



## PERCEPTIONS OF MEANING OF LIFE IN VOCATIONAL HIGH SCHOOL STUDENTS

Ayuningtyas, Dini Margesa, Inabah Putri, \*Devy Probowati, Panji Setya Wibowo

State University of Malang, Jl. Semarang No. 5 Malang, East Java, Indonesia

SMK Negeri 5 Malang, Jl. Terusan Ikan Piranha Atas No.50, Malang, East Java, Indonesia

\*Author of correspondence: [devy.probowati.fip@um.ac.id](mailto:devy.probowati.fip@um.ac.id)

### Abstract

The meaning of life is a value that individuals use as a guide in living a meaningful life. This meaning can be obtained through activities that represent three main dimensions, namely creative value, appreciation value, and attitude value. This study aims to: (1) explore the creative values that emerge in students; (2) explore the experiential values reflected in students' experiences; (3) understand the attitudinal values that students possess in facing challenges; and (4) identify the meaning of life for students majoring in Wood and Rattan Crafts at SMKN 5 Malang. This study uses a qualitative approach with a phenomenological method. Data collection was conducted through in-depth interviews with four informants selected based on purposive sampling criteria. Data analysis was performed using a thematic approach. The results of the study indicate that students have a strong understanding of the meaning of life, as seen in their ability to produce creative works, form deep interpersonal relationships, and demonstrate resilience in facing difficulties. The meaning of life for students grows naturally from their real experiences during the learning process and creative work in the vocational high school environment.

**Keywords:** Meaning of life; woodworking department; vocational high school students

### 1. Introduction

The meaning of life is the important values that guide a person in living their life. These values are considered valuable because they help someone determine the direction of their life. Everyone actually has their own meaning in life, it's just that not everyone is aware of it. Frankl (2017) mentions three main sources that can help someone find the meaning of life, namely: (1) creative values, such as creating or producing something; (2) experiential values, namely meaningful experiences such as love, experiencing beauty, or establishing relationships with others; and (3) attitudinal values, namely how a person behaves when facing suffering or difficult situations.

Vocational High School (SMK) students, especially those majoring in Creative Wood and Rattan Crafts at SMKN 5 Malang, certainly have unique characteristics in the process of forming the meaning of life. Vocational high school education has unique characteristics that emphasize the development of practical skills and abilities relevant to the needs of the world of work (Jurnal PMM., 2024). Learning in SMK is based on the principle of "learning by doing", demanding mastery of knowledge, skills, and attitudes needed by industry. Expertise programs such as Creative Wood and Rattan Crafts, specifically demand an educational process based on manual skills, aesthetics, and creativity in processing materials into works of art or functional (Wibowo, 2016). Direct practice-based learning to complete projects independently, innovate in design and develop perseverance, if carried out regularly will shape students into individuals who are more responsible, skilled and This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. appreciate the work process, while also improving skills. This is in line with AZ's statement (18):

*"It's fun... we go to the workshop often, not just studying like in junior high. The process of creating a piece also takes a long time, and sometimes unexpected things happen in the workshop. So we learn more about responsibility and hard work..."*

Students' interactions with their craft teachers and classmates, as well as their involvement in the workshop environment, contribute significantly to the formation of each

student's life principles. Values such as hard work, responsibility, and appreciation for art have become essential for students, including in finding meaning and purpose in life (Frankl, 2017). This phenomenon is a characteristic of Vocational High School (SMK) students, especially those majoring in Wood and Rattan Creative Crafts, who prefer practical activities over theoretical ones.

In addition, they also often face several social challenges, including negative stereotypes that develop in society. Many say that students who enter the Creative Wood and Rattan Crafts department are naughty students, less superior in academics, less proud and even considered outcasts. This is in line with the statement by BG (17):

*"Sometimes I get annoyed because I think all woodworking students are naughty. But there are students from other majors, too. Besides, not all woodworking students are equally naughty."*

These challenges require them to develop an attitude of self-acceptance, resilience, and optimism, which aligns with the concept of attitudinal values in Frankl's theory of the meaning of life (2017). The intense creative process and social interactions that occur in the workshop provide a fertile space for the formation of creative and experiential values. Therefore, the Wood and Rattan Crafts department was chosen as the focus of this research because its vocational characteristics and learning dynamics allow students to experience the three dimensions that shape the meaning of life: creative values, experiential values, and behavioral values.

Vocational High School (SMK) students, particularly those in the Wood and Rattan Creative Crafts (KKA) program at SMKN 5 Malang, also have their own meaning of life, which is certainly different from adults and students from other majors. KKA students are formed through a skills-based education process and crafts that influence how they view life (Sudjana, 2011). The hands-on learning and the demands of completing creative projects indirectly shape students to be more responsible, skilled, and appreciative of the process (Wibowo, 2016). In addition, students' experiences interacting with productive teachers, classmates, and being involved in a workshop environment that demands cooperation and perseverance also contribute significantly to the formation of their life principles (Daryanto, 2014). Through these interactions, students discover values such as hard work, responsibility, and appreciation for work, all of which become important parts of their life principles, one of which is the meaning of life and its purpose (Frankl, 2017).

Students majoring in Wood and Rattan Craft at SMKN 5 Malang also have values and principles that they believe in and apply in their daily lives, both inside and outside the workshop environment. From the beginning of their studies, students are accustomed to upholding discipline, perseverance, and responsibility in the creative process. In their daily lives, wood craft students are accustomed to working together with their classmates without differentiating between backgrounds or technical abilities. The attitude of helping each other in working on projects, sharing tools, and providing input is part of a learning culture that grows naturally. This arises because during the learning process, students are taught that in the world of crafts, the success of a work is not only determined by individual talent, but also by the ability to work together, respect each other, and maintain work ethics. Values such as togetherness, responsibility, and commitment to the process are part of the character of Wood Craft students, which is formed through their learning experiences.

Students in this major have diverse and unique characteristics. While students are generally shaped through learning that demands discipline, perseverance, and technical skills, in practice, behavioral dynamics are quite complex. Some students appear less enthusiastic about participating in theoretical and practical learning, yet are able to demonstrate extraordinary performance in school- and city-level skills competitions. There are also students who tend to be academically lazy, yet possess a high level of creativity in designing and creating craft products. This demonstrates that the potential of Wood Craft

students is not always reflected in formal performance in the classroom, but can emerge in non-academic forms that are more contextual to their interests and expertise.

Woodcraft students tend to be more active and enthusiastic in the workshop environment than in classroom learning activities. Students appear more diligent, meticulous, and proactive when working on craft projects. However, many exhibit a lack of enthusiasm or motivation to learn during theory lessons. This phenomenon is a characteristic of vocational students, who prefer practical activities over theoretical ones. Therefore, as a Guidance and Counseling (BK) teacher, a service strategy is needed to help students develop discipline and enthusiasm for learning in a balanced manner, both in the workshop and in the classroom. The role of the BK teacher is crucial in increasing student learning motivation, facilitating self-understanding, and developing potential (Listari & Rabbani, 2024).

As a preventive and curative effort in helping students of SMKN 5 Malang majoring in Wood and Rattan Crafts in facing challenges during the educational process, counselors are expected to be able to provide services that are appropriate to the unique characteristics of vocational students. Students majoring in Wood Crafts have a strong tendency towards practical and creative activities. However, they often experience obstacles in academic aspects, career decision-making, and in understanding the meaning of the learning process they are undergoing. When counselors accompany students with different backgrounds, interests and learning styles, especially vocational students such as Wood Crafts, counselors need to adjust their service approach to the students' daily world which is closely related to production processes, independent work, and creative demands.

Based on the description, to facilitate counselors in adjusting the implementation of guidance and counseling services for vocational students, a study is needed that can describe their psychological dynamics in more depth, one of which is by examining the meaning of life of students majoring in Wood Craft. The meaning of life that a person has can bring happiness and even help overcome suffering (Frankl, 2017). Having a deep understanding of the meaning of life of students can help counselors to provide more effective and efficient services in helping students determine their life direction, build longterm goals, and maximize their potential in both academic and non-academic fields. Therefore, this paper will discuss the study of the meaning of life in students majoring in Wood and Rattan Craft at SMKN 5 Malang.

## 2. Method

This study uses a qualitative approach with a phenomenological approach, which aims to explore in depth (Sugiyono, 2013). The perception of the meaning of life of students majoring in Wood and Rattan Creative Crafts (KKA) at SMKN 5 Malang was conducted using an interview method based on aspects of the meaning of life with four informants: MN (18), RS (17), Z (18), and R (17). Informants were selected using a purposive sampling technique with the following criteria: active students majoring in KKA, at least 17 years old, male or female, possessing striking behavior, and willing to provide honest and in-depth information regarding the informant's life experiences in interpreting life.

The data obtained were analyzed using thematic analysis methods, which allow researchers to identify, group, and interpret patterns of meaning from the informant's experiences. The analysis process began with transcribing interviews, thoroughly rereading the data, coding, and grouping relevant themes. To increase validity, time triangulation was carried out through repeated interviews to ensure the consistency and accuracy of the data collected (Heriyanto, 2018).

**3. Results and Discussion**

**3.1 Result**

The results of this study show a picture of three dimensions of meaning of life, namely creative values, appreciation values, and attitude values as stated by Frankl (2017). The results of interviews with four informants, MN (18), RS (17), R (17), and Z (18), show that these three dimensions are present in their learning experiences.

**Table 1 Creative Values of Wood Craft Students**

<b>Dimensions</b>	<b>Initial</b>	<b>Emik's Statement</b>	<b>Meaning</b>
Creative Values	R	<i>"I learned not to give up easily when making and spoon boxes, even my mother uses them to this day."</i>	Working as a form of self-expression and contribution to the family
	Z	<i>"I like making tables, have the skills and your father's furniture foundation of the future business."</i>	Creativity and skills as the want to help
	MN	<i>"Making a chair... I was so afraid mine stand up, but it turns out it does. hard work I'm so proud!"</i>	Pride in the results of personal hard work
	RS	<i>"I'm really proud. How many months did it take to do that? It was hard."</i>	Appreciate the process of creating work

Creative values are evident in how students use the creative process as a way to express themselves and achieve inner satisfaction. R felt proud when his mother used his work, and Z saw his woodworking skills as a means to continue the family business. This aligns with Frankl's view that one can find meaning in life through work or actions that have personal and social value (Frankl, 2017). Each student has a different creative experience. Creative values reflect the total commitment they put into fulfilling their life's tasks (Ma'ruf, 2019). As demonstrated by the four informants, creative values emerge during the creative process, providing the foundation for their sense of meaning in life. The lengthy process of creating a work reinforces the emergence of meaningful values for students. This meaningfulness for students can be both personal and social, particularly related to those closest to them.

**Table 2 Appreciation Values of Wood Craft Students**

<b>Dimensions</b>	<b>Initial</b>	<b>Emik's Statement</b>	<b>Meaning</b>
Experiential Values	R	<i>"If it weren't for my mom's support, I might have given up. My friends also help each other out."</i>	Social support as a source of life strength
	Z	<i>"My parents are far away, but close friends and teachers guide me."</i>	Social relations and teachers shape meaningful experiences
	MN	<i>"The most meaningful experience was help from Mr. Hariadi during times of difficulty."</i>	Emotional experiences with teachers form deep impressions
	RS	<i>"My brother is paying for everything, I will join him in working with him in Kalimantan later."</i>	Family as the main inspiration in life

Experiential values can be discovered through work experiences and through meaningful relationships with teachers, friends, and family (Frankl, 2017). MN stated that the workshop teacher played a significant role in shaping his experiences, while RS and R were greatly inspired by family support. This encouragement helps students persist and

thrive in their current environment. Informants also stated that motivation from friends contributed to the formation of valuable meaning from experiences during their education. The establishment of social relationships helps students make sense of life. This aligns with Frankl's idea that experiences of love, beauty, or human relationships are powerful sources of meaning in life (Frankl, 2017).

**Table 3 Nilai Bersikap Siswa Jurusan Kriya Kayu**

Dimensions	Initial	Emik's Statement	Meaning
Attitudinal Values	R	<i>"Saya sakit dan bagian kursi hilang, saya ulang meski sedih."</i>	Ketabahan menghadapi kerjakan kehilangan hasil kerja
	Z	<i>"Saya latihan 7 bulan untuk lomba, bahkan takbiran tetap kerja."</i>	Disiplin dan ketekunan malam menghadapi tantangan
	MN	<i>"Dulu merasa dikucilkan karena nolak tapi saya bertahan dan berbaur."</i>	Sikap teguh terhadap prinsip <i>ngerokok</i> , pribadi
	RS	<i>"Tugas banyak, waktu mepet, tapi saya tetap semangat karena ingin membanggakan orang tua."</i>	Motivasi bertahan demi harga diri dan keluarga tua.

Attitudinal values emerge when students are able to persevere and demonstrate a positive attitude toward suffering or hardship. R had to redo lost work, Z continued practicing despite extreme conditions, MN chose not to give up despite social pressure, and RS was motivated to make his parents proud despite facing difficulties. A person still has the freedom to choose his attitude when facing suffering, thus finding the highest meaning (Frankl, 2017). The choices students make demonstrate a positive attitude in facing challenges. These challenges arise not only from assignments but also from their surroundings, such as different friendships than in the past. The inevitable presence of difficulties encourages individuals to make choices in line with their individual beliefs.

The meaning of life for students majoring in Wood and Rattan Crafts at SMKN 5 Malang is reflected in three main dimensions: creative values, appreciation values, and attitude values. Creative values are evident in the students' ability to express themselves through their creations, such as wooden tables, chairs, and boxes. For them, successfully creating products from raw materials is a source of pride and satisfaction. Several students also mentioned that their work is used by their families, further reinforcing the value and meaning of each creative process. This demonstrates that creativity and skills are not merely schoolwork, but also part of a contribution to those closest to them and their future.

The value of appreciation is evident in meaningful social relationships with friends, teachers, and family. Emotional support from parents and solidarity among peers are key drivers for students to persist and thrive in this major. Meanwhile, the value of attitude is evident when students are able to face difficulties, such as project failure, competition pressure, or personal challenges, with fortitude and an unyielding spirit. These three dimensions shape craft students' holistic and natural perception of the meaning of life, born from their direct experiences in the learning and creative process. For students, the meaning of life is not only about the end result, but also about the process, relationships, and how they respond to life. These findings reinforce the importance of a guidance and counseling approach based on students' personal meaning, particularly in vocational high school settings. Counselors need to develop service programs that facilitate students' recognition of their work as part of their identity, foster healthy social relationships, and guide them in managing life's challenges with a positive and resilient attitude.

### 3.2 Discussion

Based on the results of interviews with four informants, namely R, Z, MN, and RS, it was found that all three of them gave meaning to life through various learning experiences and social interactions that occurred during their education in the Wood and Rattan Crafts department at

SMKN 5 Malang. Three dimensions of meaning of life according to Frankl (2017), namely creative values, experiential values, and attitudinal values, appeared consistently in their narratives.

### **3.2.1 Creative Values of Woodcraft Students at SMKN 5 Malang**

Frankl (1959) explicitly stated that humans can find meaning in life through work or action, as seen in the experiences of students majoring in Wood and Rattan Creative Crafts. R, who stated, "I learned not to give up easily when making chairs and spoon boxes; even my mother uses them to this day," not only reflects perseverance in the creative process but also demonstrates the discovery of deep meaning in his work, which is personally beneficial and accepted by his family. The pride in having his work used by his mother reinforces that the process of creating something that has a positive impact on others is a powerful source of meaning in life, consistent with Bastaman's (2007) emphasis on participation in productive activities that have emotional value.

Similarly, Z and RS demonstrated that the process of creating works requires precision, time, and extensive practice. Likewise, Z clearly described his creative abilities and skills as part of his future plans to continue his family's furniture business. This indicates that for Z, creating is not merely a matter of self-expression but also a foundation for realizing his long-term life goal: to continue his family's business. This is in line with Frankl in (Beoree, 2010) who stated that the discovery of meaning can be achieved through setting goals to be achieved, which reflect attitudinal values or experiential values related to future orientation..

### **3.2.2 The Experiential Values of Woodcraft Students at SMKN 5 Malang**

The experiential values dimension refers to the meaning of life discovered through profound affective experiences, such as love, human relationships, or contact with beauty and values (Frankl, 2017). In this context, all four informants indicated that social relationships played a significant role in shaping their meaning in life. MN and R identified teachers as important figures who guided and provided a sense of security during the learning process. MN described Mr. Hariadi as being very helpful when she encountered technical difficulties. Positive relationships with teachers foster a sense of appreciation and support, an experience that can strengthen one's meaning in life (Bastaman, 2007).

RS and Z also revealed that family support—particularly from siblings and parents—was a major source of encouragement in their education. RS even mentioned that her older sibling covered all of her living expenses, which propelled her to persevere and excel. This aligns with the notion that genuine love and human relationships can provide profound meaning even in difficult circumstances (Frankl, 2017).

### **3.2.3 Attitude Values of Wood Craft Students at SMKN 5 Malang**

Frankl (1959) emphasized that the highest value of meaning in life is found when a person is able to act positively and responsibly in the face of suffering, loss, or irreversible situations. All four informants demonstrated forms of resilience relevant to this dimension. R experienced the loss of work when he was ill and part of his work was lost, but chose to complete it despite feeling sad. He used time for reflection and prayer as a way to calm himself. This is a form of self-transcendence, namely when an individual is able to view suffering as part of the process of meaning (Frankl, 2017). Z demonstrated extraordinary commitment while undergoing training for a furniture competition with high discipline, even during the fasting month and the night of takbiran. This attitude reflects the determination and patience that Frankl believes are the main keys to finding meaning amidst the pressures of life. MN faced social pressure because he did not follow the negative currents brought by his friends and showed persistence in upholding his principles. This shows that the meaning of life can be found through the courage to maintain self-worth despite the risk of rejection by those around him (Bastaman, 2007). RS described himself as someone who has not yet found the explicit meaning of life. Yet he has a strong desire to make his family proud and works hard. This demonstrates that even if someone doesn't yet have a definitive definition of the meaning of life, their attitudes and actions demonstrate a process toward finding it.

These findings reinforce the important role of guidance and counseling teachers in facilitating students in recognizing work as part of their identity, establishing healthy social relationships, and managing life's challenges with a positive attitude. Discovering the meaning

of life through creative values, experiential values, and attitudinal values demonstrates the uniqueness of vocational education. Practical experiences, support from those closest to them, and achievements contribute to shaping students' readiness for the world of work (Baiti & Munadi, 2014). This aligns with the experiential and attitudinal values proposed by Frankl.

The specific characteristics of students majoring in Wood and Rattan Craft at SMKN 5 Malang require school counselors to adopt a guidance and counseling service approach that adapts to the background, interests, and learning dynamics of vocational students. Students in this major tend to have a strong practical orientation, an interest in creative skills, and a strong work ethic in the workshop, but they often encounter obstacles in academics and future planning. Therefore, counselors are expected to be competent in establishing harmonious counseling relationships and responding to the students' vocational high school educational backgrounds. According to Dillon et al. (2016), counselors who possess competence in multicultural counseling and understand the unique characteristics of their clients will be more effective in improving student well-being. In this regard, counselors need to master two forms of competency: personal competencies such as warmth, genuineness, empathy, and unconditional positive regard (Rogers in Latipun, 2010), and professional competencies such as the ability to conduct assessments, develop and implement service programs, evaluate the counseling process, and understand ethics and research in guidance and counseling (Nursalim, 2015).

Furthermore, counselors need to understand the emic and ethical approaches to guidance and counseling services (Muslihati, 2013). Emically, counselors must recognize the unique characteristics of woodworking students, such as their practice-based learning style, technical thinking, and collective work culture in the workshop. Counselors also need to understand the values inherent in the woodworking learning community, such as loyalty to fellow workshop members, perseverance, and achievement based on concrete work. Ethically, counselors must maintain a professional attitude and provide services to all students without discrimination based on their major, including vocational students who often experience negative stereotypes. Research shows that woodcraft students have a strong sense of meaning in life, particularly in the dimensions of creative values, appreciation, and attitude. Therefore, counselors need to provide guidance and counseling services based on concrete experiences and field practice, for example through project-based group guidance or individual counseling that emphasizes values derived from students' workshop experiences.

Suitable areas of guidance for woodcraft students are personal and career. Personal guidance can help students understand their potential, manage emotions when facing pressure in the workshop or in competitions, and build self-confidence in facing challenges. Career guidance is particularly relevant because woodcraft students are directed to be work-ready and independent, thus requiring counselor support in designing future plans, developing skills, and preparing for the transition to the world of work or entrepreneurship. However, learning services should still be provided to help students develop academic discipline, manage time, and balance practice and theory. Thus, guidance and counseling services will help students develop holistically and prepare them to face challenges in both education and the workplace.

Counselors can also integrate logotherapy principles into student intervention designs. For example, guidance services can encourage students to reflect on the meaning of their work, the values learned from interactions with peers and teachers, or how each student reacts to failure or challenges that arise in life. These activities can serve as guides for students to internalize the meaning of life and identify their individual identities.

#### **4. Conclusion**

This study revealed that students majoring in Wood and Rattan Crafts at SMKN 5 Malang have a strong perception of the meaning of life, reflected in Viktor Frankl's three main dimensions: creativity, appreciation, and attitude. Creative values are evident in students' pride in their work and contributions to their families. Appreciation values are reflected in positive relationships with teachers, friends, and family who provide emotional support. Meanwhile, attitude values are reflected in students' resilience and positive attitudes in facing educational and personal challenges. These findings emphasize the importance of a guidance and counseling

service approach that accommodates the concrete experiences of vocational high school students. A practice-based approach and personalized service are crucial to helping students understand themselves, plan for the future, and face life's challenges with greater awareness and resilience. By understanding these dimensions, school counselors are expected to develop guidance services tailored to the characteristics of vocational students, namely by strengthening creativity, positive social relationships, and the ability to face challenges. This approach aligns with Frankl's logotherapy, which emphasizes that each individual can find meaning in life through their work, experiences, and attitudes toward suffering.

### References

- Baiti, A. A., & Munadi, S. (2014). Pengaruh pengalaman praktik, prestasi belajar dasar kejuruan dan dukungan orang tua terhadap kesiapan kerja siswa SMK. *Jurnal Pendidikan Vokasi*, 4(2), 164-180.
- Bastaman, H. D. (2007). *Logoterapi: Psikologi untuk Menemukan Makna Hidup dan Meraih Hidup Bermakna*. Jakarta: PT RajaGrafindo Persada.
- Boeree, C. G. (2010). *Personality Theories: Viktor Frankl*. Diakses dari <https://webspaceship.edu/cgboer/frankl.html>
- Boeree, G. C. (2010). *Personality Theories-Melacak Kepribadian Anda Bersama Psikolog Dunia*. Yogyakarta: Primasophie.
- Dillon, F. R., Odera, L., Fons-Scheyd, A., Sheu, H.-B., Ebersole, R. C., & Spanierman, L. B. (2016). A Dyadic Study of Multicultural Counseling Competence. *Journal of Counseling Psychology*, 63(1), 57-66. <https://doi.org/10.1037/cou000118>
- Frankl, V. E. (2017). *Man's Search for Meaning* (Haris Priyatna, Indonesian Ed.). Noura Books.
- Heriyanto, H. (2018, November 22). Thematic Analysis sebagai Metode Menganalisa Data untuk Penelitian Kualitatif. Heriyanto | Anuva: Jurnal Kajian Budaya, Perpustakaan, Dan Informasi. <https://ejournal2.undip.ac.id/index.php/anuva/article/view/3679/2059>
- Jurnal PMPP. (2024, Oktober 2). Karakteristik dan Tuntutan Perkembangan. [URL: <https://jurnal.pmpp.or.id/index.php/statement/article/download/24/24/46>]
- Listari, D. A., & Rabbani, M. F. (2024). Peran Bimbingan Konseling dalam Meningkatkan Motivasi Belajar Siswa di Sekolah. *Global Research Publication*, 2(1), 26-34.
- Ma'ruf, M. G. (2019). Hubungan Konsep Diri dan Self Control dengan Kebermaknaan Hidup. *Indonesian Psychological Research*, 1(1), 11-24.
- Muslihati. (2013). *Konseling Multibudaya dan Kompetensi Multibudaya Konselor*. Malang: Universitas Negeri Malang
- Nursalim, M. (2015). *Pengembangan Profesi Bimbingan & Konseling*. Jakarta: Erlangga.
- Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (19th ed.). CV. ALFABETA.
- Wibowo, A. (2016). Implementasi model teaching factory pada pembelajaran praktik di Jurusan Kriya Kayu SMK Negeri 1 Kalasan (Skripsi tidak diterbitkan). Universitas Negeri Yogyakarta.
- Daryanto. (2014). *Pendekatan Pembelajaran Sainifik Kurikulum 2013*. Yogyakarta: Gava Media.
- Sudjana, D. (2011). *Pendidikan Kejuruan dalam Perspektif Teori dan Praktik*. Bandung: Sinar Baru Algensindo.