

# Improving Student Ability in Accounting Research Data Processing Using SPSS

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## ABSTRACT

**Background:** Timely graduation is a critical goal for universities, but delays frequently arise from students' difficulties in processing quantitative data. Lecturers play a vital role in addressing this issue by offering targeted statistical support to help students improve their data analysis skills and complete their studies on time.

**Contribution:** This activity equips final semester accounting students with skills to analyze and interpret research data using SPSS, guided by lecturers in utilizing technology for economic and business data processing. It also enables students to conduct advanced predictive analysis and classification for deeper insights.  
**Method:** This activity was carried out for 20 accounting final semester students at UIN Sunan Ampel Surabaya in four days. There are several stages done in this activity, including socialization and mapping, module creation, pre-test, implementation, and evaluation, and post-test on the analysis and interpretation of accounting research data.

**Results:** The pre-test, evaluation, and post-test activities show that this activity significantly improved students' ability to analyze and interpret accounting research data using SPSS. The research themes covered included financial accounting, management accounting, sharia accounting, auditing, taxation, and public sector accounting. The satisfaction level reached 65%.

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## 1. Introduction

Lecturers are professional educators and scientists with the main task of transforming, developing, and disseminating science, technology, and art through education, research, and community service [1]. Lecturers have a position as professionals at the higher education level

who are appointed in accordance with statutory regulations. The position of the lecturer serves to increase the dignity and role of the lecturer as a learning agent, developer of science, technology, and art, as well as community service to improve the quality of national education [2].

The high quality of student graduates lies in the level of competence of qualified lecturers. This is supported by evidence from research conducted by Mustaqim [3], which shows that the higher the competence of lecturers, the higher student learning achievement will be. Thus, in teaching and learning activities, the competence of the lecturer is an important thing that cannot be ignored because the lecturer is someone who is directly related to students in the teaching and learning process. The study conducted by Budiadi & Sulistyawati [4] showed that the competence of lecturers perceived by students had a positive and partially significant effect on the level of student understanding. Meanwhile, for student graduates who are said to be of high quality, one of the indicators is the completion of their final assignments by students in a timely manner [5].

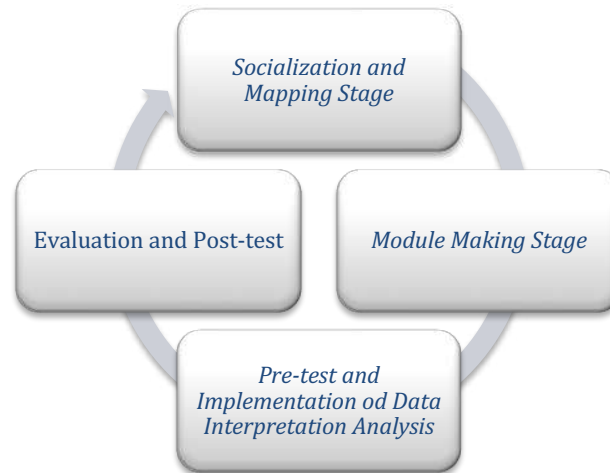
The process of accelerating the completion of the final assignment is very dependent on how students understand research design, are able to carry out analysis, and are able to interpret research data properly and correctly [6]. The majority of the problems faced by students in completing their final project lie in their inability to analyze and interpret research data [7], [8]. This problem makes students less confident in writing, thus it will hinder students from completing their final assignment.

There are several facts in the field that are of concern to the author regarding the causes of students' lack of ability to analyze and interpret research data, including there is no specific course for processing research data using a quantitative approach; There is no student experience in conducting research [9]; Lack of student understanding of accounting research methods; and the lack of student writing activities, particularly in the skills of analyzing research data.

In line with Maksun & Wijaya [10], which emphasizes information technology-based community assistance to the community in the midst of ASEAN economic community competition. This service provides assistance to students in the fields of economics and business to complete their final assignments. Meanwhile, the service carried out by Budiyanto, et al [11] provides benefits for the community to be skilled in processing waste into products of economic value in their waste banks. Thus, this service activity aims to provide additional insight for students about understanding the analysis and interpretation of research data in accounting research. The contribution provided in this service is assistance by lecturers to students in using an information technology approach to process and interpret student research data in the fields of economics and business. In addition, students can perform more complex predictive analysis or classification to gain deeper insights from their data.

## 2. Method

The dedication method uses participatory action research, where the training is carried out for 4 (four) days targeting final semester students at the Accounting Study Program at UIN Sunan Ampel Surabaya. This service activity is carried out through four stages as follows:



**Figure 1.** Stages of Community Service

### 1. Socialization and Mapping Stage

Activities are carried out for final semester students who are conducting research using a quantitative approach, which requires using data analysis tools. The purpose of this stage is also to map students by grouping the types of analysis used by final-semester students to carry out research, including regression testing, correlations, and average comparisons [12]. The results of the mapping are then used as the basis for the service team to draft a practicum module used during the mentoring process.

### 2. Module Making Stage

After the results of the mapping, the grouping of types of analysis used by students was obtained, and the community service team continued by compiling a practicum module draft. This practicum module is used as a reference during mentoring to facilitate the process of analyzing and interpreting research data. Making practicum modules is carried out for one day, outside of class assistance.

### 3. Stage Pre-test and Implementation of Data Interpretation Analysis

After the preparation of the practicum, the module draft is completed, and the next step is to give the pre-test to student participants, which is then followed by training activities on analysis and interpretation of research data [7], [13], [14]. This activity lasted for a full day with the assistance of several lecturers.

### 4. Stage Evaluation and Post-test

Evaluation and post-test are used to measure the level of success of the training carried out [15], [16], [17]. Evaluation is given through the pre-test and post-test results of the training test analysis and interpretation of research data using SPSS. In addition, the measurement

of participant satisfaction is used as an indicator of successful achievement during community service activities [18].

### **3. Results and Discussion**

#### **3.1. Socialization and Mapping**

Activities were carried out by gathering final semester students of the accounting study program who were conducting research based on a quantitative approach on the first day. Socialization and mapping are carried out to equalize perceptions about data processing training activities, as well as to obtain initial information about the need for training materials based on grouping themes and research topics that will be and are being carried out using SPSS.



**Figure 2.** Socialization and Mapping

Not only students with a quantitative approach who attended the training, but students with a background in interpretive and critical paradigms also contributed to discussions on socialization and mapping.

#### **3.2. Creating a Module**

The team of accounting lecturers at UIN Sunan Ampel Surabaya compiled a practicum module for the analysis and interpretation of research data using SPSS. Based on the results of the mapping carried out, the module is divided into several sub-discussions. The first discussion is about testing data quality, then the next discussion is about testing classic assumptions in regression models and testing hypotheses in simple and multiple regression. The modules are arranged for one day before the training begins in accordance with the division of job descriptions from the lecturer team.



**Figure 3.** Preparation of community service

### 3.3. Pre-test Module and Implementation of Data Interpretation Analysis

Before the training began, the lecturer team distributed a pre-test to the participants. The training participants were 20 final-semester students of the accounting study program at UIN Sunan Ampel Surabaya. Participants came from various backgrounds on accounting research topics, including financial accounting, management accounting, sharia accounting, auditing, tax accounting, and public sector accounting.

**Table 1.** Profile of Participant in Research Data Analysis and Interpretation

| Training participant in research data processing training |               | Frequency | Percent |
|---|---------------|-----------|---------|
| Gender  | Male          | 3         | 15.0    |
|   | Female        | 17        | 85.0    |
|   | Total         | 20        | 100.0   |
| Themes  | Financial     | 6         | 30.0    |
|   | Management    | 5         | 25.0    |
|   | Sharia        | 2         | 10.0    |
|   | Auditing      | 2         | 10.0    |
|   | Taxation      | 1         | 5.0     |
|   | Public sector | 4         | 20.0    |
|   | Total         | 20        | 100.0   |
| Regression model  | Simple        | 1         | 5.0     |
|   | Multiple      | 13        | 65.0    |
|   | Mediation     | 4         | 20.0    |
|   | Moderation    | 2         | 10.0    |
|   | Total         | 20        | 100.0   |

Most of the participants were dominated by women, 17 (85%) of the 20 participants who attended. Then the themes spread to various families, which dominated in the financial accounting group as much as 6 (30%), and the least in the taxation family as much as 1 (5%).

Meanwhile, the multiple regression model was the focus of the lecturer team during the training because the one used most often was 13 (65%).



Figure 4. Data Analysis Training First Day

### 3.4. Evaluation and Post-test

Evaluation and post-test were given on the last day of the training. The indicator for the success of this community service activity is determined by the increase in the value of the results of the pre-test and post-test material provided by the team of lecturers [19], [20]. Data analysis used the Wilcoxon signed rank test as a hypothesis test [21].

While the level of achievement and understanding is measured by the level of satisfaction of the participants during the training activities on the analysis and interpretation of research data.

Table 2. Results Pre-test and Post-test

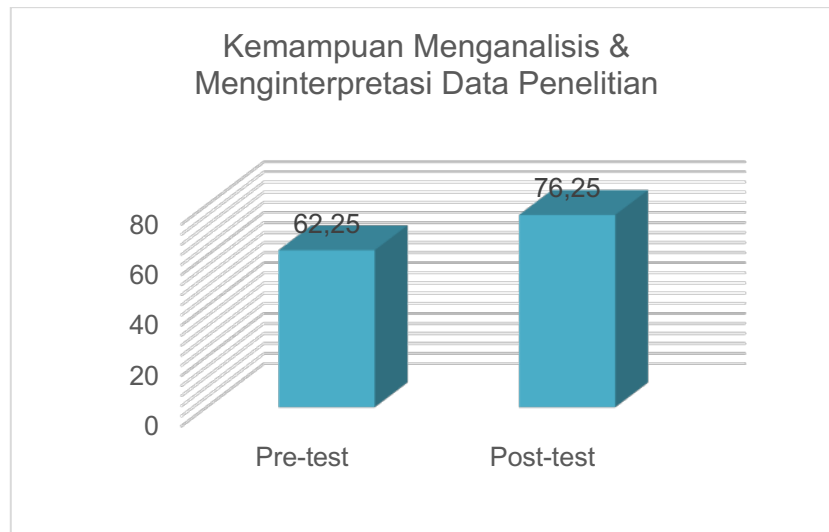
| Wilcoxon Signed Ranks Test |                       | N               | Mean Rank | Sum of Ranks |
|----------------------------|-----------------------|-----------------|-----------|--------------|
| Posttest - Pretest         | Negative Ranks        | 3 <sup>a</sup>  | 48.31     | 628.00       |
|                            | Positive Ranks        | 14 <sup>b</sup> | 72.24     | 9102.00      |
|                            | Ties                  | 3 <sup>c</sup>  |           |              |
|                            | Total                 | 20              |           |              |
|                            | Z                     | -2.604          |           |              |
|                            | Asymp. Sig (2-tailed) | .009            |           |              |

<sup>a</sup>Posttest < Pretest

<sup>b</sup>Posttest > Pretest

<sup>c</sup>Posttest = Pretest

Based on table 2, it shows that there is a difference in the average ability before and after the training given by the service lecturer team.



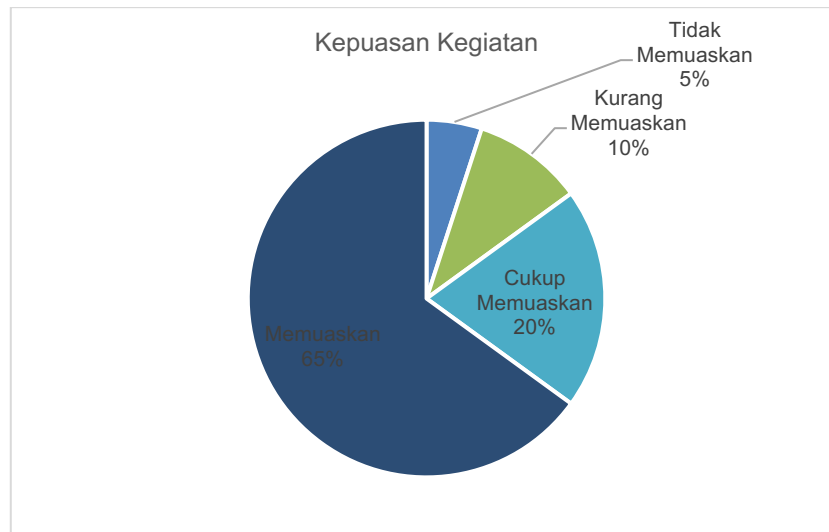
**Figure 5.** Increasing Students' Ability to Process Research Data

Increasing students' ability to analyze and interpret accounting research data in accordance with [Figure 5](#) is due to refreshments conducted by the lecturer team regarding the matter of data quality testing to test the regression model hypothesis. In line with Hermawan, et al. [22] and Junjuna & Nawangsari [23], participants need refreshment efforts from the instructor through an interesting learning design with a variety of media that can be utilized.



**Figure 6.** Evaluation and Post-test

As a training supplement, the teaching team also provides case studies of accounting research data in simple language that participants can easily grasp online. In addition, mentoring is carried out according to the respective regression model when the evaluation is carried out to achieve the desired level of understanding of research data processing. Participants feel adequacy and satisfaction with the material provided during the training activities. This can be seen in [Figure 7](#).



**Figure 7.** Student Satisfaction During the Activity

Based on [Figure 7](#), it can be seen that almost half, or 65%, of the participants felt satisfied with the service activities carried out by the accounting lecturer team at Sunan Ampel State Islamic University Surabaya. The level of student satisfaction with this community service activity shows evidence that the mentoring process from start to evaluation of the importance of data analysis and interpretation for accounting research is urgently needed. Salamah et al. [24] explained that the research data processing skills possessed by students will become a special spirit for them to be able to complete the final lecture assignment in the form of scientific research or a thesis.

This service is different from that carried out by Suryadi et al. [25], which focuses on improving the quality of teachers through training in making video learning materials based on open broadcaster software. Furthermore, Mujayaroh et al. [26] are concerned with improving the quality of MSME products through Halal certification and business identification numbers in Senduro village, Lumajang, East Java. While the service carried out by Lumiasari et al. [27] showed that there was an increase in marketing of local MSME superior products through the 'senduro sedulur' festival. Meanwhile, in this service, the mentoring team seeks to explore the needs of students, including to master the processing and interpretation of statistical data.

Participants who do not have a competency background in statistics are forced to identify the results of research analysis based on quantitative statistical data. So there are several weaknesses in the community service process carried out. The majority of these weaknesses are in the process; the service team needs to emphasize explanations on understanding the analysis and interpretation of research data [28]. In addition, participants must learn quickly in the context of analysis and interpretation of research data in a structured and systematic way.

#### 4. Conclusion

Based on the results of the training and discussion, it can be concluded that there is a significant difference in the results of the pre-test and post-test scores on the analysis and interpretation of research data using SPSS by students from the accounting study program at UIN Sunan Ampel Surabaya. These results indicate that there is readiness for accounting



students to write and conduct research for their final assignment. However, this service has limitations, namely that activities cannot provide facilities to all students at one time due to the small team of accounting lecturers. In addition, the laboratory used does not have enough space for all students.

The service carried out by the accounting lecturer team at UIN Sunan Ampel Surabaya obtained a satisfaction level of 65% indicating that there is seriousness and responsibility for the dedication of the accounting lecturer at UIN Sunan Ampel Surabaya, which can be seen from the commitment and good performance. This activity can be adopted and developed by higher education institutions that require special assistance regarding the analysis and interpretation of research data using SPSS by a team of accounting lecturers at UIN Sunan Ampel, Surabaya. Thus, this service contributes to students who have limitations to deeply analyze and interpret their research data.

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### References

- [1] J. Jufrizen, S. Farisi, M. E. Azhar, and R. Daulay, "Model Empiris Organizational Citizenship Behavior dan Kinerja Dosen Perguruan Tinggi Swasta di Medan," *EKUITAS (Jurnal Ekon. dan Keuangan)*, 2020, doi: [10.24034/j25485024.y2020.v4.i2.4159](https://doi.org/10.24034/j25485024.y2020.v4.i2.4159).
- [2] F. Hasnawi, "Pemberdayaan Dosen Fakultas Ekonomi untuk Meningkatkan Produktivitas Kerja Melalui Kerjasama dengan Stakeholder di Kota Medan," *J. Pengabd. Kpd. Masy.*, 2015.
- [3] I. Mustaqim, "Pengaruh Kompetensi Dosen, Kurikulum dan Motivasi terhadap Prestasi Belajar Mahasiswa," *Reslaj Relig. Educ. Soc. Laa Roiba J.*, 2020, doi: [10.47467/reslaj.v1i1.67](https://doi.org/10.47467/reslaj.v1i1.67).
- [4] D. Budiadi and J. Sulistyawati, "Pengaruh Kompetensi Dosen Mahasiswa, Self Efficacy, Locus of Control, Fasilitas Pembelajaran terhadap Tingkat Pemahaman Mahasiswa Akuntansi," *Cahaya Akt.*, vol. 03, no. 01, pp. 36–47, 2013.
- [5] T. Yulianti, "Pelatihan Komputer Grafis sebagai Upaya Peningkatan Softskill Bidang Desain dan Editing Pada STT Dumai," *J. Pengabd. Kpd. Masy.*, 2020, doi: [10.24114/jpkm.v26i2.16448](https://doi.org/10.24114/jpkm.v26i2.16448).
- [6] D. E. C. Wardhana, R. Basuki, and N. Noermanzah, "Webinar dan Pendampingan Daring Penulisan Artikel Hasil Penelitian pada Jurnal Nasional Terakreditasi bagi Guru Bahasa Indonesia Tingkat SMA Kota Bengkulu," *J. Pengabd. Kpd. Masy.*, 2020, doi: [10.24114/jpkm.v26i4.20640](https://doi.org/10.24114/jpkm.v26i4.20640).

- [7] M. M. Asegaf, M. I. Junjuna, M. A. Nashrullah, A. R. Syafi'i, and H. R. Alfani, "Pelatihan Pembuatan Pupuk Organik Melalui Pengolahan Limbah Rumah Tangga," *J. Komunitas J. Pengabd. Kpd. Masy.*, vol. 6, no. 1, pp. 66–71, 2023. doi: <https://doi.org/10.31334/jks.v6i1.2541>
- [8] M. I. Junjuna, A. T. Nawangsari, and N. R. Hanun, "New Normal: Learning from Home, the Availability of Information Technology and e-Learning Implementation as a Determinant of Accounting Students' Understanding," *J. Ilm. Akunt.*, vol. 6, no. 1, pp. 66–85, Jun. 2021, doi: [10.23887/jia.v6i1.30897](https://doi.org/10.23887/jia.v6i1.30897).
- [9] W. R. Hamidah, S. Khoizuronah, D. K. Pramestia, A. W. Asy'ari, M. M. Asegaf, and M. Junjuna, "Transformation of Riyadlul Jannah Mosque in Gedok Hamlet Into an Educational Center," *ABDIMAS J. Pengabd. Masy.*, vol. 6, no. 4, 2023, doi: [10.35568/abdimas.v6i4.4069](https://doi.org/10.35568/abdimas.v6i4.4069).
- [10] A. Maksu and O. Wijaya, "Pendampingan Masyarakat berbasis Information Technology (IT) pada Pimpinan Ranting Muhammadiyah Bangunjiwo Barat di Tengah Persaingan Masyarakat Ekonomi ASEAN," *SPEKTA (Jurnal Pengabd. Kpd. Masy. Teknol. dan Apl.*, vol. 2, no. 1, 2021, doi: [10.12928/spekta.v2i1.3780](https://doi.org/10.12928/spekta.v2i1.3780).
- [11] T. Budiyanto, R. D. Astuti, and A. Purwani, "Pelatihan dan Pendampingan Pengolahan Sampah Menjadi Produk Bernilai Ekonomi pada Bank Sampah Bersih Bersama Karangom, Sitimulyo, Piyungan, Bantul," *SPEKTA (Jurnal Pengabd. Kpd. Masy. Teknol. dan Apl.*, vol. 1, no. 2, 2020, doi: [10.12928/spekta.v1i2.3044](https://doi.org/10.12928/spekta.v1i2.3044).
- [12] I. Ghazali and H. Latan, *Partial Least Squares: Konsep, Teknik, dan Aplikasi menggunakan Program SmartPLS 3.0*. Semarang: Badan Penerbit Undip, 2015.
- [13] M. I. Junjuna *et al.*, "Improving Knowledge of FMD Outbreak Prevention on Livestock Based on DIMES in Ketawang Village," *ABDIMAS J. Pengabd. Masyarakat*, vol. 5, no. 2, pp. 2579–2585, 2022.
- [14] M. M. Asegaf, M. I. Junjuna, M. A. Nashrullah, A. R. Syafi'i, and G. Mufidah, "Peningkatan Pemahaman Pencegahan Penyakit Patek (Antraknosa) Pada Tanaman Cabai di Desa Senggowar Kabupaten Nganjuk," *El-Mujtama J. Pengabd. Masy.*, vol. 3, no. 3, 2023, doi: [10.47467/elmujtama.v3i3.2196](https://doi.org/10.47467/elmujtama.v3i3.2196).
- [15] E. Pitaloka and T. Prasetyo, "Pelatihan Manajemen Keuangan Rumah Tangga Di Lingkungan RPTRA Asthabrata," *Aksiologi J. Pengabd. Kpd. Masy.*, 2020, doi: [10.30651/aks.v4i2.2489](https://doi.org/10.30651/aks.v4i2.2489).
- [16] K. Dellaneira, M. I. Afandi, and M. I. Junjuna, "Peningkatan Kemampuan UMKM Goolagaram Kabupaten Sidoarjo di Tengah Pandemi COVID-19 melalui Strategi Pemasaran," *El-Mujtama J. Pengabd. Masy.*, vol. 2, no. 3, 2022, doi: [10.47467/elmujtama.v2i3.2001](https://doi.org/10.47467/elmujtama.v2i3.2001).
- [17] O. I. Nasiru and E. O. Uyanne, "Usage and Impact of Teachers Self-Assessment Practices on Teaching of Upper Basic Social Studies in Kwara State," *SPEKTA (Jurnal Pengabd. Kpd. Masy. Teknol. dan Apl.*, vol. 3, no. 2, 2022, doi: [10.12928/spekta.v3i2.4016](https://doi.org/10.12928/spekta.v3i2.4016).
- [18] E. Kartikawati, R. A. Nisaa, and M. Maesaroh, "Pelatihan Pembuatan Media Pembelajaran Sel Dengan Memanfaatkan Kertas Bekas," *Aksiologi J. Pengabd. Kpd. Masy.*, 2021, doi: [10.30651/aks.v5i3.4892](https://doi.org/10.30651/aks.v5i3.4892).

- [19] M. I. Junjuna, A. L. Yudhanti, B. S. Jannah, R. A. Aripriatiwi, N. Nufaisa, and A. T. Nawangsari, "Penguatan Kapasitas Keterampilan Akuntansi Berbasis SAK-ETAP," *Wikrama Parahita J. Pengabd. Masy.*, vol. 6, no. 1, 2022, doi: [10.30656/jpmwp.v6i1.3726](https://doi.org/10.30656/jpmwp.v6i1.3726).
- [20] M. A. Sultan, C. Furqon, F. Wijaya, and E. Surachman, "Peningkatan Literasi Proses Bisnis Pada Kelompok Tani Kopi Buntis Dalam Rangka Penciptaan Keberlanjutan," *Aksiologi J. Pengabd. Kpd. Masy.*, 2021, doi: [10.30651/aks.v5i3.6512](https://doi.org/10.30651/aks.v5i3.6512).
- [21] L. N. Farida, D. A. Chomsa, N. Hidayati, S. Munir, M. M. Asegaf, and M. I. Junjuna, "Penguatan Kesadaran Perbaikan Lingkungan melalui Participatory Action Research Dusun Gedok Wisata B29," *El-Mujtama J. Pengabd. Masy.*, vol. 4, no. 2, 2023, doi: [10.47467/elmujtama.v4i2.5127](https://doi.org/10.47467/elmujtama.v4i2.5127).
- [22] S. Hermawan, N. R. Hanun, and M. I. Junjuna, "E-Learning And Understanding Of Accounting In Pandemic COVID-19," *Int. J. Soc. Sci. Bus.*, vol. 5, no. 1, pp. 45–51, 2021, doi: [10.23887/ijssb.v5i1.30917](https://doi.org/10.23887/ijssb.v5i1.30917).
- [23] M. I. Junjuna and A. T. Nawangsari, "Peningkatan Kapasitas Pengelolaan dan Pelaporan Dana Desa," *Berdikari J. Inov. dan Penerapan Ipteks*, vol. 9, no. 2, 2021, doi: [10.18196/berdikari.v9i2.10107](https://doi.org/10.18196/berdikari.v9i2.10107).
- [24] I.- Salamah, L. Lindawati, A. Asriyadi, and R. Kusumanto, "Peningkatan Kemampuan Guru-Guru SD Negeri 130 Palembang Dalam Menyajikan Presentasi Atraktif Melalui Pelatihan Microsoft Power Point," *Aksiologi J. Pengabd. Kpd. Masy.*, vol. 4, no. 1, 2019, doi: [10.30651/aks.v4i1.2197](https://doi.org/10.30651/aks.v4i1.2197).
- [25] A. Suryadi, S. Abadi, M. Eriyadi, D. Usman, and Y. Hamdani, "Peningkatan Mutu Guru Melalui Pelatihan Pembuatan Video Bahan Pembelajaran Berbasis Open Broadcaster Software," *SPEKTA (Jurnal Pengabd. Kpd. Masy. Teknol. dan Apl.*, vol. 2, no. 1, 2021, doi: [10.12928/spekta.v2i1.2757](https://doi.org/10.12928/spekta.v2i1.2757).
- [26] A. L. Mujayroh, A. T. S. Syaunyah, I. Khofifah, M. I. Junjuna, M. M. Asegaf, and B. S. Jannah, "Peningkatan Kualitas Produk Usaha Mikro, Kecil, Menengah melalui Sertifikasi Halal dan NIB Desa Senduro," *J. Pengabd. Masy. dan Lingkung.*, vol. 2, no. 2, 2024, doi: [10.30587/jpml.v2i2.6351](https://doi.org/10.30587/jpml.v2i2.6351).
- [27] F. Lumiasari, N. Aisyah, S. A. Pristiwianti, N. Wafa', M. I. Junjuna, and M. M. Asegaf, "Pendampingan UMKM dalam Meningkatkan Pemasaran Produk Unggulan Lokal Melalui Festival Senduro Sedulur di Lumajang," *Wikrama Parahita J. Pengabd. Masy.*, vol. 8, no. 1, 2024, doi: [10.30656/jpmwp.v8i1.7262](https://doi.org/10.30656/jpmwp.v8i1.7262).
- [28] Q. H. Arianti, I. E. M. Oktaviani, R. Safitri, and M. I. Junjuna, "Perceptions Of Covid 19 Survivors: Prevention and Transmission Education Virus in Era New Normal," *ABDIMAS J. Pengabd. Masy.*, vol. 4, no. 2, 2022, doi: [10.35568/abdimas.v4i2.1484](https://doi.org/10.35568/abdimas.v4i2.1484).