The Comparison Analysis of Teacher's Learning Effectiveness in Realizing Entrepreneurship Skills of Students

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Learning effectiveness is one of the critical issues in the success of an educational process. Effective means that learning objectives and targets can be achieved so that it has an impact on improving students' learning outcomes. One learning outcome that is very important for students to have as a provision to live in society is the realization of entrepreneurial skills. This study aims to analyze the differences in the effectiveness of teacher learning in realizing entrepreneurial skills of Senior High School (SMA), Vocational High Schools (SMK), and Madrasah Aliyah (MA) students of the academic year 2021/2022, both public and private in Pekanbaru City. Data were collected by using one observation sheet and questionnaires of 25 questions. The number of schools covered was 18 (eighteen) schools, and each school took a maximum of 3 parallel classes, of which each consisted of up to 30 students. The collected data were analyzed using descriptive and comparative analysis techniques. The results showed that entrepreneurship learning scores ranging from planning, implementation, and assessment of the learning process and including student entrepreneurship skills showed significant differences between public and private schools. The average planning, implementation, and evaluation of learning entrepreneurship subjects in public or private schools are classified as good since the average scores are 3.29, 3.02, and 2.89. At the same time, the average value of entrepreneurship skills is 81 for public schools and 69 for private schools.

Keywords: entrepreneurship skills, learning effectiveness, SMA, SMK, MA

INTRODUCTION

According to Arthur et al. (2012), entrepreneurial skills are a person's skills in developing and managing business activities. Likewise, according to Herawati (2018), entrepreneurial skills are the entrepreneurial ability of a person to run his business. According to Smilor (1997) and Kilby (1971), entrepreneurial skills are the practical

skills needed to build and run a company. Entrepreneurship skills are critical in today's disruptive era since there are many opportunities for new types of jobs, such as data analyst and scientist, digital marketing and strategy specialist, artificial intelligence and machine learning specialist, and many other types of jobs that utilize the Internet of Things (IoT). In all of these new types of work, the field of entrepreneurship may include agriculture/animal husbandry/fisheries, agricultural/animal husbandry/fishery products, processing of agricultural/livestock/fishery products, including businesses in the alternative energy sector, construction materials, and also services. Therefore, the growth of entrepreneurial skills becomes very useful, especially for the younger generation, as a provision for life in society.

Three critical terms are recognized in the definition of entrepreneurial skills: Entrepreneurial Skills, Entrepreneurial Activities, and Entrepreneurs. Entrepreneurial Skills, as defined above, can be expanded into a mentality formed to carry out entrepreneurial activities. Entrepreneurial activities are enterprising human actions by creating or expanding economic activities, planning, implementing, marketing, and evaluating entrepreneurial activities. In line with that, Özçetin & Gök (2021) revealed that successful entrepreneurs have creative thinking, a high desire to work, courage, enthusiasm, and determination, and a high ability to communicate and express themselves in writing and verbally. Finally, entrepreneurs are people (business people) who strive to generate value by creating or expanding economic activities by identifying and utilizing new products, processes, or markets. These three components are some of the elements in improving a country's economy on a micro and macro level.

This entrepreneurial thinking skill is essential to be developed, primarily related to developing 21st-century skills, where a person is required to realize the 4C skills, namely creative-innovative, critical thinking skills, communicative and collaborative. Entrepreneurial thinking skills, which include the use of 4C skills, are related to the development of creative businesses by utilizing Internet of Things technology, social media Instagram, Tiktok, YouTube, and other social media platforms for creative business development. Creative businesses can include fashion, architecture, information technology, electronics, manufacturing, warehouse, agriculture, construction, transportation, finance, art, beauty care, culinary, event organizer, traveling, publishing, film, and other creative endeavors (Herawaty et al., 2018). Furthermore, after the pandemic and the return to the new normal era, one has learned a lot by using the Internet of Things platform for entrepreneurship to grow entrepreneurial thinking skills among the younger generation quickly.

According to D. Made Dharmawati (2017), indicators of entrepreneurial skills include 1) Conceptual skills in setting strategies and calculating risks. This involves skills in carrying out managerial functions and interpreting information from various sources of information; 2) Creative skills in creating added value. It is a skill in technology and innovation to create added value; 3) Management skills. This relates to the ability to lead an organization and manage existing resources; 4) Communication and interaction skills. It is a skill to establish relationships with people since entrepreneurs cannot stand alone without cooperation with others. 5) Technical skills of the business to be carried

out. Namely, skills regarding the special abilities possessed and implementing them into matters related to the business being run.

Furthermore, the Presidential Instruction of the Republic of Indonesia Number 9 of 2016 has ordered the revitalization of school education to encourage the realization of entrepreneurial skills in the younger generation (Anonymous, 2016). Thus, since the implementation of the 2013 Curriculum, the subject of Workshop and Entrepreneurship has been made a local content of the curriculum and taught in senior high schools. According to Spillane (2018), the definition of senior high school is the highest level of schooling after junior high school. Senior high school is taken within three years, and if calculated parallel to elementary school, senior high school starts from grade 10 to grade 12. Indonesia recognizes three types of high schools, namely Senior High School (SMA), Vocational High School (SMK), and Madrasah Aliyah (MA). Starting in 2018, this subject has changed to Creative Products and Entrepreneurship in SMK. Through entrepreneurship subjects (naming in short), students can learn the theory and values of entrepreneurship that can be applied in real life through practice, both those integrated with subjects and those carried out outside subjects or extracurricular activities. However, in practice, is the provision of this subject automatically able to improve students' entrepreneurial skills? The answer will be described in a research study related to three things, (i) type of school (SMA, SMK, or MA), (ii) teacher pedagogical competence in learning (Planning, Implementing, and Evaluating), (iii) school category (public or private schools).

Related to teacher competence, in the Law of the Republic of Indonesia number 14 of 2005, article 8, teacher competence includes professional competence, pedagogical competence, personality competence, and social competence. Professional competence is the mastery of learning materials more broadly and deeply, including mastery of subject curriculum materials and the substance of the science that overshadows the learning material and the scientific structure and methodology. Meanwhile, pedagogical competence is the ability of a teacher to understand students, design and implement learning methods, guide students, and evaluate student-learning outcomes to actualize their potential. In this research, we study the effectiveness of teacher learning in realizing the entrepreneurial skills of senior high school (SMA), vocational school (SMK), and Madrasah Aliyah (MA) students in Pekanbaru city, Riau, Indonesia, both public and private. The study is directly related to three dimensions of learning: planning, implementation, and assessment of the learning process.

The question is, how is the effectiveness of teacher learning in realizing entrepreneurial skills of SMA, SMK, and MA students in terms of three aspects of pedagogical competence? The research will present the answer through the following sub-formulations: (1) How is the description of pedagogical competence of high school, vocational high school, and madrasah aliyah school teachers in Pekanbaru Riau in terms of planning, implementing, and evaluating learning of Entrepreneurship subjects? (2) Is there a significant difference in teachers' pedagogical competence in the three types of schools, including public and private schools? (3) How are students' entrepreneurial

skills achieved in implementing pedagogical teachers of vocational high school, vocational high school, and Islamic high school, whether public or private?

Literature Review

Entrepreneurship Education

Entrepreneurship is the nature, characteristics, and character of someone with the will and ability to creatively and productively realize innovative ideas in the real world (Cui et al., 2021; Hahn et al., 2020). Entrepreneurship is a mental attitude and soul that is always active or creative, empowered, creates, works is humble, and tries to increase income in its business activities (Wardana et al., 2020). A person who has character is always dissatisfied with what he has achieved. Entrepreneurs are skilled at taking advantage of opportunities to develop their businesses to improve their lives.

Apart from being present in each individual (innate), one's entrepreneurial potential can also be formed through integrated learning between theory and practice through training and or apprenticeships, as well as through learning carried out in schools (Jones, 2019; Santos et al., 2019). Entrepreneurship arises when an individual dares to develop new businesses and ideas. The entrepreneurial process includes all the functions, activities, and actions related to acquiring opportunities and creating organizations (Guelich, 2022). The essence of entrepreneurship is to create added value in the market by combining resources in new and different ways to compete.

The characteristics of someone whom an (entrepreneur) as a person who is (1) confident, (2) task and result oriented, (3) dares to take risks, (4) has a leadership spirit, (5) is forward-oriented, and (6) originality (Malach & Kristová, 2017; Tripopsakul et al., 2022). In addition, an entrepreneur has a particular spirit and ability to create and innovate. He is someone who can create something new and different (ability to create the new and different) or creative and innovative abilities (Hahn et al., 2020). These creative and innovative abilities are reflected in the ability and willingness to start a business (start-up), the ability to do something new (creative), the willingness and ability to seek opportunities (opportunity), and the ability and courage to take risks (risk-bearing), and the ability to develop or mix ideas and resources (Tripopsakul et al., 2022). Based on this, a successful entrepreneur must be provided with entrepreneurial knowledge and skills.

Implications of Entrepreneurship Education

Entrepreneurial values are the concept and characteristics of entrepreneurship that are implicated in entrepreneurship education. Students and other school members should own many entrepreneurial values. However, in developing this academic script model, 17 values of entrepreneurship were selected, considered the most basic and following the developmental level of students. The entrepreneurial values are: (1) honest; (2) discipline; (3) hard work; (4) creative; (5) innovative; (6) independent; (7) responsibility; (8) cooperation; (9) leadership; (10) never give up; (11) dare to take risks; (12) commitment; (13) realistic; (14) curiosity; (15) communicative; (16) strong motivation for success; and (17) action-oriented (Al Mamun et al., 2019; Silva et al., 2022; et al., 2021).

The implementation of the 17 core values of entrepreneurship mentioned above is not carried out immediately but is carried out in stages. The first stage of implementing entrepreneurial values takes 5 core values: creative, risk-taking, leadership, and action-oriented. Then, at the implementation stage at the education level, it is carried out through the development of entrepreneurial concepts and skills with different levels of depth and breadth. The framework for implementing entrepreneurship education at the education level is shown in Figure 1.
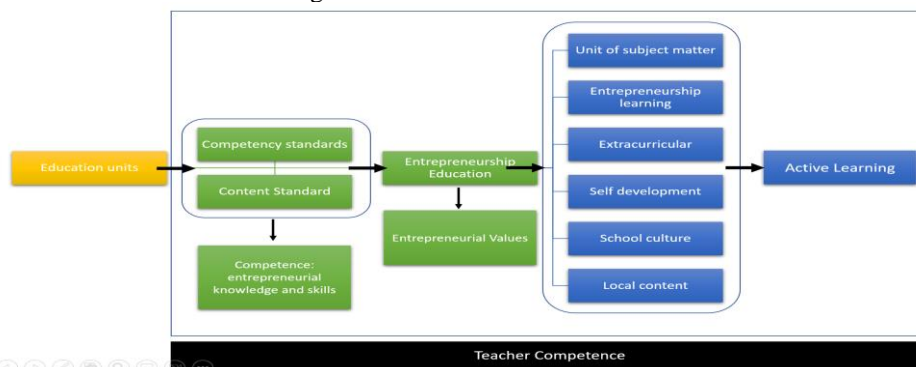
Figure 1
Framework implementation of entrepreneurship education at the education level (Adaptation Lailatussaadah et al., 2020; Xia & Yao, 2019)

Teacher Competence in Entrepreneurship Education

In today's education and learning system, the presence of teachers in the teaching and learning process still plays an important role. The competencies possessed by each teacher will show the quality of teachers in teaching and learning so that these competencies will be realized in the form of professional mastery of the material in carrying out their functions as teachers (Liakopoulou, 2011; Purnama et al., 2021). The competencies needed by a teacher can be obtained both through formal and non-formal education based on experience and knowledge. The teacher is one of the human element in the educational process. Therefore, the problem of teacher professional competence is one of the competencies that must be possessed by every teacher at any level of education (Altun, 2019; Rusydiyah et al., 2020).

Competence can also be interpreted as knowledge, skills, and abilities controlled by someone who has become a part of him so that a person can perform cognitive, affective, and psychomotor behaviors as well as possible (Narciss et al., 2020). In other words, competence is mastery of a task, attitude skills, and appreciation needed to support success. So, competence can also be interpreted as knowledge, skills, and fundamental values reflected in the habits of thinking and acting. Teachers need to get adequate assistance in various abilities to improve their competence. Teacher competence must continuously be improved along with technological advances (Cekerol & Ozen, 2020). Incredibly productive teachers teach students various skills and

entrepreneurial spirit (Tripopsakul et al., 2022). Hopefully, students will have skills that can open up business opportunities or create jobs after graduation.

The school determines the importance of teacher competence in the relationship between learning activities and student learning outcomes (Liakopoulou, 2011; Pahrudin et al., 2016), its structure, and curriculum content but mainly by the competence of teachers who teach and guide their students. To understand how important the teaching profession is, the following competencies that must be possessed by teachers are: (a) teachers must master knowledge of the subject matter being taught; (b) teachers are active members of teacher professional organizations, read professional journals, engage in dialogue with fellow teachers, develop methodological skills, foster students and subject matter; (c) teachers understand the learning process in the sense that students understand learning objectives, expectations and procedures that occur in the classroom; (d) teachers are "educational intermediaries" who do not need to know everything, but at least know how and where to acquire knowledge; (e) the teacher carries out the behavior according to the desired model in front of the students; (f) teachers are open to change, dare to take risks and are ready to take responsibility; (g) the teacher organizes the class and plans lessons carefully; (h) teachers must constantly improve their abilities, for example in teaching strategies; (i) teachers must be optimistic about student learning conditions and prepare positive and conducive learning situations; and (j) teachers should try to make special efforts to show how the subject matter relates to everyday life (Liakopoulou, 2011; Madjid et al., 2020; Purnama et al., 2021).

Entrepreneurship Skills

Skills are defined as a person's ability to do something, including skills, attitudes, values, and understanding (Chalkiadaki, 2018), all of which are considered important to support success in completing tasks. In addition, skills are patterns of activity aimed at manipulating and coordinating information. These skills can be divided into two categories: physical and intellectual skills (Anagün, 2018).

Basic skills are divided into four categories, namely (1) basic literacy skills, (2) technical skills, (3) interpersonal skills, and (4) problem-solving (Anagün, 2018; Chalkiadaki, 2018). On the other hand, entrepreneurial skills create or innovate a business, develop business units already running, and rehabilitate business units experiencing a crisis (Sousa & Almeida, 2014). Therefore, entrepreneurial skills consist of three, namely (1) technical skills, (2) management skills, and (3) business and personal entrepreneurial skills (Cooney, 2012; Faris, 2018; Sousa & Almeida, 2014). Based on the categories of basic skills and entrepreneurial skills, the classification of entrepreneurial skills is as follows: (1) conceptual skills (Politis, 2005), (2) creative skills (Pratomo et al., 2021), (3) managing skills (Cooney, 2012), (4) communication and interaction skills (Faris, 2018; Sousa & Almeida, 2014), and (5) skills to develop striving techniques (Cooney, 2012).

METHOD

The method of this study is descriptive and comparative. First, descriptive analysis to analyze the planning, implementation, and evaluation of learning developed and implemented by teachers in the three types of schools, while comparative analysis to

compare the effectiveness of teacher learning in promoting the entrepreneurial skills of SMA, SMK, MA students in terms of these three aspects of pedagogic competence of the academic year 2021/2022. In detail, the research stages can be illustrated in the flowchart in Figure 2.

Research Subject

This research was conducted in public and private SMA, SMK, and MA in Pekanbaru, Riau, Indonesia. The research sample was taken by purposive sampling, each group was taken with as many as 3 (three) public and private schools of SMA, SMK, and MA so that the number of schools covered was 18 (eighteen) schools, and each school was taken a maximum of 3 parallel classes, of which each class consisted of maximum 30 students. The study involved 48 classes and 1344 students, where the number of males was 513 students and females 831 students.
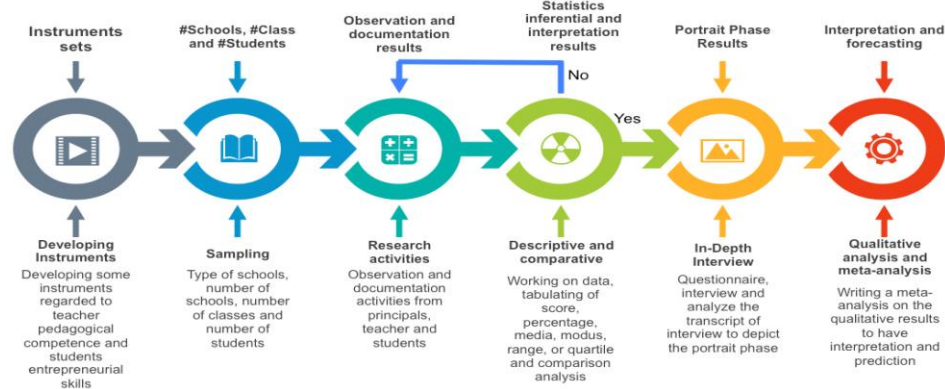
Figure 2
Flowchart of research implementation

Data Collection and Instruments

The research instrument was an observation sheet and tested students' entrepreneurship skills. The test consists of 25 questions with details that: (i) Multiple choice questions with as many as seven questions to assess the "A" indicator (score range 1-3), (ii) Complex multiple choice questions with as many as five questions to assess "B" indicator (score range 1-4), (iii) True/false questions as many as five questions to assess "C" indicator (score range 1-4), (iv) Matchmaking questions and reasons as many as five questions to assess "D/E" indicators (score range 1-4), and (v) essay questions of 2 questions to assess "D" indicator (range of values 1-5), (vi) Question case method of 1 question to assess "D" indicator (rage of values 1-9).

Data Analysis Method

Based on observation sheets and the student entrepreneurial skills test results developed by the researcher, the results will be analyzed using descriptive and inferential statistics, namely ANOVA's one-way. The procedure is given in the following stages: (i) the test is given to the students of public and private SMA, SMK, and MA, (ii) the average score

of each indicator of student entrepreneurial skills is written in a column consisting of sub-indicator and the average score of public and private school, (iii) the normality test and the homogeneity test are done before implementing the independent sample *t*-test. For t-test analysis, we define as follows: If the sig value (2-tailed) of ANOVA's one-way is less than 0.05 (p =<0.05), then we reject the H_0 and accept H_1, meaning there is a significant difference in the student entrepreneurial skills between public and private schools. Otherwise, if the score of Sig (2-tailed) is more significant than 0.05 (p = > 0.05), meaning there is no significant difference in the student entrepreneurial skills between public and private schools of SMA, SMK, MA (Rohim et al., 2019).

FINDINGS

The Significance Difference of Pedagogical Competence of Three Types of High School Teachers in Preparing, Implementing, and Assessing the Learning Process

Learning Plan

The description of the pedagogical competence of teachers in planning the learning in SMA, SMK, and MA in Pekanbaru Riau for Entrepreneurship subjects as outlined in the form of a Learning Implementation Plan, contained around 21 indicators: Core Competencies, Basic Competencies, Competency Achievement Indicators, Learning Objectives, and several other indicators outlined in Table 1. The score ranges from 1-4.

Table 1
Public and private high school learning plan scores

No.	Learning PlanComponents	Public School				Private School			
		SMAN	SMKN	MAN	Average	SMAS	SMKS	MAS	Average
1.	Core competencies	4.00	2.96	3.53	3.50	3.28	3.68	3.63	3.53
2.	Basic competencies	3.72	3.94	2.26	3.31	2.76	2.72	2.68	2.72
3.	Competency achievement indicators	3.86	4.00	3.94	3.93	3.58	3.42	3.01	3.34
4.	Learning objectives	4.00	3.12	3.67	3.60	4.00	3.92	2.67	3.53
5.	Learning material	3.78	3.26	2.65	3.23	2.65	3.56	2.52	2.91
6.	Pre-learning activities	3.97	3.88	3.84	3.90	1.83	2.74	1.65	2.07
7.	Introductory activities, apperception, motivation, and learning objectives	1.91	3.62	4.00	3.18	3.92	2.84	3.84	3.53
8.	Core learning activities related to the use of learning approaches	3.83	3.98	3.46	3.76	1.87	2.80	2.75	2.47
9.	Core learning activities related to the use of learning models	4.00	1.65	3.37	3.01	2.85	3.05	2.98	2.96
10.	Core learning activities related to the use of learning methods	3.85	4.00	2.68	3.51	3.95	4.00	3.86	3.94
11.	Core learning activities related to the use of learning techniques	2.96	3.95	3.86	3.59	2.36	3.14	3.69	3.06
12.	Closing activities and reflection	4.00	2.93	3.78	3.57	3.28	2.97	2.85	3.03
13.	Creative learning media	3.85	4.00	4.00	3.95	3.89	3.15	3.11	3.38
14.	Learning media interactivity	3.68	3.74	3.58	3.67	2.09	2.84	2.66	2.53
15.	Approach, model, or technique in the Student Worksheet	3.98	3.89	2.76	3.54	2.73	1.54	2.49	2.25
16.	Student Worksheet Design	3.68	2.64	3.98	3.43	2.15	3.75	2.79	2.90
17.	Student Worksheet Interactivity	4.00	3.84	3.16	3.67	3.95	3.54	3.35	3.61
18.	Learning Resources, either offline or online	3.87	4.00	3.94	3.94	2.63	2.88	2.84	2.78
19.	Observation sheet	4.00	3.76	3.85	3.87	2.97	2.97	2.85	2.93
20.	Feedback Questionnaire	1.86	4.00	3.78	3.21	3.96	3.84	3.62	3.81
21.	Assessment of learning Outcomes	3.97	2.46	1.26	2.56	3.24	3.18	3.14	3.19
	TOTAL	76.77	73.62	71.35	73.91	63.94	66.53	62.98	64.48

Next, two analyses were carried out on the acquisition of learning plan assessment scores in the three types of high schools, namely the homogeneity test and the normality test. Based on the Homogeneity Test of Variance results, the Levene Statistic sig. is $0.078 > 0.05$. It can be concluded that the scores of the three types of observational schools, both public and private, are homogeneous. Then from the results of the normality test for the distribution of the data, the results of the calculation of the sig value are obtained. Shapiro Wilk from the normality test gives consecutively for the three types of schools SMAN = 0.568, SMKN = 0.868, MAN = 0.668, and SMAS = 0.568, SMKS = 0.458, MAS = 0.768. All of them are greater than 0.05. Thus, the data is normally distributed in the three types of public and private observation schools.
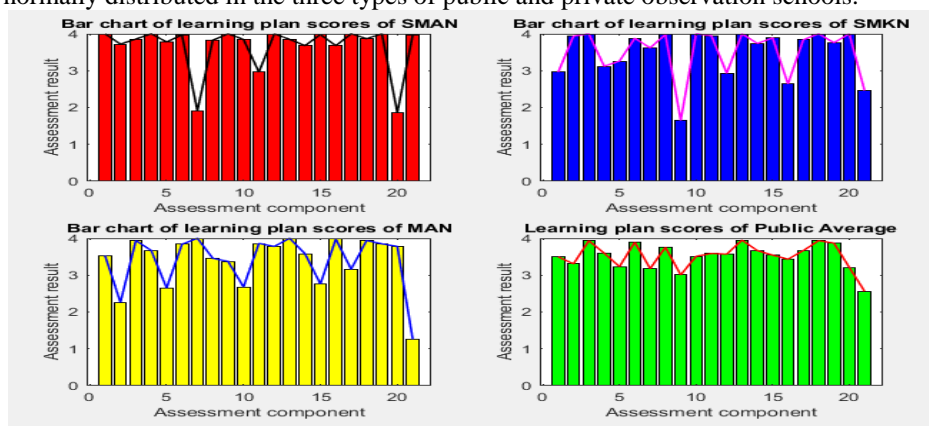
Figure 3
Bar chart of learning plan scores in three types of public high schools

Based on the homogeneity and normality tests, a one-way ANOVA inferential statistical analysis test was conducted on the three types of schools, both public and private. The average score of the learning plan shows the comparison of public and private high school, vocational, and MAN lesson plans. For public schools, the average score of the learning plan reached 3.52 in the excellent category, where the best order is SMAN>SMKN>MAN, see Table 1. Meanwhile, for private schools, the average score for the learning plan only reached 3.07 in the excellent category, see Figure 2, where the order is SMKS>SMAS>MAS. Based on the ANOVA output above, both public and private schools show that the average learning plan scores of public and private SMA, SMK, and MA are significantly different since the sig. value is <0.05; see Table 2 and Table 3.

Table 2
Analysis of the mean difference of learning plan scores of three types of public schools

ANOVA					
Public School Result					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4.772	2	2.386	14.522	.000
Within Groups	9.858	60	.164		
Total	14.629	62			

Table 3

Analysis of the mean difference of learning plan scores of three types of private schools

ANOVA

Private School Result

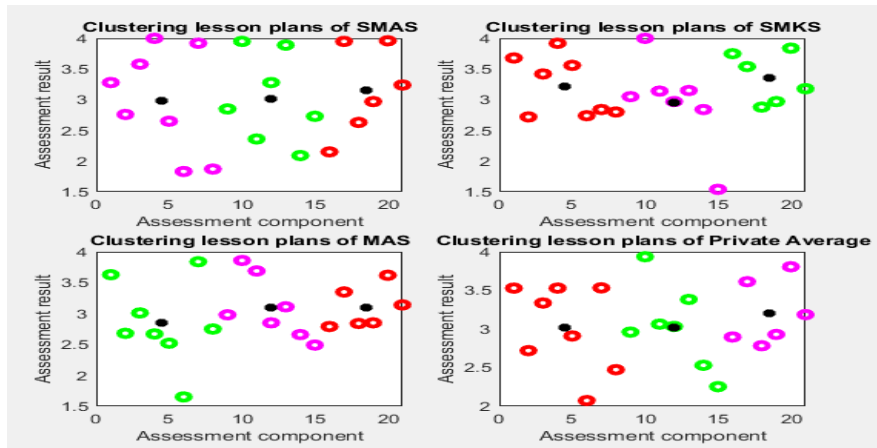|	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.761	2	4.881	15.584	.000
Within Groups	18.791	60	.313		
Total	28.553	62			

Figure 4

Clustering the value of lesson plans in three types of private high school

The results of clustering the value of lesson plans in three types of public schools show that the position of the centroid as the epicenter of the distribution of learning plan scores, SMAN occupies the highest coordinates compared to other public schools, SMAN>SMKN>MAN. Meanwhile, clustering the scores of learning plans in three types of private schools shows that the centroid position as the epicenter of the distribution of learning plan scores, SMKS occupies the highest coordinates compared to other public schools SMKS>SMAS>MAS, see Figure 4.

Table 4

Independent sample *t*-test differences in assessment of learning plans in three types of high schools between public and private

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Average	Equal variances assumed	.382	.540	4.897	40	.000	.57238	.11688	.33616	.80860
	Equal variances not assumed			4.897	39.933	.000	.57238	.11688	.33615	.80862

Finally, the comparison of the score of the learning plan for public and private high schools between SMA, SMK, and MA, see Table 4, shows a significant difference. This is indicated by the value of the t-test for Equality of Means Sig. (2-tailed) < 0.05.

Learning Implementation

The teacher's academic competence in implementing Entrepreneurship learning is outlined in the Learning Implementation aspects in Table 5. This table contains three phases: introduction, core activity, and closing. The preliminary phase consists of four indicators, the core activity phase consists of thirteen indicators, and the closing phase consists of three arrows. The total indicator is 20 indicators.

Table 5
Scores of the learning implementation for public and private high school

No	Aspects Observed	Average Score							
		Public School				Private School			
		SMA	SMK	MA	Avg.	SMA	SMK	MA	Avg.
A	Introduction								
1	Pre-learning	3.35	3.58	2.78	3.24	3.12	3.36	2.57	3.02
2	Apperception and motivation	3.67	3.94	3.29	3.63	2.46	2.31	2.19	2.32
3	Delivery of learning objectives	3.38	3.53	3.33	3.41	3.24	3.48	3.14	3.29
4	Teacher personality performance	3.53	3.68	3.45	3.55	3.38	3.21	3.02	3.20
B	Core activities								
1	Mastery of subject matter	2.82	3.26	2.54	2.87	2.61	3.19	2.17	2.66
2	Application of the scientific learning approach	3.83	3.24	3.40	3.49	2.60	3.12	2.21	2.64
3	Application of cooperative learning model	3.12	3.77	2.73	3.21	2.58	3.09	2.12	2.60
4	Use of hybrid learning methods	3.13	3.52	2.54	3.06	1.82	2.24	2.21	2.09
5	Implementation of active, innovative, creative, and fun learning strategies	1.92	2.65	1.67	2.08	2.48	3.02	1.97	2.49
6	Application of educational learning techniques	2.89	3.42	2.40	2.90	2.62	3.15	2.14	2.64
7	The use of interactive learning media with the utilization of the Internet of Things	3.53	3.98	3.10	3.54	2.36	2.35	2.08	2.26
8	Utilization of learning resources with the use of Internet of Things	3.25	3.92	2.93	3.37	2.62	3.14	2.36	2.71
9	Active engagement of learners in learning funds working collaboratively	3.84	3.42	3.67	3.64	2.69	3.04	2.37	2.70
10	Giving assignments in the form of projects 10 and presentations to achieve students' creative, critical and communicative skills.	3.89	3.46	3.52	3.62	2.46	3.22	2.25	2.64
11	Evenly distributed classroom control and 11 ensuring student accessibility in learning	3.22	3.91	2.98	3.37	2.17	3.04	1.74	2.32
12	Use of correct, 12 appropriate and educational language in learning	3.63	3.98	3.33	3.65	2.57	3.12	2.16	2.62
13	Realizing the teacher as a facilitator in learning and encouraging the realization of the Pancasila profile in students.	3.24	3.52	3.18	3.31	3.12	3.16	2.89	3.06
C	Closing								
1	Reflecting	3.24	3.82	3.87	3.64	3.12	3.28	2.53	2.98
2	Summarize the learning material	3.46	3.74	3.01	3.40	3.35	3.41	2.89	3.22
3	Assignments	3.42	3.85	3.00	3.42	3.31	3.43	2.89	3.21
Total		66.36	72.19	60.72	66.4	54.68	61.36	47.9	54.65
Average		3.32	3.61	3.04	3.32	2.73	3.07	2.40	2.73
Description 3.50 – 4.00 = Excellent, 3.00 – 3.49 = Good, 2.50 – 2.99 = Fair, < 2.50 = Poor									

Furthermore, two analyses were conducted on the scores of learning implementation assessment in the above three types of high schools: the homogeneity test and normality test. Based on the homogeneity test of variance results, the Levene Statistic sig. value is

0.068 > 0.05, and it can be concluded that the three types of observation schools, both public and private, are homogeneous. The normality test of the data distribution was obtained from the calculation of the sig value. Shapiro Wilk of Normality test respectively for the three types of schools, namely SMAN = 0.638, SMKN = 0.743, MAN = 0.562, and SMAS = 0.468, SMKS = 0.721, MAS = 0.843 which are all greater than 0.05. Thus, the three types of public and private observation schools are normally distributed.

Based on the homogeneity and normality tests, a one-way ANOVA inferential statistical analysis test was conducted on the three types of schools, both public and private. The comparison of the learning implementation of SMA, SMK, and MAN, both public and private, is shown by the average score of the assessment. For public schools, the average score of learning implementation reached 3.32 with a good category, where the best order is SMKN>SMAN>MAN. Meanwhile, for private schools, the average value of learning planning only reaches 2.73 with a fair category, where the order is SMKS>SMAS>MAS, see Table 5. Based on the ANOVA output, see Tables 6 and 7, both public and private schools show that the average learning plan scores of SMA, SMK, and MA are significantly different due to the sig. value <0.05.
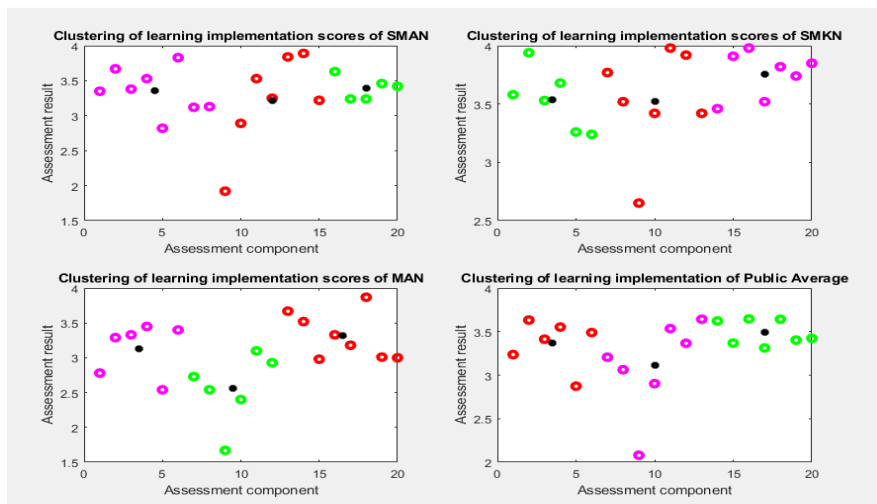

Figure 5
Clustering of learning implementation scores in three types of public high schools

Table 6
Analysis of the mean difference in learning implementation of three types of public school

ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6.155	2	3.077	32.681	.000
Within Groups	5.367	57	.094		
Total	11.522	59			

Table 7
Analysis of the mean difference in learning implementation of three types of private school

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.821	2	2.411	22.115	.000
Within Groups	6.213	57	.109		
Total	11.034	59			

The three-class clustering of learning implementation scores in three public high schools shows that the centroid position as the epicenter of the distribution of learning plan scores, SMKN occupies the highest coordinates compared to other public schools, SMKN>SMAN>MAN, see Figure 4. Meanwhile, the three-class clustering of learning implementation scores in three types of private high schools shows that the centroid position as the epicenter of the distribution of learning plan scores, SMKS occupies the highest coordinates compared to other public schools SMKS>SMAS>MAS. The comparison of learning implementation scores of public and private high schools between SMA, SMK, and MA, shows significant differences. The t-test indicates this for Equality of Means Sig. (2-tailed) < 0.05.

Learning Evaluation

The description of teachers' pedagogical competence in learning evaluation in SMA, SMK, and MA in Pekanbaru Riau for Entrepreneurship subjects is outlined in a detailed learning evaluation instrument. This instrument includes attitude, knowledge, skills, and process assessment components. Each component includes some indicators. The total number of indicators is 21, with the score range of each indicator 1-4. As in the assessment of learning plan and implementation, two further analyses were conducted on the scores of learning evaluation implementation in the three types of high schools above: the homogeneity test and normality test. Based on the Homogeneity test of Variance results, the Levene Statistic sig. value is 0.048 > 0.05, and it can be concluded that the three types of observation schools, both public and private, are homogeneous. Then the normality test of the data distribution was obtained from the calculation of the sig value. Shapiro Wilk of Normality Test respectively for the three types of schools, namely SMAN = 0.343, SMKN = 0.521, MAN = 0.461, and SMAS = 0.777, SMKS = 0.435, MAS = 0.425 which are all greater than 0.05. So the three types of public and private observation schools are normally distributed.

Based on the homogeneity and normality test, the one-way ANOVA inferential statistical analysis test was then carried out on the three types of schools, both public and private. The average assessment score shows the evaluation of the high school, vocational and MAN learning, both public and private. For public high schools, the average evaluation score of the learning process reached 3.16 with a good category, where the best order was SMKN>SMAN>MAN. Meanwhile, the average learning evaluation score for private high schools only reached 2.66 with sufficient categories, where the order was MAS>SMKS>SMAS, see Figure 5. Based on the output of ANOVA, both public and private schools show that the average value of SMA, SMK, and MA learning evaluation differ significantly due to the sig value < 0.05.
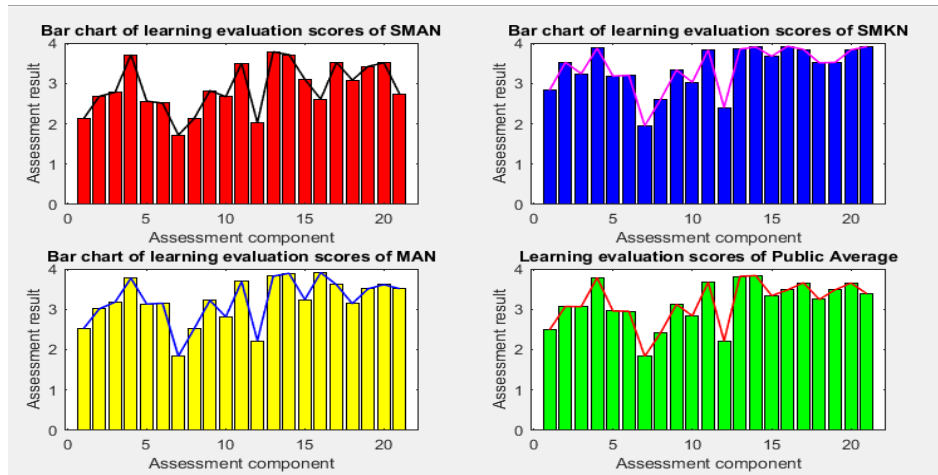
Figure 6
Bar chart of learning evaluation scores of three types of public high schools
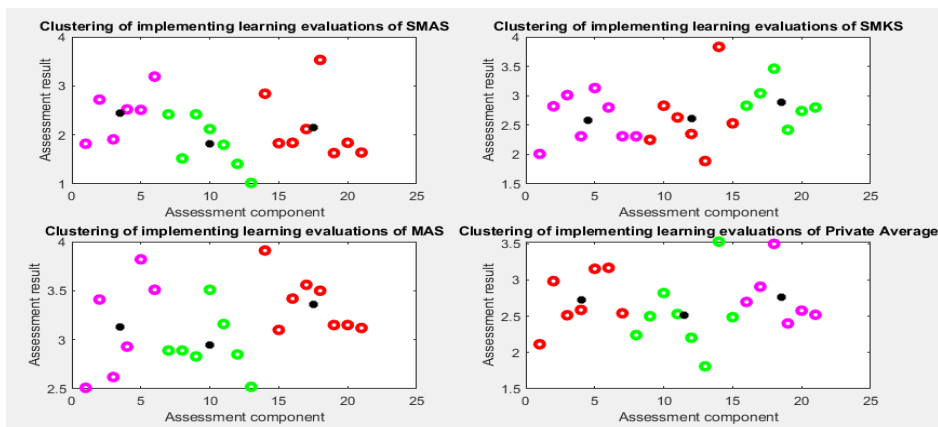

Figure 7
Clustering the value of implementing learning evaluations of three types of private schools

The results of clustering on three classes of the score of learning evaluation in three types of public high schools show that the centroid position as the epicentral of the distribution of learning plan values, SMKN occupies the highest coordinates compared to other public schools, SMKN>SMAN>MAN. Meanwhile, the results of clustering three classes against the value of learning evaluation in three types of private high schools show that the centroid position as the epicenter of the distribution of learning plan score, SMKS occupies the highest coordinates compared to other public schools MAS>SMKS>SMAS (see Figure 7).

Table 8

Independent sample t-test differences in learning evaluation assessment in three types of high schools between public and private

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Average	Equal variances assumed	1.277	.265	3.258	40	.002	.50095	.15377	.19017	.81173
	Equal variances not assumed			3.258	37.823	.002	.50095	.15377	.18961	.81229

Finally, a comparison of the learning evaluation scores of public and private high school learning between SMA, SMK, and MAN, see Table 8, shows a significant difference. This is indicated by the value of the t-test for Equality of means Sig. (2-tailed) < 0.05.

The Effectiveness of Learning Process on Developing the Students Entrepreneurship Skills

In this section, the students' entrepreneurial skills scores will be analyzed after planning, implementing, and evaluating the learning process in SMA, SMK, and MA in Pekanbaru Riau by teachers for Entrepreneurship subjects. In the introduction, it has been described what the leading indicators of entrepreneurial skills are. There are five leading indicators and twenty-five sub-indicators. All of these scores illustrate the results of the average student's entrepreneurial skills from three public or private schools, see Table 9. The learning process is effective if the learning plan, implementation, evaluation, and achievements are achieved.

The average score in Table 9 was obtained from awarding the entrepreneurial skills test to 1344 students. This instrument test has been tested for validation and reliability, and from the results of statistical tests, it is obtained that the 25 questions on entrepreneurial skills have been declared valid and reliable. These questions were developed and given to 1344 students; the results can be seen in Table 9.

Table 9

Students' entrepreneurial skills score in three types of high schools

No	Components of Implementing Learning Assessment	Public Schools				Private School			
		SMA	SMA	MA	Avg	SMA	SMK	MA	Avg
A	Conceptual Skills								
1	Able to explain the concept of entrepreneurship	86	90	80	85	64	80	78	74
2	Able to outline the goal of developing an entrepreneurial mentality	75	80	70	75	37	48	42	42
3	Describing entrepreneurial traits	55	60	45	53	52	74	63	63
4	Describing the types of entrepreneurship	85	90	88	88	83	95	92	90
B	Creative Skills								
1	Able to develop many new ideas (fluency)	75	80	75	77	32	43	37	37
2	Able to adapt to several perspectives when facing a problem (flexibility)	90	95	85	90	58	73	69	67
3	Able to parse and integrate ideas developed in solving problems (Elaboration)	88	97	79	88	72	89	79	80

No	Components of Implementing Learning Assessment	Public Schools				Private School			
		SMA	SMA	MA	Avg	SMA	SMK	MA	Avg
4	Ability to reveal breakthroughs that have high uniqueness (Originality)	69	76	63	69	87	98	86	90
C	Managing Skills								
1	Able to plan well	64	67	57	63	65	79	71	72
2	Able to carry out well	94	97	93	95	48	58	55	54
3	Able to carry out continuous, factual, and real-time supervision	67	76	57	67	63	79	72	71
4	Able to carry out reflections and then develop a follow-up plan	87	90	79	85	72	89	78	80
5	Able to develop the right decisions when problems occur	63	78	59	67	78	90	85	84
6	Able to read a risk threat and develop efforts to parse it	82	95	73	83	63	79	69	70
D	Communication And Interaction Skills								
1	Have the ability to speak fluently and well	79	85	73	79	28	38	36	34
2	Have the ability to write well by equipping with illustration materials	93	97	88	93	68	78	72	73
3	Able to develop and use good body language	83	85	74	81	74	89	82	82
4	Able to be a good listener	90	97	87	91	54	68	62	61
5	Able to do limited and broad presentations to give confidence to someone	74	86	68	76	73	93	89	85
6	Able to develop relationships or a more expansive network	93	94	89	92	68	82	74	75
E	Skills To Develop Striving Techniques								
1	Have the skills to market and sell products	72	83	70	75	62	75	68	68
2	Have the ability to negotiate in overcoming problems	92	93	90	92	62	89	73	75
3	Have the ability to manage human and financial resources well	96	98	93	96	78	94	82	85
4	Able to build customer comfort	73	74	72	73	63	85	79	76
5	Able to identify strengths, weaknesses, threats, and opportunities	83	87	81	84	35	57	46	46
	Total	2008	2150	1888	2015	1539	1922	1739	1733
	Mean	80	86	76	81	62	77	70	69
	Information 80 – 100 = Excellent, 71 – 80 = Good, 60 – 70 = Fair, < 60 = Poor								
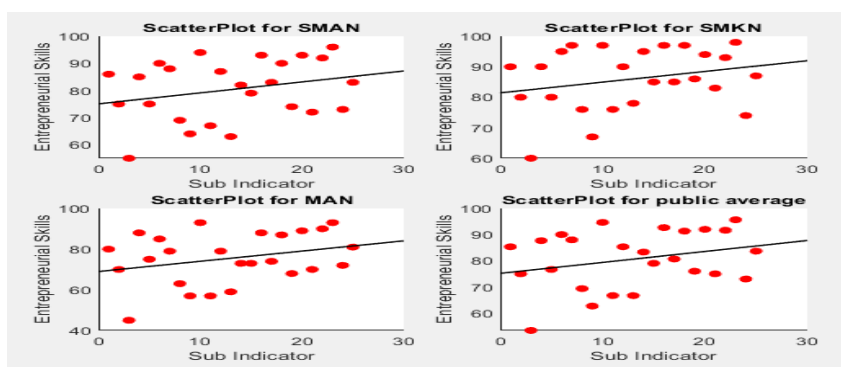
Figure 8
Scatter Plot for the least-square line of entrepreneurial skills for public high schools

From the data in Table 9, two analyses were carried out on the acquisition of entrepreneurship skills scores in three types of schools: the homogeneity test and the normality test. Based on the results of the Homogeneity Test of Variance, Levene statistics sig values were obtained is $0.088 > 0.05$; it can be concluded that all three types of observation schools, both public and private, are homogeneous. The test of the normality, the distribution of data in the process of calculating sig value. Shapiro Wilk

from the Normality test, successively for all three types of schools show SMAN = 0.435, SMKN = 0.643, MAN = 0.782, and SMAS = 0.421, SMKS = 0.653, MAS = 0.428, all of which are greater than 0.05. Thus, the three types of public and private observation schools are normally distributed.
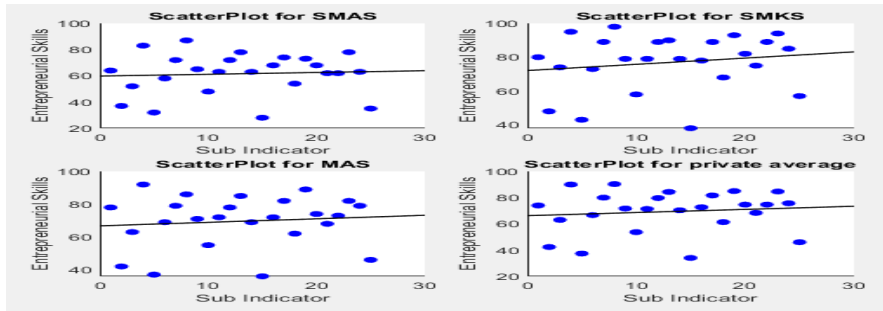
Figure 9
Scatter Plot for the least-square line of entrepreneurial skills for private high schools

The results of the scatter plot of entrepreneurial skills in three types of schools showed that in public schools, SMKN occupies the highest distribution on the coordinate position compared to other public schools, and the gradient is positive, namely SMKN>SMAN>MAN see Figure 8. Meanwhile, the results of the scatterplot of entrepreneurial skills in three types of private schools showed that SMAS occupies the highest distribution on the coordinate position compared to other public schools, SMAS>SMKS>MAS see Figure 10.
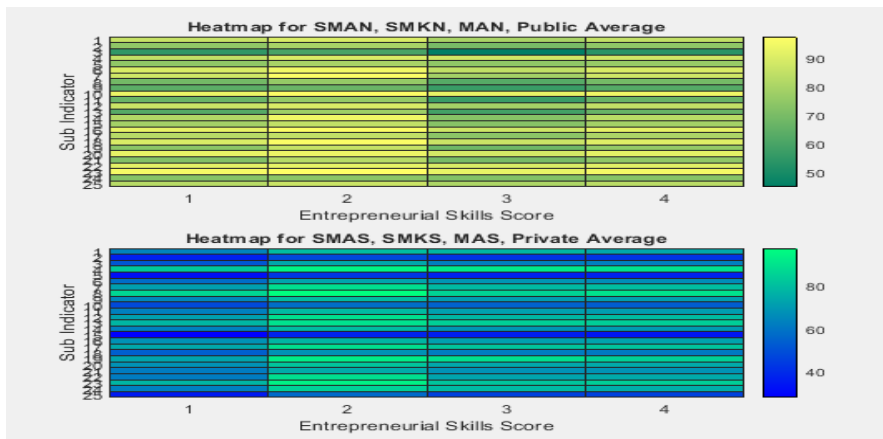

Figure 10
Illustration of a heatmap of entrepreneurial skills for public and private high schools

Figure 10 shows the results of the heatmap of entrepreneurial skills in three types of public schools; the fact is obtained that in public schools, SMKN occupies the highest position compared to other schools since the distribution of yellow colors is very

dominant compared to other colors, namely SMKN>SMAN>MAN. Meanwhile, the heatmap of entrepreneurial skills of three types of private schools obtained the fact that in private schools, SMAS occupies the highest position compared to other schools since the distribution of bright green dominates compared to other colors, namely SMAS>SMKS>MAS; see Figure 10. Furthermore, Figure 11 shows the results of the stacked plot of entrepreneurial skills in three types of public schools; the fact is obtained that the oscillation of the SMKN and MAN school charts on indicators 1 to 15 has the same, i.e., ups and downs, it can be seen that the amplitude of SMKN and MAN schools has similarities, but in indicators, 16-25 the distribution of SMKN is steady while SMAN, MAN experiences high oscillations. Unlike private schools, SMAS and MAS have similar oscillations; while SMKS is slightly different, the oscillations are not as high as in public schools (see Figure 10).
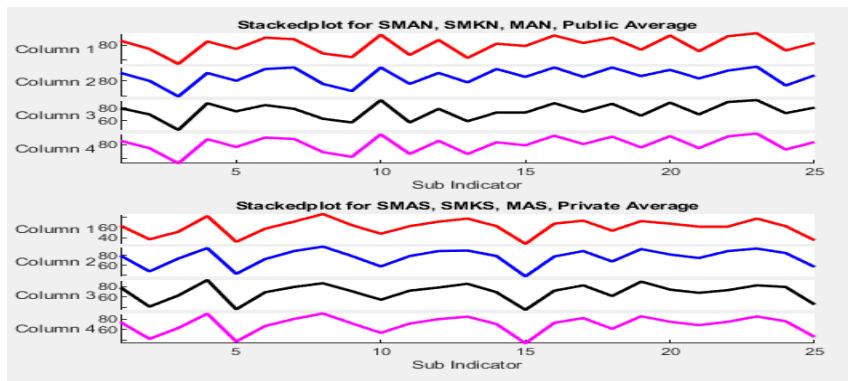
Figure 11
Stackedplot Illustration of entrepreneurial skills in three types of high schools

Next, the ANOVA's one-way inferential statistical analysis of all three types of schools is carried out. The comparison of the entrepreneurial skills of SMA, SMK, and MAN both public and private, is indicated by the average assessment score. For public high schools, the average value of entrepreneurial skills reaches 81 with excellent categories, where the best order is SMKN>SMAN>MAN. Meanwhile, for private high schools, the average value of entrepreneurial skills only reaches 69 with sufficient categories, where the order is SMKS>MAS>SMAS, as shown in Table 9. Based on ANOVA output, public and private schools show that the average value of SMA, SMK, and MA entrepreneurial skills differs significantly due to the sig value. < 0.05(see Table 10 and Table 11).

Table 10
Analysis of differences in entrepreneurial skills in three types of public high schools

	ANOVA				
Public School Result					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1376.107	2	688.053	5.344	.007
Within Groups	9269.680	72	128.746		
Total	10645.787	74			

Table 11
Analysis of differences in the mean of entrepreneurial skills in three types of private high

ANOVA					
Private School Result					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2935.707	2	1467.853	5.760	.005
Within Groups	18348.960	72	254.847		
Total	21284.667	74			

Finally, a comparison of the entrepreneurial skills of high school, vocational, and MAN students, between public and private. This table shows a significant difference due to the value of the t-test for Equality of Means Sig. (2-tailed) < 0.05.

DISCUSSION

From the research results above, in general, the pedagogical competence of a teacher in planning, implementing, and evaluating the learning process of the Entrepreneurship subjects in private and public SMA, SMK, and MA can already be said to be good. It is in line with the research result that a good learning plan is expected to produce good learning processes and outcomes (Brunner et al., 2018). The average achievement of learning pre-plan scores was 3.52 and 3.07, learning implementation scores were 3.32 and 2.73, and learning evaluation scores were 3.16 and 2.66 for public or private schools with a score range of 1-4. The results showed that the pedagogical competency score of public school teachers in learning entrepreneurship subjects is better than in private schools.

The average planning, implementation, and evaluation of entrepreneurship subject learning in public or private schools are already relatively good since the average score is 3.29, 3.02, and 2.89, and the overall average is 3.09. However, compared to other countries, learning quality in Indonesia is still lower. This condition is in line with the results of Maulana's research (2020), which revealed that the quality of teaching in Indonesia is still lower compared to Singapore, South Korea, Malaysia, Thailand, and South Africa (Maulana et al., 2020). This condition is caused by inequality in school infrastructure, which is worse in villages than in the city (Pers & Helms-loren, 2019). Spillane et al. (2018) also revealed that the learning process in urban areas differs from the learning process in village schools. The low learning process of entrepreneurship subjects in schools in Pekanbaru is also in line with several learning study results in Indonesia (World Bank, 2018; PISA 2000–2018; Kurniawati et al., 2018; Center for Educational Assessment, 2018; ACDP, 2014; Center for Educational Assessment, 2016; and INNOVATION, 2018) which shows that the quality of the learning process is still less reliable. In addition, it is also in line with the results of research by Marliyah et al. (2018), which revealed that the learning process in schools has not been optimally effective in improving student learning outcomes (Marliyah et al., 2018). The implementation of the learning evaluation of entrepreneurship subjects is still relatively unoptimal; the average of the two public and private schools is only 2.89. Even though the evaluation of learning is essential to get optimal student learning outcomes (Tan & Amiel, 2019). Learning evaluation includes two aspects: process assessment and results

from the assessment. The application of authentic assessment will provide an assessment that is factual, continuous, and real-time (Bergmark, 2020).

Lastly, the value of the student's entrepreneurial skills. Comparisons of the entrepreneurial skills of SMA, SMK, and MAN students, between public and private, show a significant difference due to the value of the t-test for Equality of means sig. (2-tailed) < 0.05. The results showed that public school students' average entrepreneurship thinking skills scores are better than private schools, namely 81 public and 69 private. This is in line with the results of research by Küttim et al. (2014), which concluded that participation in the learning process of public schools has a better tendency than the privately owned schools (Küttim et al., 2014). Therefore, the emphasis on the selection of approaches, models, methods, and techniques of learning in the classroom in realizing entrepreneurship thinking skills is needed to realize these skills optimally (Arthur, 2012; Zotov et al., 2021; Pratomo, Siswandari, & Wardani, 2021).

CONCLUSION

Based on the results obtained in this study, it can be concluded that the entrepreneurship learning process of SMA, SMK, and MA public schools in Pekanbaru, Indonesia is better than private schools. However, entrepreneurship-learning planning is not in line with the implementation of learning, where the planning is good, but the implementation of learning is not good enough. With these findings, it is necessary to strengthen the teaching team in the learning process to ensure consistency between planning and implementation so that the pedagogical stages are smart at developing learning plans and implementation. Furthermore, in the learning process, there must be an open lesson program to invite guest teachers from business practitioners so that children can hear and see directly from the primary sources.

To improve the effectiveness of the learning process, the following suggestions are proposed a) improve teacher academic supervision, b) develop collaborative, entrepreneurial learning between teachers and entrepreneurial practitioners, as well as integrate the entrepreneurial learning into other subjects, c) in addition to that, teachers must develop sustainable professionalism under the demands of the quality of graduates, and d) emphasize the practice of developing high-level skills to achieve the entrepreneurial skills of students. Therefore, further research is to create prototype business activities in the classroom so that students experience actual activities in doing business with the principle of learning by doing. Related to this, the project-based learning model approach integrated with the STEAM approach can be studied in developing students' entrepreneurial thinking skills. Moreover, in this follow-up study, the involvement of entrepreneurial practitioners is needed in the form of learning community development activities.

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