frequency distribution, such as; determining the range of data, calculating the minimum and maximum values of respondent achievement data, determining the number of classes or categories in the frequency distribution can be determined by the Sturges rule, determining categories or intervals, calculating relative frequencies, calculating cumulative frequencies, calculating averages, calculating standard deviations, and data interpretation and data visualization. The research result covers respondents' general description, validity test, reliability test, and frequency distribution analysis by using SPSS 24 which is then reprocessed to acquire the Respondents' Level of Achievement value percentage.

Result and Discussion

The results of the Respondents' Level of Achievement (RLA) frequency distribution analysis.

Writing data analysis uses a quantitative descriptive method with data presentation technique that comes from statistics which then a systematic and accurate observation of the facts between the phenomena being studied is carried out. This research utilizes RLA techniques to analyze the collected data. Respondents' Level of Achievement is an assessment method by arranging the participants being assessed based on their ranking on various assessed traits. This research displays a "Master Scale" assessment scale that commonly indicates five certain levels of specific traits. To describe a master scale the from various traits can be seen on the following table 1:

Table 1. RLA Scale Range

No	Scale range	RLA
1	85%-100%	Very good
2	66%-84%	Good
3	51%-65%	Sufficient
4	36%-50%	Insufficient
5	0%-35%	Not good

Source: (Sugiyono, 2012)

Level of Respondents' Achievement in State Vocational High Schools/SMKN in West Java.

The factors of integration Vocational Education in Entrepreneurship and Digital Technology.

In this research, the study of vocational education factors, there are several aspects that is going

to be discussed, for instance; entrepreneurship education digital technology-based which is integrated in the school subject (Y1), entrepreneurship education and digital technology that is integrated in the extracurricular activity (Y2), entrepreneurship education through self-development and career guidance (Y3), changes in the implementation of entrepreneurship learning and digital technology from the concept of theory to practice (Y4), the integration of vocational education, entrepreneurship, and digital technology into learning materials/textbooks (Y5), the integration of vocational education, entrepreneurship, and digital technology through the school culture (Y6), the integration of vocational education, entrepreneurship, and digital technology through the local content subject (Y7). Those aspects have indicators that can be a measurement to obtain RLA value.

Entrepreneurship Education RLA Value from the Aspect of Digital Technology-Based Entrepreneurship Which Is Integrated in the School Subjects (Y1)

The result of realization at the schools according to the perspective of teachers and students with RLA value approach from every aspect indicator of school subject at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi. The following are the results obtained from each school in turn; every vocational subject which is delivered has contents about entrepreneurship (Y1.1) got an RLA value of 88,95%, 79,50%, 77,14%, 86,00%, 78,10%, and 81,38%. The learning material of entrepreneurship subject learned is in accordance with the digital technology development (Y1.2) gained an RLA value of 83,16%, 73,50%, 77,14%, 84,80%, 72,38%, and 67,24%. The school has a specific subject about digital technology development (Y1.3) obtained an RLA value of 70,00%, 69,50%, 70,48%, 77,60%, 75,71%, 75,71%. After studying the vocational subjects and entrepreneurship subjects, the students are interested to become entrepreneurs (Y1.4) acquired an RLA value of 82,63%, 71,50%, 71,43%, 83,60%, 80,00%, and 71,38%. The learning materials of vocational subjects learned is compatible with the development of digital technology (Y1.5) obtained an RLA value of 81,05%, 69,00%, 79,05%, 84,40%, 75,24%, and 73,45%. The examples in the subjects have a connection with the current entrepreneurship and digital technology development (Y1.6) gained an RLA value of 78,95%, 72,00%, 74,76%, 81,20%, 73,33%, and 54,48%.

The average percentage results of RLA value approach from every aspect indicator of subjects at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi acquired a score ranging from 70,69%-80,79% that indicates a good category.

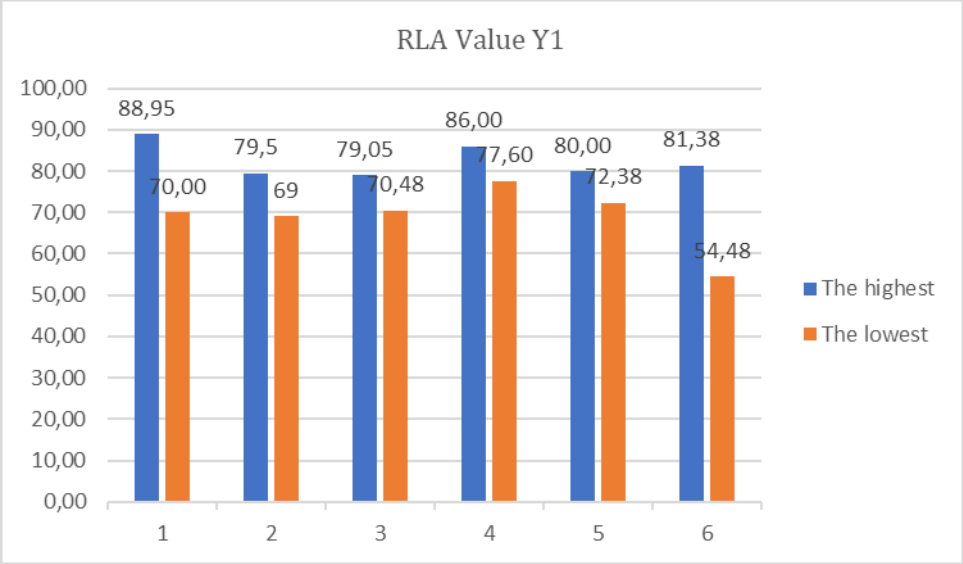

Fig 1: The highest and the lowest RLA value in the aspect of Digital Technology-Based Entrepreneurship Which Is Integrated in the School Subjects.

Entrepreneurship Education and Digital Technology Which Is Integrated in the Extracurricular Activity (Y2).

The results of realization at the schools according to the perspective of teachers and students with the approach of RLA value from each extracurricular indicator aspects at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi. The following are the results obtained from each school in turn; the school has an extracurricular that can facilitate the students' interests in entrepreneurship (Y2.1) obtained a score of 67,89%, 49,00%, 74,76%, 92,40%, 81,43%, 67,24%. The school has an extracurricular program that can facilitate the students' interests in digital technology (Y2.2) gained a score of 60,53%, 54,50%, 74,76%, 88,80%, 68,10%, 73,45%. The entrepreneurship extracurricular has complete facilities (Y2.3) acquired a score of 60,53%, 44,00%, 65,24%%, 77,60%, 60,95%, 55,86%. The extracurricular that is related to digital technology has complete facility that is in line with the current development (Y2.4) got a score of 64,74%, 50,50%, 70,48%, 82,00%, 60,95%, 60,00%. The extracurricular mentor of entrepreneurship and digital technology has good skills in the field (Y2.5) obtained a score of 62,63%, 54,50%, 71,90%, 80,80%, 69,52%, and 66,90%. Many students join the extracurricular of entrepreneurship and digital technology (Y2.6) gained a score of 57,37%, 48,00%, 63,33%, 75,60%, 62,38%, and 58,97%.

The average percentage results of RLA value approach from every extracurricular aspect indicator acquired varying scores, for instance SMKN X Bandung City scored 62,28% which indicates

a sufficient category, SMKN X West Bandung Regency scored 50,08% which shows an insufficient category, SMKN X Tasikmalaya City scored 70,08% which displays a good category, SMKN X Ciamis scored 82,87% which means a good category, SMKN X Baleendah Bandung Regency scored 67,22 which shows a good category, and SMKN X Sukabumi scored 63,74% which indicates a sufficient category.

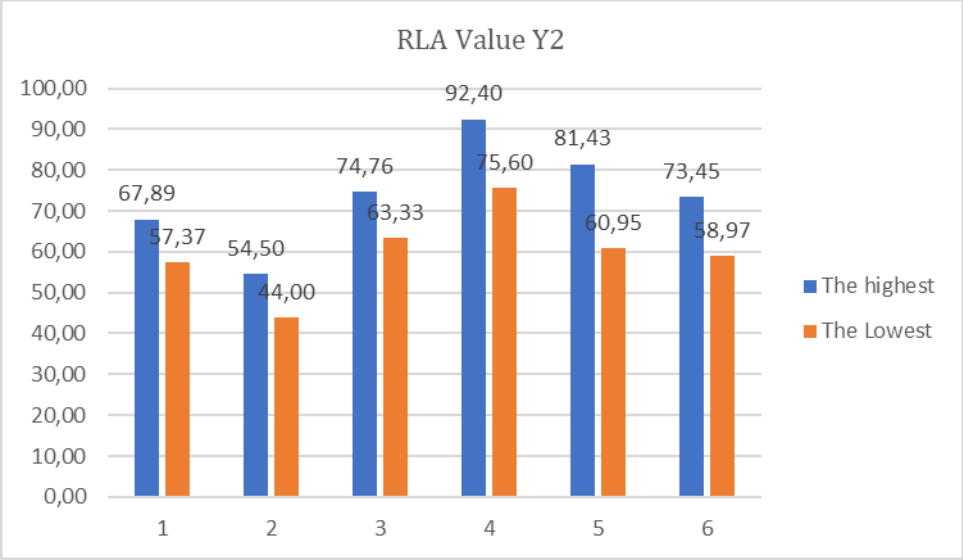

Fig 2: The highest and the lowest RLA Value in the aspect of integrated Entrepreneurship Education and Digital Technology in the Extracurricular Activity.

Entrepreneurship Education Through Self-Development and Career Guidance (Y3)

The results of realization at the school according to the perspective of teachers and students with the RLA value approach from each indicator in the aspect of self-development and career guidance at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN Sukabumi. The following are the results obtained from each school in turn; the school has facilities for self-development consultation in the field of entrepreneurship and digital technology (Y3.1) acquired an RLA value of 73,68%, 54,50%, 72,86%, 81,60%, 64,29%, and 66,55%. The career guidance is very helpful in providing insight to the students to understand the integration among vocational knowledge, entrepreneurship, and digital technology (Y3.2) got a score of 81,58%, 68,50%, 84,29%, 85,20%, 75,24%, 78,28%. The career guidance officer has good skills and knowledge about vocational science, entrepreneurship, and digital technology (Y3.3) obtained a score of 74,74%, 72,50%, 78,57%, 87,60%, 71,43%, and 75,52%. Many students are interested to know their potentials by utilizing the career guidance facility at the school (Y3.4) gained a score of 81,58%, 66,00% 78,10%,

82,00% 68,57%, and 71,72%. The school provides outreach or invites successful entrepreneurs to provide insight for the students (Y3.5) obtained a score of 80,00%, 72,50%, 74,76%, 85,20%, 60,48%, and 77,59%.

The average results of RLA value approach from every aspect indicator of school subject at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi got a score ranging from 66,80%-84,32% that indicates a good category.

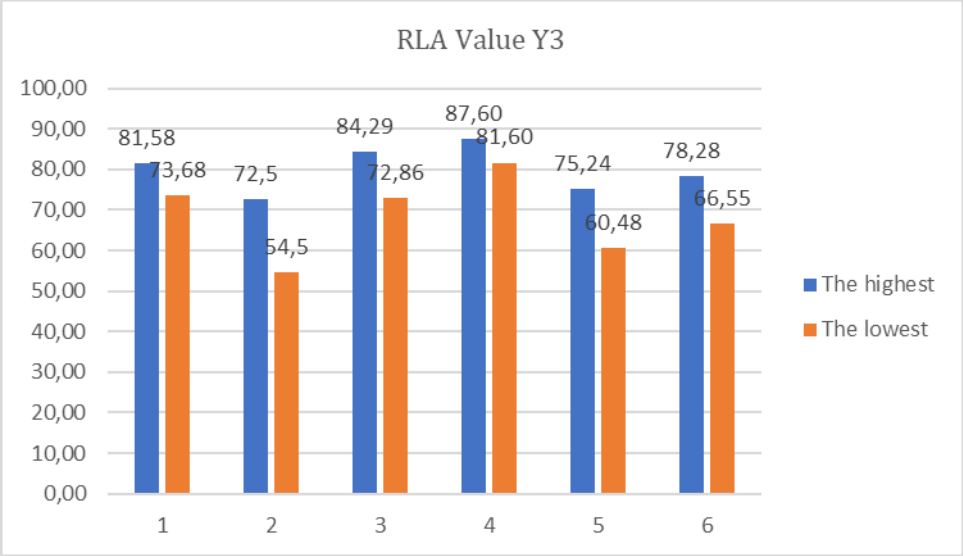

Fig 3: The highest and the lowest RLA Value in the aspect of Entrepreneurship Education Through Self-Development and Career Guidance.

Changes in the implementation of entrepreneurship learning and digital technology from the concept of theory to practice (Y4).

The results of realization according to the perspective of teachers and students with RLA value approach from each indicator in the aspect of concept of theory to practice at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi. The following are the results gained from each school in turn; learning teaching activities at the school involve more practice than theory (Y4.1) gained an RLA value of 78,42%, 84,50%, 78,10%, 79,20%, 70,95%, and 81,72%. The school has a business unit/cooperative which can be used by the students to conduct digital-based entrepreneurship practice (Y4.2) got a score of 73,68%, 54,00%, 73,81%, 80,40%, 76,19%, and 66,21%. The school gives opportunity to the students to conduct internships in the external institute in order to provide science experience in the field of digital-based entrepreneurship (Y4.3) acquired a score of 80,53%, 76,00%, 77,14%, 83,60%, 76,67%, and 73,79%. The students are equipped with trainings about

digital-based entrepreneurship by bringing an experienced speaker (Y4.4) gained a score of 81,58%, 68,00%, 70,95%, 82,40%, 69,05%, and 74,48%. The school gives optimal support to the students who participate in the digital technology-based entrepreneurship competition (Y4.5) obtained a score of 76,84%, 63,00%, 70,95%, 82,00%, 67,62%, and 71,72%.

The average results of RLA value approach from every aspect indicator of school subject at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi acquired a score ranging from 69,10%-81,52% that indicates a good category.

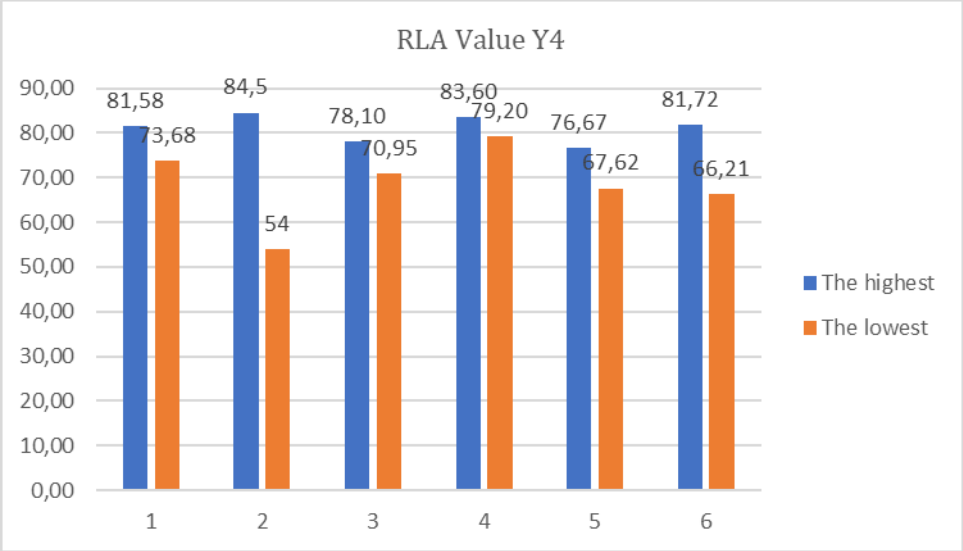

Fig 4: The highest and the lowest RLA Value in the aspect of Entrepreneurship Learning Implementation and Digital Technology from the Concept of Theory to Practice.

Integration of Vocational Education, Entrepreneurship, and Digital Technology into the Learning Materials/Textbooks (Y5)

The results of realization according to the perspective of teachers and students with RLA value approach from every indicator aspect of learning materials/textbook at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi. The following are the results gained from each school in turn; In addition to explaining vocational skills in specific fields, the textbook material also explains opportunities in the world of entrepreneurship (Y5.1) acquired an RLA value of 73,16%, 76,50%, 73,81%, 86,00%, 74,76%, and 75,52%. In addition to explaining vocational skills in specific fields, the textbook material also explains developments in digital technology (Y5.2) obtained a score of 72,11%, 63,50%, 71,90%, 84,40%, 74,76%, and 69,66%. The school has entrepreneurship textbooks that can be used as a guide for students in learning activity (Y5.3) got a score of 65,26%,

69,00%, 72,38%, 83,20%, 76,67%, and 73,79%. The school has digital technology textbooks that can be a guide for students in learning activity (Y5.4) gained a score of 66,32%. 60.50%, 66,67%, 83,20%, 70,00%, and 72,76%. The school has access to digital literacy in the form of e-book that can be accessed by students (Y5.5) obtained a score of 65,26%, 49,50%, 67,62%, 79,20%, 57,14%, and 70,34%.

The average results of RLA value approach from each aspect indicator of school subject at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency and SMKN X Sukabumi got a score ranging from 63,80%-83,20% that indicates a good category.

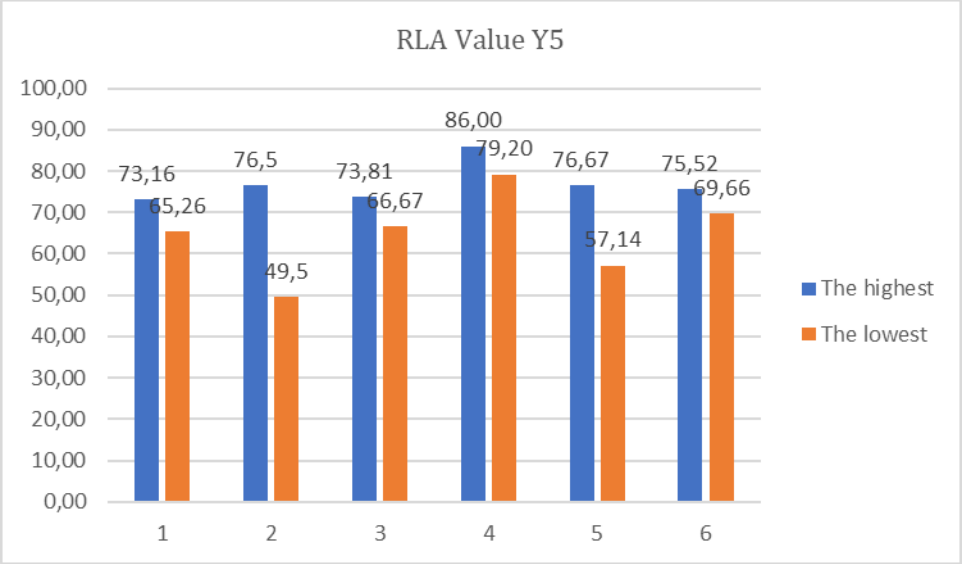

Fig 5: The highest and the lowest RLA Value in the aspect of Integration of Vocational Education, Entrepreneurship, and Digital Technology into the Learning Materials/Textbook.

Integration of Vocational Education, Entrepreneurship, and Digital Technology Through School Culture (Y6).

The results of realization at the school according to the perspective of teachers and students with RLA value approach from every aspect indicator in integration of vocational education, entrepreneurship, and digital technology through school culture at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi. The following are the results gained from each school in turn; Vocational Education, entrepreneurship, and digital technology can create a school situation that builds students' independence (Y6.1) obtained an RLA value of 84,74%, 66,55%, 83,33%,

86,80%, 77,14%, and 80%. The school creates a situation that can grow thinking ability and act creatively (Y6.2) got a score of 84,21%, 70,50%, 81,43%, 88,40%, 77,62% and 77,93%. The school gives opportunity for students to develop their potential of digital technology-based entrepreneurship in the vocational field that has been studied (Y6.3) gained a score of 83,68%, 72,00%, 78,10%, 85,20%, 74,29%, and 81,38%. The school provides excellent service for students to develop their ideas (Y6.4) acquired a score of 75,79%, 63,00%, 72,38%, 79,20%, 75,71%, and 72,41%. The school creates a situation that can develop the students' leadership talent (Y6.5) gained a score of 79,47%, 74,00%, 81,43%, 90,00%, 78,57%, and 80,34%.

The average results of RLA value approach from every aspect indicator of school subject at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi obtained a score ranging from 69,20%-85,92% that indicates a good category.

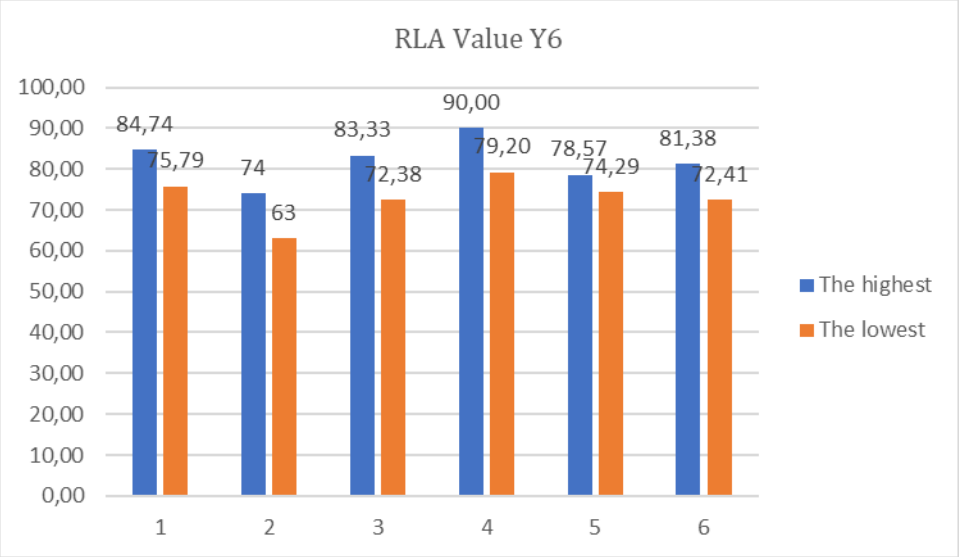

Fig 6: The highest and the lowest RLA value in the aspect of Integration of Vocational Education, Entrepreneurship, and Digital Technology Through School Culture.

Integration of Vocational Education, Entrepreneurship, and Digital Technology Through Local Content Subject (Y7).

The results of realization at the school according to the perspective of teachers and students with RLA value approach from each aspect indicator in integration of vocational education, entrepreneurship, and digital technology through local content subject at SMK Negeri X Bandung City, SMKN X West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi. The following are the results gained from each school in

turn; The school utilizes the potentials of the surrounding area to strengthen the field of vocational science and entrepreneurship (Y7.1) got RLA value of 80,00%, 72,00%, 72,86%, 82,00%, 67,62%, and 74,14%. In the learning teaching process, especially the local content subject, relates to entrepreneurship potential (Y7.2) gained a score of 81,58%, 69,00%, 74,29%, 78,40%, and 70,34%. The school collaborates with the surrounding environment, especially in the field of entrepreneurship to facilitate students to know about their area (Y7.3) obtained a score of 81,05%, 70,50%, 66,19%, 74,40%, 63,81%, and 68,97%. The school has a significant role to in the progress of regional economic development (Y7.4) acquired a score of 83,68%, 71,50%, 76,67%, 86,40%, 78,57%, and 73,79%. Many school graduates who play a role in managing economic potential of their regions (Y7.5) got a score of 82,11%, 77,50%, 74,76%, 81,20%, 75,71%, and 76,90%.

The average percentage results of RLA value approach from each aspect indicator of school subject at SMK Negeri X Bandung City, SMKN West Bandung Regency, SMKN X Tasikmalaya City, SMKN X Ciamis, SMKN X Baleendah Bandung Regency, and SMKN X Sukabumi gained a score ranging from 71,33%-81,68% that indicates a good category. To cultivate such an environment, a synergistic relationship between educational institutions, businesses, and industries is imperative. The proposed framework advocates for collaborative entrepreneurship learning to facilitate the execution of relevant entrepreneurial projects within knowledge-based enterprises (Secundo et al., 2017).

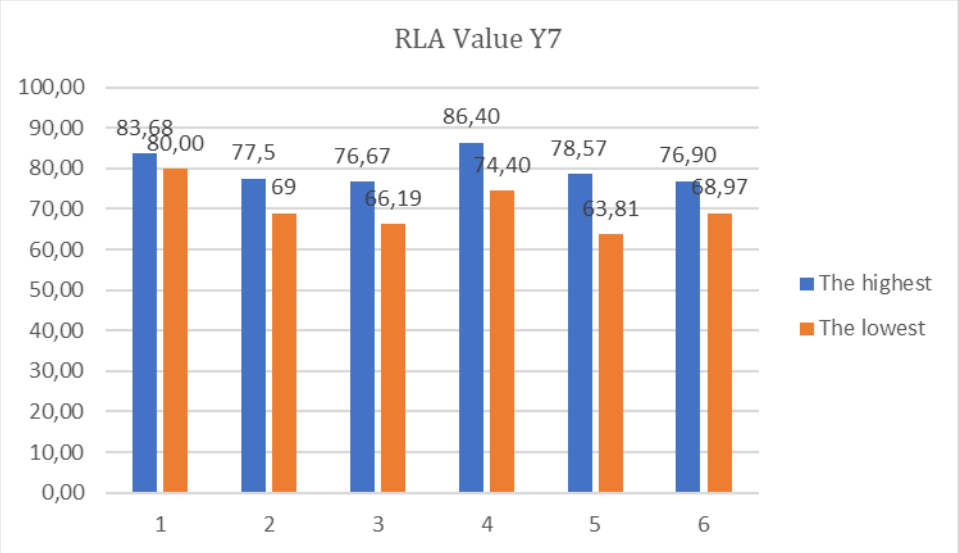

Fig 7: The highest and the lowest RLA value in the aspect of Integration of Vocational Education, Entrepreneurship, and Digital Technology Through Local Content Subject.

Digital entrepreneurship is an innovative step in fostering entrepreneurial spirit and entrepreneurial character in education. The process of entrepreneurship in vocational education with the integration of digital technology is an innovative step that must be taken considering the increasingly strong flow of digitalization so that the spirit and personality of entrepreneurship can be improved (Rizal et al., 2022). The difference between this study and previous studies is in the scope that will be found in several criteria such as trends in the development of publications in the fields of education and entrepreneurship seen from institutions, authors and trend topics that are currently being widely researched.

Innovation is a trend found in this study, meaning that entrepreneurship education needs to carry out continuous innovations to meet the development of the times. At this time, digital technology has emerged as an unavoidable need. The rapid and rapid development of digital technology greatly influences the development of the business and education worlds. The influence of digital technology makes the business and education worlds must be able to adapt. The speed of digital technology development can be a solution or a problem depending on the readiness of educational and business institutions. With the rapid digitalization of products and services across industries, entrepreneurial opportunities in this market (products and services) are also increasingly open with digital technology (Nambisan, 2017).

The integration of entrepreneurship education and vocational education is very important because in addition to vocational education graduates having competence, graduates are also required to have good entrepreneurial attitudes and competencies. Vocational education students who are mentally able to work in the field but are not accompanied by entrepreneurial experience will be a problem in the future. Vocational graduates who have entrepreneurial provisions must be able to compete in the job market and survive. Entrepreneurship education with a production-based learning approach provides opportunities for students to be able to apply the results of project work in the form of quality and highly marketable business plans. In addition, independence and entrepreneurial attitudes will also grow and emerge along with the integration of entrepreneurship learning in vocational education. The soul and spirit of entrepreneurship need to be transmitted and improved in students, this will have an impact on the vocational education environment to be better. Production-based learning is very appropriate as a basis for developing entrepreneurship pedagogy in vocational education, and policies and rules are needed to realize the competence of quality vocational education graduates (Ganefri et al., 2022).

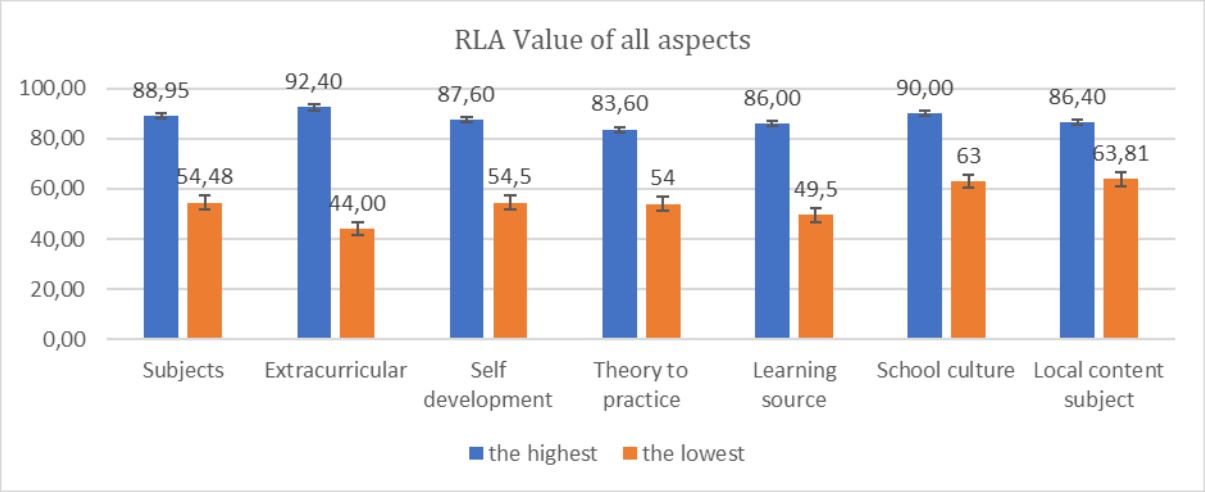

Fig 8: The Lowest and the Highest RLA Total Value in all aspects.

The results of analysis of respondents' achievement level of every aspect in the vocational high schools in West Java Province. The following are the findings for each indicator from the highest category as well as those with very low suitability. The aspect of entrepreneurship education digital technology-based integrated in the school subjects, obtained the highest score on indicator "Every vocational subject which is delivered has contents about entrepreneurship". While the lowest score is on indicator "The examples in the subjects have a connection with the current entrepreneurship and digital technology development". The results of research on public perception show that there is a deal about digital business which is easier to build and more sustainable than the traditional business (Saptono et al., 2021). The next is the aspect of entrepreneurship education and digital technology which is integrated in the extracurricular activity. The highest score is on indicator "The school has an extracurricular that can facilitate the students' interests in entrepreneurship". While the lowest score is on indicator "The entrepreneurship extracurricular has complete facilities".

The aspect of integration of vocational education, entrepreneurship, and digital technology through local content subjects that acquired the highest score on indicator "The school has a significant role to in the progress of regional economic development". While the lowest score is on indicator "The school collaborates with the surrounding environment, especially in the field of entrepreneurship to facilitate students to know about their area". Educational Approach and vocational training (VET) currently is based on outdated development models, while academic criticism of VET in developing countries is clearly long out of date. The results show the implication of VET from the latest trend in thinking about development through exploration of three certain theoretical approaches: human rights, skills, and integrated human development (McGrath, 2012). Education and business world hold a vital role in the development of learning patterns and systems

to grow students' ability in the field of digital technology-based entrepreneurship. The findings reveal that the outdoor learning environment has a strong connection with entrepreneurship education and self-efficacy (Saptono et al., 2021). In the learning process in vocational education, the students are equipped with vocational skills. The superiority of the skills can be a provision in integrating vocational and entrepreneurship skills that can be correlated with the development of digital technology.

The data comparison shows that entrepreneurship the behavior of college students is significantly correlated with the entrepreneurship attitude; the college students' entrepreneurship self-efficacy correlates positively and significantly with the entrepreneurship attitude (Cao, 2021). The findings prove that the inclusion of vocational training and entrepreneurship in the education system, such as in shoe making, sewing, mechanics, poultry, telephone repair, and weaving, can contribute to national progress and sustainable economic development (Amuda, 2021). This research shows how and why the lack of research translation that supports emotional skills through education and training, as well as clinical practice, has harmed entrepreneurs and future entrepreneurs (Aly et al., 2021). The development of entrepreneurship skills in adolescents needs generation of articulation processes among different actors: family members, educational institute, society in general, government entity, and the productive sector (Campo-Ternera et al., 2022).

Conclusion

The research findings from results and discussions point that the indicators of vocational education variable aspects at every vocational high school in West Java Province have varying value and there tend to be many indicators that still have low values (picture 8). This indicates that it still needs improvement for the schools that get low scores and development for the schools that already have good grades. Collaboration among the schools can be one of alternative solutions to improve the deficiencies that occur in the schools. The schools that score the highest aspects/indicators can become best practice for the schools that still have low scores.

The value that is highlighted in the vocational education variable which gets the lowest value in the less than sufficient category, in the aspect of integrated entrepreneurship education and digital technology in the extracurricular activity is in the indicator the entrepreneurship extracurricular has complete facilities. The data shows that the students' potential to develop their entrepreneurship talent in activities outside teaching and learning activities is still not supported by adequate facilities. Next is the aspect of vocational education integration, entrepreneurship, and digital technology into the learning materials/textbooks, in the indicator the school has access to

digital literacy in the form of e-book that can be accessed by students. And then the aspect of changes in the implementation of entrepreneurship learning and digital technology from the concept of theory to practice, the aspect of entrepreneurship education through self-development and career guidance, and digital technology-based entrepreneurship which is integrated in the school subjects. This study will open up a new path in the field of education to combine knowledge hiding and transformational entrepreneurship (Zhao, 2021).

Different from the five aspects above, the two aspects acquired the lowest score with a sufficient category, those are the aspect of school culture and local content subject. In the aspect of school culture, the lowest score is obtained by indicator the school provides excellent service for students to develop their ideas. And then in the aspect of local content subject, the lowest score is acquired by indicator the school collaborates with the surrounding environment, especially in the field of entrepreneurship to facilitate students to know about their area. Based on the results, it is determined that modern digital technology changes the situation related to management structure and function significantly, the condition of educational process and production, and how the participants interact, and then that the State's education policy aims at modernizing the educational environment, innovation, accessibility, transparency, flexibility, and openess, and the formation of an integrated vocational education environment (Sergeieva et al., 2022). This framework suggests that to develop a successful EE (Entrepreneurship Education) program to improve the OI (Opportunity Identification) of individual, different perspectives about the emergence of opportunity and learning must be integrated into the consistent EE program and constructively aligned (Farrokhnia et al., 2022). From the results of previous study, it can be interpreted that integration between education, entrepreneurship, and digital technology is essential to be implemented with measured evaluation to notice the strength, weakness, opportunity, and threats in the future.

Here are some practical implications of the findings and recommendations for educators and policymakers: Digital innovation should be integrated into the curriculum. This will help students learn about technologies such as e-commerce, data analytics, and innovative platforms that help them build digital-based businesses. It is recommended that educational institutions build practical entrepreneurial skills by providing entrepreneurship labs or collaborative workspaces where students can develop and test business ideas in a safe environment. To enhance innovation and creativity, it is recommended to provide additional training or incubator programs to help students develop their innovative ideas with the help of industry experts or mentors. The integrated model of entrepreneurship education, vocational education, and digital technology provides a holistic

approach to developing practical and entrepreneurial skills that are relevant to current industry needs. Through the use of digital technology, students can develop innovative solutions that integrate technical, entrepreneurial, and digital aspects for various sectors, such as IT, energy, agriculture, and creative arts.

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