Improving Technical and Conceptual Photography Skills of Vocational School Students: A Case Study of the "Recording Vision, Building Works" Workshop Intervention at SMKN 8 Jayapura

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***Abstract**.*

Vocational education in Visual Communication Design (VCD) faces challenges in bridging the school curriculum with the dynamic demands of industry 4.0. Vocational high school (SMK) students, as future creative talents, often master basic technical skills but are reported to lack conceptual depth, industry insight, and mature creative vision. This Community Service (PkM) activity aims to improve the fundamental and practical photography competencies of 32 VCD students from SMKN 8 Kota Jayapura. The method used was a two-day interactive workshop (November 10-11, 2025) with a quasi-experimental one-group pre-test/post-test design. The intervention included theory sessions (exposure triangle, composition, professional ethics) and intensive practice sessions simulated based on client briefs (model photography and product photography). Data was collected using pre-test and post-test questionnaires as well as qualitative observations. The results of the intervention showed significant effectiveness. Participants' average comprehension scores jumped from 32.58% on the pre-test to 59.73% on the post-test, representing an absolute increase of 27.15 percentage points. Detailed analysis revealed clear learning disparities: directly visualized technical-practical concepts (e.g., Aperture or 'Bokeh') experienced a dramatic increase (+55 percentage points), while professional-abstract concepts (e.g., Ethics or 'Model Release') remained challenging with the lowest final scores (23%). It is concluded that the "Capturing Vision, Building Work" workshop method is highly effective in improving technical photography skills. However, these findings highlight the need for stronger integration between professional ethics and hands-on practice in future VCD pedagogy.from each macroinvertebrate species towards environmental conditions.

***Keywords:** Photography; Vocational Education; Student Competence; Visual Communication Design; Community Service and Pre-Test Post-Test.*

I. INTRODUCTION

Higher education institutions in Indonesia carry out the Tri Dharma Perguruan Tinggi mandate, which includes Education, Research, and Community Service (PkM). The PkM pillar serves as an essential bridge connecting academic institutions, often considered "ivory towers," with practical needs and real challenges in the field. In this context, the Visual Communication Design (VCD) Study Program at the Indonesian Institute of Arts and Culture (ISBI) in Tanah Papua has a strategic responsibility to contribute to the development of the local creative ecosystem, particularly in Jayapura, Papua. This role is in line with research showing that the creative industry and creative economy in Indonesia tend to be concentrated in urban areas and are greatly influenced by the availability of human resources and policy support, thus requiring collaboration between educational institutions, communities, and industries to effectively develop creative talent[1] This responsibility has become increasingly crucial in the era of the 4.0 industrial revolution and digital acceleration. Visual communication has evolved into the primary language for information dissemination, marketing, and culture. Photography, as one of the fundamental elements in visual communication design, has undergone a radical transformation. It is no longer merely a passive medium of documentation, but has become a powerful tool for storytelling, branding, and conveying impactful messages.

The modern creative industry demands practitioners who are not only technically proficient but also conceptually sharp. Findings from the creative economy literature show that the creative sector and cultural industries can contribute significantly to local development when accompanied by the development of skills,

creativity, and collaborative networks between industry players and educational institutions[2] .Faced with these demands, vocational high schools (SMK), especially those with DKV or Multimedia programs, have become key strategic partners in preparing future creative talent. SMK students are the next generation being prepared to enter the industry directly. However, initial observations and analysis of needs in the field have identified a significant gap. Activity reports note that DKV students at SMKN 8 Kota Jayapura, despite "having technical foundations," often "need deeper conceptual understanding, industry insight, and a more mature creative vision." This is consistent with the literature stating that vocational education tends to focus on technical skills, while the development of soft skills and conceptual competencies is often neglected, resulting in graduates who are less prepared to face the demands of the creative industry[3], [4] . This gap indicates that vocational education in the field has the potential to focus too much on *tool-based learning*—such as how to operate a camera or software—at the expense of *concept-based learning*—namely, why and for what purpose a visual work is created. The urgency to address this gap is validated by the literature, which emphasizes the importance of vocational education in preparing an adaptive workforce for the creative industries.

In the era of Industry 4.0, work readiness for vocational school graduates must include adaptability, creativity, critical thinking, and collaboration—aspects that should be part of vocational education but are often neglected if the curriculum only focuses on technical skills[5] .Responding to these needs, the DKV ISBI Tanah Papua Study Program initiated a PkM activity in the form of *a* photography *workshop*. This activity was named "Recording Vision, Building Work". The philosophy behind this name was explicitly designed to bridge the identified gaps. "Recording Vision" targets deficiencies in the aspects of "concept" and "creative vision," while "Building Works" targets "industry insight" through professional practice simulations. This workshop-based approach is in line with the experiential learning method, which has been proven effective in improving creative skills and visual practices[6] .The objectives of this community service activity are specifically formulated to: (1) provide students with a fundamental understanding of photography (exposure triangle, composition, lighting); (2) train students' practical skills in operating cameras and capturing photo objects; (3) broaden students' insight into the application of photography in various professional fields (journalism, advertising); (4) encourage students to develop creative vision and visual *storytelling* abilities; and (5) strengthen the institutional partnership between ISBI Tanah Papua and SMKN 8 Kota Jayapura.

II.   METHODS

Research Design and Participants

The method used in this community service activity was a quasi-experimental approach with a *one-group pre-test/post-test* design. This design was chosen to measure the effectiveness of the intervention (*workshop*) on increasing participants' knowledge and understanding.The participants of the activity were a *purposive sample* consisting of 32 students. They came from grades X, XI, and XII of the Visual Communication Design Department at SMKN 8 Kota Jayapura. The selection of participants was based on the relevance of their expertise program to the *workshop* material. The activity was carried out over two days, from November 10 to 11, 2025, and took place at the Visual Communication Design Laboratory of SMKN 8 Kota Jayapura.

Intervention Procedure (Workshop Design)

The workshop intervention was designed as a progressive, *scaffolded learning design*, moving from fundamental theory to applied practice and professional workflows. This design deliberately combined Theory Sessions (*Indoor*), Practice Sessions (*Outdoor*), and *Mentoring* Sessions (Work Analysis). The two-day activity flow was as follows: First, Stage 1: Conceptual Foundations (Day 1, Morning). The session begins with building *a* professional *mindset* (Session 1: Professional Photography), shifting from hobby to profession. This is followed by core technical material (Session 2: Technical Foundations), which focuses on understanding the Exposure Triangle Concept (*Aperture, Shutter Speed*, ISO). This stage concludes with Session 3 (Artistic Vision), which discusses Composition (*Rule of Thirds, Leading Lines*), Angle, and Lighting (including an introduction to *3-Point Studio Lighting*).

Second, Stage 2: Guided Practice (Day 1, Afternoon & Day 2, Morning). In this stage, participants immediately apply the theory in simulated practice scenarios based on *the "Client Brief"*. The practice is divided into three specific modules: 1) Session 4 (Product Photography): Client *Brief* "Online Store," with a technical focus on *lighting* and *aperture* for sharp details. 2) Session 5 (Journalistic Photography): Client *Brief* "Public Relations Team," with a technical focus on *shutter speed* (*anti-blur*) and *storytelling*. 3) Session 6 (Portrait Photography): Client *Brief* "Wall Magazine," with a technical focus on *aperture* (for *bokeh*), *soft light*, and model interaction. Third, Stage 3: Professional Workflow (Day 2, Afternoon). After the practical session, the intervention shifts to the post-production workflow (Session 7: Digital Workflow), which covers *file* management, the importance *of backups*, and the professional debate between RAW and JPEG. The final stage is Session 8 (Ethics & Portfolio), which theoretically discusses the development of a digital portfolio and legal aspects such as Copyright and Model Releases.

Data Collection and Analysis Instruments

The main quantitative data collection instruments are *pre-test* and *post-test* questionnaires. These questionnaires were designed by the team of presenters (DKV lecturers) to measure participants' understanding of the key concepts taught, ranging from technical (e.g., ISO, *Bokeh*) to professional (e.g., *Model Release*, RAW).Qualitative data was collected through participatory observation during practice sessions and through "short work *review*" sessions. Participants' enthusiasm, types of questions, and active participation were recorded as indicators of the process's success.Data analysis was conducted using comparative descriptive analysis. The percentage score of correct answers from *the pre-test* was compared with the *post-test* score to measure the significance of the increase in understanding. Further analysis was conducted per question item to identify which topics were most successfully absorbed and which topics remained challenging.

III. RESULT AND DISCUSSION

Overall Effectiveness of the Workshop

The "Recording Vision, Building Work" *workshop* intervention showed high effectiveness in achieving its goal of improving students' fundamental understanding of photography. The main quantitative results showed a statistically and practically significant increase in collective understanding. The data in Table 1 shows that the overall average score of participants on *the pre-test* was 32.58%. This score is relatively low, confirming the initial observation that students, despite being in the DKV department, still lack in-depth conceptual and technical understanding. After the two-day *workshop* intervention ( ), the average *post-test* score jumped to 59.73%. This represents an absolute increase of 27.15 percentage points, a substantial leap that indicates that the workshop material was effective and successfully absorbed by the participants.

Table 1. Comparison of Pre-Test and Post-Test Average Scores

Metric	Pre-Test Score	Post-Test Score	Increase (Percentage Points)
Overall Average Score	32.58	59.73%	+27.15

Source: Processing of Pre-Test and Post-Test Workshop data

These findings are in line with vocational education studies that emphasize that hands-on practice and field experience are key factors in improving the competence of vocational school students. Research by Yuliyanto et al. [7] shows that field work practice and *self-efficacy* contribute significantly to the work readiness of vocational students. Similar findings are also shown by Fitri et al. [8] , which confirms that project-based learning models and structured practices can substantially improve students' pre-vocational competencies. In addition, a study on photography training by Nur Wahyudi et al. [9] proves that practice-based *workshops* are effective in improving participants' technical skills and visual understanding.

Learning Gap Analysis: Disparities between Technical-Practical and Ethical-Professional Skills

Although the overall average improvement is very positive, a more in-depth analysis of each question reveals crucial pedagogical insights. A clear disparity was identified in the level of material absorption between technical-practical concepts (which can be practiced directly) and ethical-abstract concepts (which are taught theoretically).

Success in Technical-Practical Concepts (Experience-Based Learning)

Table 2. Analysis of Score Improvement Based on Learning Topic Categories

Topic Category	Question Number (Topic)	Pre-Test Score	Post-Test Score	Improvement (Points)	Analysis
Technical-Practical (Quick Results)	Question #2 (Bokeh Effect/Aperture)	13	68	+55	Greatest Success
	Question #4 (High ISO Consequences)	32	68	+36	Strong Increase
	Question #5 (Low Angle)	32	65	+33	Strong Improvement
Technical-Workflow (Pending Results)	Question #8 (RAW File Format)	16	55	+38	Significant Improvement
	Question #3 (Shutter Speed 'Freezes' Action)	61	68	+7	Understood Well Enough
Ethical-Professional	Question #10 (Model Release/Ethics)	(approximately 10%)	23	+13	Still Needs Attention

Source: Pre-Test and Post-Test Data Analysis

The data in Table 2 shows the greatest success of this *workshop*. Topics that are technical and can be visualized directly experienced the greatest leap in understanding: First, Question #2 (*Bokeh/Aperture* Effect): This was the greatest pedagogical success. Understanding jumped from only 13% on *the pre-test* to 68% on *the post-test*, a massive increase of +55 percentage points. Second, Question #4 (High ISO Consequences): Understanding of *noise* caused by high ISO increased strongly from 32% to 68% (+36 points). And Thrid, Question #8 (RAW *File* Format): Understanding of the advantages of RAW in professional workflows increased from 16% to 55% (+38 points).The reason for the extraordinary success of the topic *'Bokeh'* (*Aperture*) can be traced directly to the *workshop* design. Based on the schedule, Session 6 (Practice 3: Portraits) explicitly had a "Technical focus: *Aperture* (*bokeh*), *Soft Light*." Participants not only learned about *aperture* but also immediately applied it to create character portraits with visually satisfying *blurred* backgrounds. This success was reinforced by Session 9 (*Review* & Closing), which included a "constructive feedback session (critique & suggestions)." This is a perfect demonstration of *Experiential Learning*: hands-on practice, instant visual results, and reflection (work analysis).

Challenges in Ethical-Abstract Concepts (Passive Learning)

On the other hand, analysis reveals significant challenges in topics that are abstract, legalistic, and taught passively in Question #10 (*Model Release* / Ethics): Although there was a slight improvement (+13 points), the final score for this topic was the "lowest in the post-test (23%)".The failure to absorb the *'Model Release'* concept is as clear as the success *of 'Bokeh'*. If traced back to schedule 1, Session 8 (Ethics & Portfolio) was "Module 6 (Theory)". This session only lasted 30 minutes (2:45 p.m. - 3:15 p.m.) and was placed at the end of the second day *of the workshop*. Participants, who were likely experiencing cognitive fatigue after two days of intensive practice, were confronted with complex legal concepts (*Model Release*, Copyright, Privacy) in an abstract and rushed manner. Unlike *'Bokeh'*, which was practiced, *'Model* Release' was only listened to.This reveals a critical weakness in the pedagogical design: "soft" skills or professional ethics cannot be effectively taught as additional theoretical material. These skills must be integrated into the practice itself to have the same relevance and impact as technical skills.

Qualitative Evaluation and Study Limitations

In addition to quantitative findings, qualitative evaluation noted several important obstacles and limitations for future activities: 1) Equipment Constraints (Confounding Variables): There is significant "equipment diversity" among participants. Most use *smartphones*, while only a small number bring *DSLR/Mirrorless cameras*. This is a substantial confounding variable. Teaching the concept of the Exposure Triangle (especially *Aperture* and *Shutter Speed*) is very different on manual *DSLR/Mirrorless* cameras compared to smartphones, which mostly automate this process through "*portrait mode*." 2) Time Constraints: The duration of the practice session was "considered too short by most participants." Ironically, this is an indicator of success (high enthusiasm), but it also shows that dense material may require more time for exploration. 3) Study Limitations (Participant Attrition): There was a decrease in the number of participants who completed *the post-test* (an average of 22 participants) compared to *the pre-test* (32 participants). The report notes that this was due to "technical constraints such as device malfunctions." This participant attrition

must be acknowledged as a limitation of the study. It is possible that the *post-test* score of 59.73% may not represent the entire initial group, and the score may be slightly inflated if the students who did not complete the test were those who were less motivated or did not understand the material.

IV. CONCLUSION

The Community Service (PkM) activity in the form of *a* photography *workshop* entitled "Recording Vision, Building Works" was successfully carried out according to plan and achieved its objectives. This activity not only fulfilled the Tri Dharma Perguruan Tinggi (Three Pillars of Higher Education) obligations for the DKV ISBI Tanah Papua study program but also provided practical and measurable benefits for students of SMKN 8 Kota Jayapura.Quantitatively, this *workshop* proved to be significantly effective in improving students' technical and conceptual knowledge of photography, as indicated by an increase in the average *pre-test/post-test* score of 27.15 percentage points.The main pedagogical finding from this intervention is the clear disparity between the effectiveness of experience-based learning and passive theoretical learning. Technical-practical concepts (such as *'Bokeh'/Aperture*) taught through hands-on practice and immediate feedback experienced the highest increase in understanding (+55 points). Conversely, ethical-professional concepts (such as *'Model Release'*) taught as abstract theory at the end of the session failed to be adequately absorbed (final score 23%).

Based on these findings, the development of similar PkM programs in the future needs to consider a number of strategic improvements. One of them is to reorganize the mentoring method by dividing participants into small groups based on the equipment they use, such as DSLR groups and *smartphone* groups ( ), so that instructions can be more relevant and reduce the constraints of equipment differences. In addition, the limited practice time experienced by participants indicates the need to hold *a* follow-up *workshop* as a second series, which can focus on specific materials such as studio lighting or advanced photo processing. The most important pedagogical recommendation is to strengthen ethical aspects through direct integration into practice sessions. Concepts such as *model releases* should ideally not only be conveyed in theory but also practiced in real life by requiring participants to explain and request signatures on *mock forms* before the shooting session. By making ethics a concrete practical activity, students' understanding of the professional aspects of photography is expected to improve, as is the effectiveness of learning other technical material.

REFERENCES

[1] F. Z. Fahmi, S. Koster, and J. van Dijk, "The location of creative industries in a developing country: The case of Indonesia," *Cities*, vol. 59, pp. 66–79, Nov. 2016, doi: 10.1016/j.cities.2016.06.005.

[2] N. Boccella and I. Salerno, "Creative Economy, Cultural Industries and Local Development," *Procedia - Soc. Behav. Sci.*, vol. 223, pp. 291–296, Jun. 2016, doi: 10.1016/j.sbspro.2016.05.370.

[3] R. Wahyuningsih, L. Noviani, D. K. Wardani, S. Sudarno, and R. Siswanto, "Implementation of Work-Integrated Learning to Improve Vocational School Students' Work Readiness," *Mudir J. Manaj. Pendidik.*, vol. 5, no. 2, pp. 375–380, 2023, doi: 10.55352/mudir.v5i2.573.

[4] F. Lukitasari, T. Wrahatnolo, R. Suhartini, and N. Astuti, "Responsive vocational education to the needs of the world of work: A literature review of critical factors," *J. Pendidik. Teknol. Kejuru.*, vol. 8, no. 3, pp. 169–181, Aug. 2025, doi: 10.24036/jptk.v8i3.46323.

[5] I. Nurjanah, A. Ana, and A. Bin Masek, "Work readiness of vocational high school graduates in facing the industrial 4.0 era," *J. Pendidik. Teknol. dan Kejuru.*, vol. 28, no. 2, Oct. 2022, doi: 10.21831/jptk.v28i2.48552.

[6] D. A. Kolb, *Experiential learning: Experience as the source of learning and development*. FT press, 2015.

[7] T.Yulianto,M.W.Nugroho, andT. Sundari, "Analisis Kinerja Simpang Tiga Menggunakan Metode PKJI 2023 pada Jl. KH.Wahab Chasbulloh–Jl.Garuda Kabupaten Jombang,"*J. Rekayasa dan Apl.*,vol.4, no.2, pp.1–9, 2024.

[8] H. M. Fitri, P. Khaerunnisa, E. Setiawan, and S. Wardoyo, "Peningkatan Keterampilan Pra-Vokasional Siswa SMK melalui Project-Based Learning (PjBL): Studi Literatur," *J. Pendidik. dan Pembelajaran Indones.*, vol. 5, no. 1, pp. 307–318, Jan. 2025, doi: 10.53299/jppi.v5i1.996.

[9] E. Nur Wahyudi, Y. Anis, and S. Mulyani, "Pelatihan Fotografi Sekolah Guna Menciptakan Karya Visual yang Menginspirasi Bagi Guru dan Siswa SMK/SMA di Semarang," *J. Pengabdi. Masy. Bumi Rafflesia*, vol. 7, no. 3, pp. 20–28, Dec. 2024, doi: 10.36085/jpmbr.v7i3.7211.