

Introducing Marketing 4.0 in Gen Z Through Project-Based Learning

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Abstract

Marketing 4.0, as the newest marketing paradigm, has become an important skill for everyone involved in sales and marketing. As a dominant part of the recent generation, Gen Z become a main component of Marketing 4.0 as they can be an actor or a person affected. The initiative for learning Marketing 4.0 in Gen Z is generally done at higher level education (university), MSME actors, or vocational high school students. However, introducing it in high school, in general, is still very rare. The research aims to explore how to introduce Marketing 4.0 to general high school students through project-based learning (PBL) and to know the effectiveness of this method in understanding Marketing 4.0 among students. The project is implemented for 10-th grade students of SMA Negeri 5 Bandung, executed through two cycles, and integrated with program P5 (Projek Penguatan Profil Pelajar Pancasila), which chooses Marketing 4.0 as a specific theme. The observation results show that there has been a significant increase in students' understanding and implementation of the Marketing 4.0 approach in marketing and selling products. The questionnaire results also show that the PBL approach is considered effective in increasing students' knowledge of Marketing 4.0, and this project has succeeded in providing valuable and useful experience for students.

Keywords: Marketing 4.0, Gen Z, learning, PBL, P5, high school.

I. INTRODUCTION

Digital marketing is a skill that is very necessary in the current era of highly competitive business competition. Mastery of digital marketing can make it easier for various groups to market their business products anytime, anywhere, and through any platform. Therefore, digital marketing is a skill that needs to be taught from the start, including in high school, both middle and high school. However, the delivery of material about digital marketing needs to be supported by direct practice so that participants get a comprehensive learning experience. This practice needs to be supported by adequate case studies and is less effective if only provided in the form of short training of 1-2 days. Therefore, delivering digital marketing materials through project-based assignments can be one of the most effective options.

On the other hand, junior and senior high school students belong to the Generation Z (Gen Z) age group who have certain characteristics, such as being familiar with digital devices and the internet from an early age (digital native), viewing games as more than just a hobby, easily adapting intelligence artificial, and building culture through social media [1]. Delivering learning material to Gen Z has its challenges, namely: short attention (unable to pay attention to something for long), easily distracted and addicted to technology, so it is difficult to focus on one task for a long period, need an instant response, more comfortable using technology in learning,

so they prefer visual and interactive learning media and are easily exposed to various cultural differences, opinions, and beliefs when interacting with many parties [2]. Therefore, delivering learning material to Gen Z cannot always use a traditional approach; this is because Gen Z students have the following characteristics: intelligence, creative, hard work, teamwork, and high curiosity.

From a marketing perspective, Gen Z is both the perpetrator and consumer of social media marketing. Marketing via social media is closely related to branding, including brand equity, brand experience, and brand trust among Gen Z [3]. Social media marketing (SMM), part of digital marketing, can be considered the easiest and cheapest marketing tool compared to other digital marketing media [4]. YouTube, Instagram, and Tiktok are the three social media applications most frequently used by Gen Z. Meanwhile, Whatsapp has increased from 2020 to 2021 [5]. Social media is also a platform that Gen Z widely uses to communicate with others, share pictures and updates, and look for information, inspiration, and recommendations. A survey conducted by PYMNTS also shows that Gen Z is the party that most browses, reviews, and shops via social media [6]. Therefore, SMM is a potential knowledge that digital marketing practitioners need to learn. SMM is also a very interesting topic to introduce among Gen Z, considering the high involvement of Gen Z in the world of social media.

The introduction of SMM among Gen Z requires a certain approach so that it is easy to accept and not boring. One popular approach to learning among Gen Z is project-based learning (PBL). PBL can be interpreted as a learning method that allows students to bond and collaborate in group work to complete a project with a specific target. PBL involves active participation from students (students) and is considered to be able to provide knowledge not only in the main areas of expertise (core competencies) but also in other soft skills such as communication, group work, and leadership, so this method is also considered as the most effective learning approach to apply among Gen Z [7].

The use of Project-Based Learning (PBL) in schools has become essential, with the implementation of the Independent Curriculum, which grants students the freedom to learn. In this curriculum paradigm, learning materials are not limited to books or teachers as the exclusive sources. Students can acquire knowledge and expertise from a multitude of sources. The Merdeka Curriculum includes the Pancasila Student Profile Strengthening Project, also known as the P5 program. This program consists of time-limited tasks that students must complete within a period of 2-3 weeks. P5 must be conducted three times annually; educational institutions have the flexibility to select multiple themes and specify appropriate subjects. An available option for selection is entrepreneurship [8]. At SMA Negeri 5 Bandung, the decision was made to focus on implementing Marketing 4.0 as part of the entrepreneurial theme. This choice was based on the suitability of this topic for students in the Gen Z category and its status as the most up-to-date marketing approach.

Marketing 4.0 is the latest marketing approach that changes the concept of 4A (awareness, attitude, act, and act again) into 5A (Aware, appeal, ask, act, and advocate) [9]. SMM widely uses Marketing 4.0 on platforms such as Instagram [10], Tiktok [11], and instant messaging [12]. Previous research related to Marketing 4.0 generally focuses on the role of social media for marketing certain products [13], [14], studies related to consumer behavior [10], [15], and the role of digital technology in Marketing 4.0 [16]. Prior studies on the implementation of Marketing 4.0 and the use of Social Media Marketing (SMM) for school marketing have primarily concentrated on exploring the use of Marketing 4.0 for school or campus marketing [17], [18]. Meanwhile, participants in the introduction of marketing 4.0 are also generally MSME actors [19], or vocational high school student [20], whereas for general high schools, this is still rarely done.

Based on the discussion above and related to the chosen topic of entrepreneurship implementation, namely Marketing 4.0, a challenge arises: introducing Marketing 4.0 material to class X high school students included in the Gen Z category using a PBL approach. Therefore, the questions that will be answered in this research are:

1. How to introduce Marketing 4.0 material to high school students through a PBL approach?
2. How to determine the effectiveness of the PBL approach in understanding Marketing 4.0 among students?

The main contribution of this research's results is to provide suggestions for practical methods for learning Marketing 4.0 through PBL among Gen Z, obstacles, and strategies to improve further learning. The next sub-chapter will provide a systematic description of this research question, while the analysis and discussion section will formulate the research contribution.

II. LITERATURE REVIEW

A. Branding and Digital Branding

One of the most important stages in the marketing process is branding, or building a perception of a product. A brand itself is defined as a set of attributes designed to produce a kind of concern or identity for an object, whether in the form of a product, service, person, or organization. Meanwhile, branding is defined as a strategy to build perceptions of an object, which includes a series of activities ranging from product innovation to marketing [21]. The branding strategy stages start with product design and innovation, marketing strategy, distribution strategy, marketing communications, and competitive brand positioning [22]. A series of processes and aspects, such as choosing names for brands, advertising and promotion, packaging, and online-offline interaction, are required to build branding [22].

In the digital era, the focus shifts from branding issues to digital branding. Digital branding is defined as a brand management technique that combines internet branding with digital marketing to build brands on various digital platforms, including internet-based relationships, applications, and media content [22]. Table I highlights the significant differences between digital branding and digital marketing. Digital branding excludes direct marketing techniques, whereas digital marketing includes real actions to promote products through selected marketing media.

TABLE I
 COMPARISON BETWEEN BRAND, DIGITAL BRANDING, AND DIGITAL MARKETING [23]

Area	Brand	Digital branding	Digital marketing
Effort	Building a brand	Building a brand image through digital media	Memasarkan produk melalui media digital
Focus	Establish long-term business goal	Building bonds with audiences through digital platform	Increase sales
Example	Product jargon	User-friendly website	Product promotion through Facebook Ads

Digital branding strategies include the use of a logo, website, branding message, SEO, social media, email marketing, online advertising, content marketing, and influencer marketing. The use of social media can include posting on Instagram, Facebook, Twitter (X) or other social media [24].

B. Marketing 4.0

Besides branding, marketing techniques and paradigms have also evolved along with expanding digital access in society. The latest marketing jargon is Marketing 4.0, which changes the marketing approach from 4A (Awareness, Attitude, Act, and Act Again) to 5A (Awareness, Appeal, Ask, Act, and Advocate) [9]. Previously, 4A modified the customer path, originally AIDA (Attention, Interest, Desire, and Action), by combining the Interest and Desire components into Attitude. In the 4A framework, customers first find out about a brand (awareness), like or dislike a brand (attitude), buy the product (act), and decide whether they want to buy again (act again). Meanwhile, in the 5A framework, customers know about the existence of the product (Aware), are interested in the product (Appeal), want to know about the product (Ask), buy the product (Act), and repurchase or participate in promoting the product (Advocate). The process from awareness to advocacy is called the customer path. Throughout this process, the customer's impression of the product also changes from knowing (I know), liking (I like), believing (I am convinced), buying (I buy), and recommending to other people (I recommend). Consumer needs for products also change. If in previous versions of marketing (Marketing 1.0 to 3.0), consumer needs included need, want, desire, and value (Marketing 1.0 to Marketing 3.0), in Marketing

4.0, it shifts to participation and validation. Marketing 4.0 is also mentioned as an approach that balances machine-to-machine with human-to-human to increase customer engagement [9]. Figure 1 shows the 5A approach in Marketing 4.0 and its relation with key customer impressions.

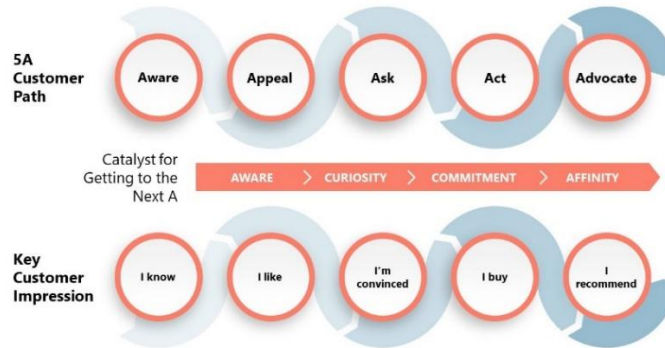


Figure 1. 5A Approach in Marketing 4.0 [9]

The first two stages of the five A's, namely awareness and appeal, depend on the product branding process and strategy. The fundamental difference between the 5A framework and 4A is an advocate element, which emphasizes consumer engagement with the product, forming loyal consumers.

C. Gen Z and the Learning Approach

Gen Z is the generation born after 1995. This generation is characterized by the rapid development and influence of digital technology on daily life so that they have special characteristics such as being able to adapt to both real and virtual life, easily finding the information they need, easily sharing information, communicating, and the use of social media, which has become a daily menu. Generation Z not only uses the internet but also creates content and controls it. Another characteristic of Gen Z is that they have a different perception of profession, career, and work. Gen Z is not too concerned with career and job stability; they easily change jobs, professions, or workplaces, and there is a tendency for self-employment as a symbol of individual freedom [25]. Currently, Gen-Z occupies the largest generation group of all generation levels in Indonesia, namely 27.94%. In terms of education, in general, Gen-Z prioritizes critical thinking aspects more than others (for example, aspects of knowledge, morals, empathy, or work readiness)[26].

From the learning aspect, delivering teaching materials to Gen Z is challenging because Gen Z has different thinking concepts, and the environment is not only real but also a virtual environment [27]. Gen Z is also an independent learner who will decide what they want, voice their thoughts, and respect teachers more as facilitators [28]. Therefore, Gen Z prefers instant information visual forms of learning and replaces 'communication' with 'interaction' [29]. Several approaches that can be applied to deliver learning material to Gen Z are [30]: use of instructional software for learning, delivery of material through dialogue (2-way conversation), use of all visual objects and reduced text, provision of online working hours (to always be contactable), and provide an adequate explanation. One learning approach considered suitable for Gen Z is Problem-based Learning (PBL) because PBL can support critical thinking processes during learning and group collaboration [31].

D. Project-Based Learning and P5

Learning strategies are a person's approach to learning something and using information to increase knowledge [32]. There are several types of learning strategies, namely exposition-discovery learning [33] and group-individual learning [34]. Group learning is a learning strategy in large or small groups. One form of group learning that is currently popular is Project Based Learning. Project-based learning (PBL) is defined as a learning model that emphasizes assignments in the form of projects, which can encourage students to experience a search and exploration process so that students are expected to gain knowledge, skills, and attitudes. PBL is

implemented based on the following principles [35]: challenging problem or question, sustained inquiry, authenticity (which includes authenticity in project, activity, equipment, and impact of project results), student voice and choice, reflection, critique and revision, and public products.

PBL is implemented in the following stages [36]: project preparation, implementation, and project result exposure. In project preparation, three activities are carried out: exploring problems or driving questions, strengthening knowledge and skills, and designing problems. During project implementation, activities are carried out, which include problem-solving processes, product completion, collaborative discussions, and report preparation. The final stage, namely exposing the project results, includes product exposure and revision.

In the "Kurikulum Merdeka", one program that requires a PBL approach in its implementation is the "Projek Penguatan Profil Pelajar Pancasila" (P5). This program is expected to teach students how to pay attention to and respond to social problems in the surrounding environment and provide proposed solutions. P5 is implemented through six stages [37] including forming a facilitator team, identifying readiness stages, determining P5 dimensions and themes, determining implementation time allocation, preparing modules and learning objectives, activity flow and assessment processes, and implementing P5 itself. In P5, students in one class are divided into several groups, and each group is asked to provide a proposed solution to a problem. The final product of the P5 program is a project report and the final project product.

Based on directions from the Ministry of Education and Culture [8], the implementation of P5 is divided into six phases from A to F, from basic education to advanced level. At the high school level, the phases implemented are E and F, and each school must choose three themes in one year of implementation (three implementations of P5). One of the themes that can be chosen for high school level is entrepreneurship. After determining the major theme, each school can determine certain sub-themes according to the school's considerations.

III. RESEARCH METHOD

This research was carried out using the classroom action research (CAR) method based on the Kemmis and Mc Taggart (1998) model, which consists of two cycles, as cited in the research of Bodsworth and Goodyear [38]. The first cycle consists of four stages: planning, action, observation, and reflection. The reflection results are input for the second cycle, namely improving planning, actions, etc.

A. First Cycle

The first cycle begins with planning. This research is planned to be applied to a class of 10th-grade students at SMA Negeri 5 Bandung. This class consists of 36 students and is applied to the P5 learning program with the theme Marketing 4.0. Students in the class were then divided into six groups. Each group was given the task of making and marketing one product, all of which had to be completed within three weeks. The groups were coached by one main teacher and two facilitators.

In this first cycle, each group was asked to make an initial plan consisting of:

1. Product analysis and planning, which includes product opportunity exploration, simple market analysis, SWOT analysis, and cost and profit analysis
2. Product marketing analysis and planning includes product brand preparation, marketing media selection, and marketing strategy.
3. Preparation of proposals and activity schedules

The action taken is to ask each group to prepare a proposal according to the content that has been implemented. Meanwhile, observations are carried out by periodically monitoring each group's activities and conducting initial assessments of students' understanding of the Marketing 4.0 concept.

Observations were also carried out by providing questionnaires related to understanding Marketing 4.0. Reflection is carried out after the activity has been running for one week by looking at the results of student reports and marketing plans that have been prepared, as well as the level of students' understanding of Marketing 4.0.

B. Second Cycle

Due to the short implementation time, the second cycle began after the project ran for one week. The remaining two weeks are used to increase understanding of the material and improve project implementation.

The second cycle was completed after the teacher analyzed and provided feedback on each group's proposals. Apart from providing feedback, teachers also explicitly ask students to learn specifically about Marketing 4.0 exploratively. Students can search for and read material related to Marketing 4.0 from various sources and discuss things they do not understand with teachers and facilitators. Students are also asked to improve proposals and adjust plans to adopt Marketing 4.0 strategies.

In the action phase, for two weeks, students are asked to produce products according to plan and carry out a marketing plan. Observations were carried out throughout implementation and before project completion by observing changes in students' understanding of marketing 4.0, changes in the marketing strategies implemented, obstacles, and sales performance.

Reflection in the second cycle session was carried out in the form of an evaluation consisting of a presentation of the overall project implementation, group performance assessment, and filling out a questionnaire to determine students' understanding of marketing 4.0

IV. RESULTS AND DISCUSSION

The implementation of this research lasted for three weeks, according to the P5 implementation schedule with the theme of entrepreneurship. During implementation, one class was divided into six groups, and each group was asked to choose the product they wanted to sell. Group performance is assessed by the success of product marketing, namely the number of products sold and the profit margin obtained. This article will discuss two groups as case examples: Group A, which produces food, and Group B, which sells digital products.

A. First Cycle

In the first cycle, students in all groups were asked to learn about Marketing 4.0 independently and implement it in their projects. Each group is asked to analyze and select products and prepare product branding in this initial phase. The results of the product selection analysis can be seen in Table II, while the product branding plan can be seen in Table III. Based on the description in the table, it can be seen that students can apply the analysis and product selection approach using the SWOT approach. Meanwhile, the branding plan that has been prepared is complete because it contains the theme, logo (brand) design, packaging design, social media account design, and web page design (branding).





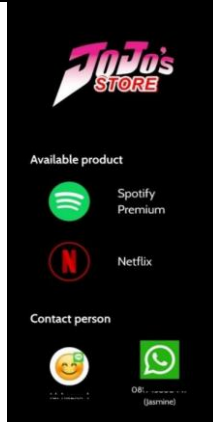
TABLE II
PRODUCT ANALYSIS AND SELECTION

Group	A			
Product	The Truffs			
Description	Chocolate Truffle			
Reason for product selection	Easy to make, cheap production costs, relatively durable products.			
SWOT Analysis	Strength	Weakness	Opportunity	Threat
	The product is easy to make, the price of the materials is affordable, and the product is durable.	The product melts easily, is easily damaged in transit, and the product shape is easily changed.	The product has the potential to become a popular product. The raw material for the product is chocolate, so it is relevant to the 'Halloween' event	It is easy for new competitors to emerge because the product is easy to make

TABLE II. (CONTINUED)

Group	B			
Product	Jojo's Store			
Description	Spotify and Netflix premium account			
Reason for product selection	Providing awareness of intellectual property rights and raising awareness of the need not to use pirated products.			
SWOT Analysis	Strength	Weakness	Opportunity	Threat
	There is no need to buy materials to make the product; the purchasing process is done online. The profits from product sales are large, and there are no competitors.	The product price is expensive, and the account activation process is complicated.	In demand by many teenagers, the products sold are popular and have a wide target market.	Many people prefer to use illegal products because they are free, and there is a chance that the account may expire before the specified time.

TABLE III
PRODUCT BRANDING

Group	Group A	Reason/explanation	Group B	Reason/explanation
Theme	Halloween	The product launch date is close to the Halloween celebration, which is quite popular among Gen Z	Games/Anime	Based on the preference of group members
Logo design		Related to Halloween theme		Adopting the logo from Jojo's Bizzare Adventure games.
Instagram account design		Using the same logo	Personal account	Using personal account of group members
Website design		Use a color theme that matches the logo. Created on the site: https://carrd.co/		Use a dark color theme. Created on the site: https://carrd.co/

After each group prepares product branding and carries out product manufacturing and marketing, observations are then made covering aspects of execution, constraints, and solutions that have been implemented. Table IV summarizes the results of observations on these three aspects. The table shows that students are aware that the marketing challenges of each product depend on the characteristics of the product. Digital products do not require production preparation, but their marketing is vulnerable to allegations of violations of intellectual property rights. The first cycle ended by providing feedback to each group through reflection. The reflections include teamwork, understanding of Marketing 4.0, product selection, implementation obstacles, and self-evaluation. A summary of reflections for the two sample groups can be seen in Table V.

TABLE IV
OBSERVATION (1ST CYLCE)

Observation Aspect: Execution			
Group A		Group B	
Action	Explanation	Action	Explanation
Marketing and selling products with a pre-order system is divided into two terms.	It takes preparation to make the product. The product is made on a make-to-order basis because its characteristics melt easily, so it must be shipped immediately.	Marketing products directly	Digital products that are not prone to time
Observation Aspect: Constraints			
Group A		Group B	
Constraint	Explanation	Constraint	Explanation
Products can only be distributed within a certain distance.	Products that melt easily and consider travel time and shipping costs.	Instagram account for promotion is banned	Considered suspicious because it markets Spotify and Netflix accounts.
Observation Aspect: Problem Solving			
Group A		Group B	
Prioritize consumers located near schools		Marketing via instant messaging and friendship networks.	

TABLE V
REFLECTION (1ST CYCLE)

Group	A		B	
Reflection components	Result	Description	Result	Description
Teamwork	Good	Communication between group members has been well developed.	low	Group synergy has not been developed.
Understanding Marketing 4.0	Low	Do not have an idea about Marketing 4.0 yet	low	Do not have marketing experience on social media.
Product selection	Good	Can choose products that are cheap, easy to make, and easy to carry.	Excellent	can select products that are simple to market and incorporate legal concerns.
Constraint	Place	To make products, it needs a special place with sufficient space and cooking equipment.	Team coordination	The lack of coordination stems from the digital nature of the product, leading members to believe that they don't need to come together to create it.
Self Evaluation	Fun	A pleasant collaboration	Not fun	Teamwork is not well established

B. Second Cycle

Based on the observations and reflections in first cycle, the teacher and facilitator provide feedback and discuss with group members to analyze opportunities for improvement. In the second stage, each group will engage in the following activities:

1. Learning and adopting Marketing 4.0 in selling and marketing the product
2. Produce the products according to plan.
3. Improving teamwork

The results of this analysis are then realized in improvement actions, as shown in Table VI.

TABLE VI
IMPROVEMENT ACTIONS

Group	A	B
Improvement Focus		
Teamwork	Conduct teamwork sessions more frequently	Conduct face-to-face teamwork sessions
Understanding Marketing 4.0	Learning and implementing Marketing 4.0 approach	
Product selection	Adding certain materials and changing production methods to make them more durable and easier to carry.	No improvement

We ask each group to develop plans for each Marketing 4.0 approach, which includes awareness, appeal, ask, act, and advocacy, as part of the implementation process. Group A has created an example of a Marketing 4.0 implementation plan in Table VII. The table demonstrates the students' ability to distinguish between the roles of humans and technology in each approach, demonstrating their understanding that each approach's success is not solely dependent on technology.

TABLE VII
MARKETING 4.0 IMPLEMENTATION PLAN

No	Approach	Description	Technology's Role	Human role
1	<i>Awareness</i>	At this stage, we strive to make our products known to potential buyers.	Creating instagram account and a website	Promoting an instagram account to be followed by friends
2	<i>Appeal</i>	At this stage, we try to make potential buyers interested in our products.	Creating Instastory, promote product on personal instagram account.	Offering free sample of products.
3	<i>Ask</i>	At this stage, potential buyers will look for information about the product.	Include a whatsapp number in Instagram bio to answer the question about products. Answering the question was accepted through Instagram DM.	Assign a group member to be the WhatsApp and Instagram admin for answering potential buyers' questions.
4	<i>Act</i>	At this stage, the buyer will purchase the product	Providing a Google Form for pre-order request.	Keep track of orders and determine the total quantity of products that need to be produced.
5	<i>Advocate</i>	At this stage, buyers who are satisfied will recommend the product to other potential buyers.	Create instastory or Whatsapp Status	Posting a compliment from buyer.

In this second cycle, apart from observing direct implementation, teachers and facilitators also guide students to write reports and prepare students to carry out final reflections and evaluations in the form of product presentations containing concepts, processes, final products, and project sales reports, as well as the completion of learning evaluation questionnaires. The results of reflection in the second cycle can be seen in Table VIII.

TABLE VIII
REFLECTION (2ND CYCLE)

Group	A		B	
Reflection Components	Result	Description	Result	Description
Teamwork	Excelent	Succeeded in building a solid teamwork	Good	Synergy has been built between group members
Understanding and implementing Marketing 4.0	Excellent	Having a solid grasp of Marketing 4.0 and putting the strategies into practice via Instagram and instant messaging.	Good	Shift the marketing process from Instagram to instant messaging and TikTok. Reduce text material on promotion material.
Improvement of products	Excellent	Adding some additional ingredient to prevent the product for easy melted.	No need improvement	Products are excelent
Constraints	Time to production	There is a very narrow time between pre-order closure and production time.	Suspicious marketing activity	A licensed product that is released on an unofficial market channel is usually detected as an illegal marketing activity.
Selling result	Excellent	Reportedly earning a 100% profit margin	Excellent	Reportedly earning a 150% profit margin
Lesson learned	Marketing and production capacity	Marketing that is too intense will affect the capacity to produce products, so it is necessary to coordinate marketing time with production time.	Marketing licensed products is not always easy using social media.	Because they frequently face accusations of piracy, licensed products are particularly vulnerable to marketing via open or text-based social media platforms.
	The importance of a network	The majority of the product buyers are from the group's circle of friends.	Attractive and affordable products	The product is a popular need among Gen Z and can be obtained at an affordable price. This product's existence can increase user awareness of using legal products at affordable prices.
Capability in writing research report	Good	Have been able to write scientific papers in standard format	Good	Have been able to write scientific papers in standard format

Apart from the reflection results above, this research also carried out assessments via questionnaires for all students. Based on the planned cycles, we divide the questionnaire into two parts to track changes in knowledge and experience and identify learning experiences through PBL. Table IX displays changes in knowledge and experience from 1st cycle to 2nd cycle. It can be seen that, for the majority of knowledge and experience, there was a significant increase from 1st cycle to 2nd cycle. One quite important piece of progress, for example, is knowledge of Marketing 4.0, which has increased by almost 100%.

Meanwhile, regarding knowledge and experience of promoting products using social media, there has not been much change. This is because the majority of respondents are 10th grade students, in the form of Gen Z, who are already accustomed to using social media in various daily activities, including searching for or buying products.

TABLE IX
IMPROVEMENT IN KNOWLEDGE AND EXPERIENCES

No		1 st Cycle	2 nd Cycle
1	Understanding Marketing 4.0	I understand enough (31.8%) Heard often, but understood little (31.8%)	I understand enough (63.6%) Heard often, but understood little (22.7%)
2	Understanding SMM	I understand enough (45.5%) Heard often, but understood little (54.5%)	I understand enough (59.1%) Heard often, but understood little (31.8%)
3	Experience in promoting products via social media	Have done it occasionally (77.3%) Have no experience (18.2%)	Fun and effective (73.6%) Fun but troublesome (19.6%)
4	Experience in design of promotion via social media	Occasionally (86.4%) Have no experience (9.1%)	Yes, I know it (54.5%) I doubt it (36.4%)
5	Selected social media for promoting the products	Instagram (86.4%) Others (9.1%)	Instagram (81.8%) TikTok (13.6%)
6	Experience in selling products via social media	Occasionally (72.7%) Have no experience (27.3%)	Practical and effective (75.6%) Troublesome and less effective (20.4%)
7	Confidence in selling products via social media	I am sure I can do it (27.3%) I doubt it (68.2%)	I am sure I can do it (40.9%) I doubt it (59.1%)

We also gather responses to learning experiences from the perspectives of the students. The result, as shown in Table X, demonstrates a fairly good understanding of Marketing 4.0 aspects; for instance, there is confidence in the success of product sales and a clear understanding that the key factors for success include the right marketing strategy as well as extensive relationships and networks. This shows that students have begun to understand the importance of 5A in marketing, especially the awareness and advocacy aspects. The majority of students believe that studying Marketing 4.0 through project-based learning is enjoyable and useful, but many also believe that this project takes too much time.

TABLE IX
LEARNING EXPERIENCES

No	Statements of learning experiences	Response
1	Feels successful in selling product	Yes (59.1%) I doubt it (36.4%)
2	Dominant factors of success	The right marketing strategy (47.6%) Product quality (33.3%)
3	Dominant factors causing failure	Production cost are too expensive (55%) Inappropriate marketing strategy (25%)
4	Dominant factors in marketing success via social media	Extensive friendship /network (50%) Product uniqueness (22.7%)
5	Impression about learning Marketing 4.0 through social media	Fun and very usefull (45.5%) Fun but time consuming (36.4%)

Based on the above description, there are several factors to consider when teaching Marketing 4.0 to high school students:

1. Teachers and facilitators do not need to provide detailed direction regarding Marketing 4.0 because most students can actually find material and apply these concepts to their respective projects. This is because Gen Z students are very familiar with SMM, so learning it in class is not difficult.
2. Students comprehend the significance of relationships and communication networks in marketing, necessitating guidance in this area. For instance, they should create products that the majority of their social circles deem essential, as this approach simplifies marketing. Choosing digital products is also a practical option because they do not require storage, the production process is relatively easy, and they are not susceptible to damage over time.

3. Through this project, students not only gain knowledge about Marketing 4.0 but also acquire skills in project management, finance, team collaboration, and scientific report presentation. However, these diverse aspects necessitate a complex assessment rubric. To help students prioritize which competencies, teachers and facilitators should provide clear assessment rubrics and good presentation and report templates.

V. CONCLUSION

The analysis and discussion results indicate that high school students can effectively learn marketing 4.0 through the PBL approach by implementing two cycles of PBL. In the first cycle, students were not given an introduction to Marketing 4.0 and were asked to design a project that created and marketed a product using Marketing 4.0. Students acquire their understanding of Marketing 4.0 by exploring diverse information sources. We provide students with guidance on how to develop product analysis, selection, branding, and marketing plans. The teacher or facilitator evaluated the first cycle's results through reflection. In the second stage, the teacher or facilitator directs students to make several improvements based on their reflections and provides guidance on Marketing 4.0. The teacher or facilitator evaluates the improvements and project implementation from the second cycle in a final presentation, evaluating each group's performance in areas such as group work, comprehension of Marketing 4.0, product enhancements, execution of Marketing 4.0 approaches, challenges encountered during implementation, sales outcomes, acquired lessons, and writing abilities in a scientific report. The observation results showed that each group was able to carry out the project very well and make significant improvements. We also evaluated the effectiveness of the PBL approach for understanding Marketing 4.0 through a questionnaire. The results of the questionnaire showed that the majority of students experienced a significant increase in their knowledge about Marketing 4.0 and felt enormous benefits and enjoyable experiences in carrying out marketing 4.0 via social media during this project.

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