

# Analyzing Student Needs for Developing Effective Instructional Media in Correspondence Practice

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## ABSTRACT

In the era of Industrial Revolution 4.0, vocational students must possess strong correspondence skills to meet modern workplace requirements. However, instructional media used in Vocational High School (VHS) Office Management and Business Services (OMBS) programs in the Special Region of Yogyakarta are not yet aligned with students' learning characteristics. This study aimed to identify the instructional media needs of 430 VHS OMBS students to support the development of their correspondence competencies. A quantitative descriptive approach was used, with data collected through a structured questionnaire. The findings revealed three key points: (1) students face significant difficulties in sentence construction and understanding correspondence materials; (2) traditional tools such as Microsoft Word and handwritten exercises remain dominant in classrooms; and (3) students exhibit a strong preference for web-based instructional media. Notably, students in public VHS institutions reported greater access to web-based platforms, while those in private schools highlighted their usability and efficiency. These results indicate a misalignment between current instructional methods and student preferences, particularly in leveraging digital tools for communication skills development. The study highlights the urgent need for vocational education stakeholders to adopt more adaptive, web-based instructional media. Doing so can enhance students' readiness for professional communication in increasingly digital work environments.

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## 1. INTRODUCTION

Vocational High School (SMK) Office Management and Business Services (OMBS) program equips students with professional administrative skills. Correspondence learning is a mandatory part of the independent learning curriculum for SMK students in the Office Management and Business Services program (Sulistiwati, 2022). OMBS VHS graduates are expected to become professional letter managers to achieve this competency (Sutirman et al., 2021). Previous research has extensively explored the role of correspondence or letter writing for a company. Pratiwi & Juniel (2019) emphasized

that business correspondence positively impacts stabilizing communication, creating markets, and increasing profits. Ariani et al. (2022) asserted that letter writing is crucial for the communication process and forming a company's image. Effective letter writing requires specific competencies in the workplace and, in the long term, will enhance employees' career opportunities within a company (Nguyen, 2017). Suhairi et al. (2023) added that business correspondence, presentation skills, and customer service are essential competencies for enhancing a company's reputation.

Good learning is learning designed according to the principle that a learning process tailored to the learners' needs is a key to achieving educational goals. To design effective learning, developing media that suits students is crucial for achieving learning objectives (Herdlein & Zurner, 2015; Lubis et al., 2023). Moreover, the use of instructional media can affect the quality of classroom learning (Kozma, 1991). Mayer (2003) highlighted the benefits of media in enhancing the learning process.

The development of learning media is one of the efforts that can be used to achieve learning outcomes (Herdlein & Zurner, 2015). In the media development process, a needs analysis is required, which includes various student needs in the learning process (Salsabila & Khairudin, 2021). Previous studies have extensively researched the development of correspondence learning media, such as Permatasari et al. (2024); Riskia & Puspasari (2020), focusing on developing learning media to enhance SMK MPBL students' knowledge. On the other hand, based on the curriculum, the learning outcomes in correspondence material are not only theoretical but also practical, so learning media that facilitate the achievement of cognitive aspects are insufficient. Sutirman et al. (2021) emphasized that correspondence learning in SMK MPLB DIY still faces many problems, including teachers' lack of understanding of the material and the absence of learning media accommodating practical activities. This is why researchers are conducting further studies on the problems faced by students in learning, especially practical correspondence, and how students perceive the type of media they desire.

Although previous research has extensively studied the relationship between business correspondence and learning media, there remains a significant gap in understanding the learning media needs desired by students in the learning process, particularly under the Independent Learning curriculum at VHS OMBS. Previous studies have only focused on the theoretical aspects of correspondence learning concepts, benefits, and impacts. Additionally, some research has focused on identifying students' and teachers' perceptions of learning media that present material or are theoretical in nature. For example, studies by Permatasari et al. (2024); Riskia & Puspasari (2020), or limited to the correspondence learning needs of the past conducted by Sutirman et al. (2021) focused on learning needs under the K13 curriculum. To address this gap, this study aims to 1. Identify specific challenges faced by vocational students in practical correspondence learning. 2. Explore vocational students' preferences for instructional media. 3. Provide insights that can help in developing more effective correspondence learning tools, which are better aligned with the demands of vocational education and the Industrial Revolution 4.0. This research is expected to contribute to how media and tools in practical correspondence learning are anticipated by students to enhance skills in vocational education.

## 2. METHODS

This study is survey research aimed at providing an overview of the needs for instructional media in correspondence practice at vocational high schools (VHS), Office Management and Business Services (OMBS). The research population consists of students from OMBS VHS who have completed the Correspondence subject, specifically targeting those in grades XI and XII. It is hoped that, having received this material, they can provide relevant feedback, suggestions, and responses related to the analysis of media needs in correspondence practice learning. The total population for this study is 1,690 students from 15 VHS in the Special Region of Yogyakarta. Using cluster sampling, the Slovin formula was applied to determine a sample size of 322 students, ensuring a representative distribution of responses while managing the feasibility of data collection and analysis.

**Table 1.** List of Vocational High Schools (SMKs) Participating in the Study on Instructional Media Needs in Correspondence Practice

No	VHS	Status	Region
1	SMK Muhammadiyah 2 Bantul	Private	Bantul
2	SMK Negeri 1 Bantul	Public	Bantul
3	SMK Muhamadiyah 2 Playen	Private	Gunung Kidul
4	SMK Negeri 1 Wonosari	Public	Gunung Kidul
5	SMK Muhammadiyah 2 Yogyakarta	Private	Kota Yogyakarta
6	SMK Bopkri 1 Yogyakarta	Private	Kota Yogyakarta
7	SMK Piri 3 Yogyakarta	Private	Kota Yogyakarta
8	SMK Negeri 1 Yogyakarta	Public	Kota Yogyakarta
10	SMK Negeri 7 Yogyakarta	Public	Kota Yogyakarta
11	SMK Muhammadiyah 1 Wates	Private	Kulonprogo
12	SMK Negeri 1 Pengasih	Public	Kulonprogo
13	SMK Insan Cendikia Sleman	Private	Sleman
14	SMK Negeri 1 Tempel	Public	Sleman
15	SMK Negeri 1 Depok	Public	Sleman
16	SMK Negeri 1 Goden	Public	Sleman

The questionnaire included sections designed to gather detailed information on the challenges in correspondence learning, students' confidence in using various media, the types of media currently used, and their expectations for future instructional media using open-ended questions. Closed-ended questions with binary response options (yes and no) were used to probe students' interest in learning correspondence, using media in correspondence learning, the forms of media utilized, and the perceived benefits of using such media.

Quantitative descriptive analysis was used to summarize and interpret the data. Statistical measures such as frequency, mean, and standard deviation were employed to comprehensively describe the dataset. The data analysis aimed to summarize the data for clear presentation (Taherdoost, 2020). Descriptive statistics were conducted using R Studio, as emphasized by Saiz et al. (2020), who highlighted R Studio as a powerful tool for various statistical analyses, including descriptive statistics. Additionally, the choice of R Studio for data analysis was driven by its robust capabilities in handling large datasets and performing various statistical analyses efficiently, making it suitable for the descriptive and inferential analysis required for this study. The results were then presented in two ways: grouping into various categories for closed-ended questions to provide a clear picture of their preferences regarding media needs, while open-ended questions were presented based on the result groups shown in percentages.

### 3. FINDINGS AND DISCUSSION

Researchers aimed to delve deeper into the perceptions of VHS OMBS students regarding the challenges and expectations of learning media for correspondence practice. Consequently, a survey was carried out in 15 vocational high schools with specializations in Office Management and Business Services (OMBS) located in the Special Region of Yogyakarta (SRY). The demographic data of the respondents, categorized by gender, are presented below.

**Table 2.** Demographic Data of Respondens

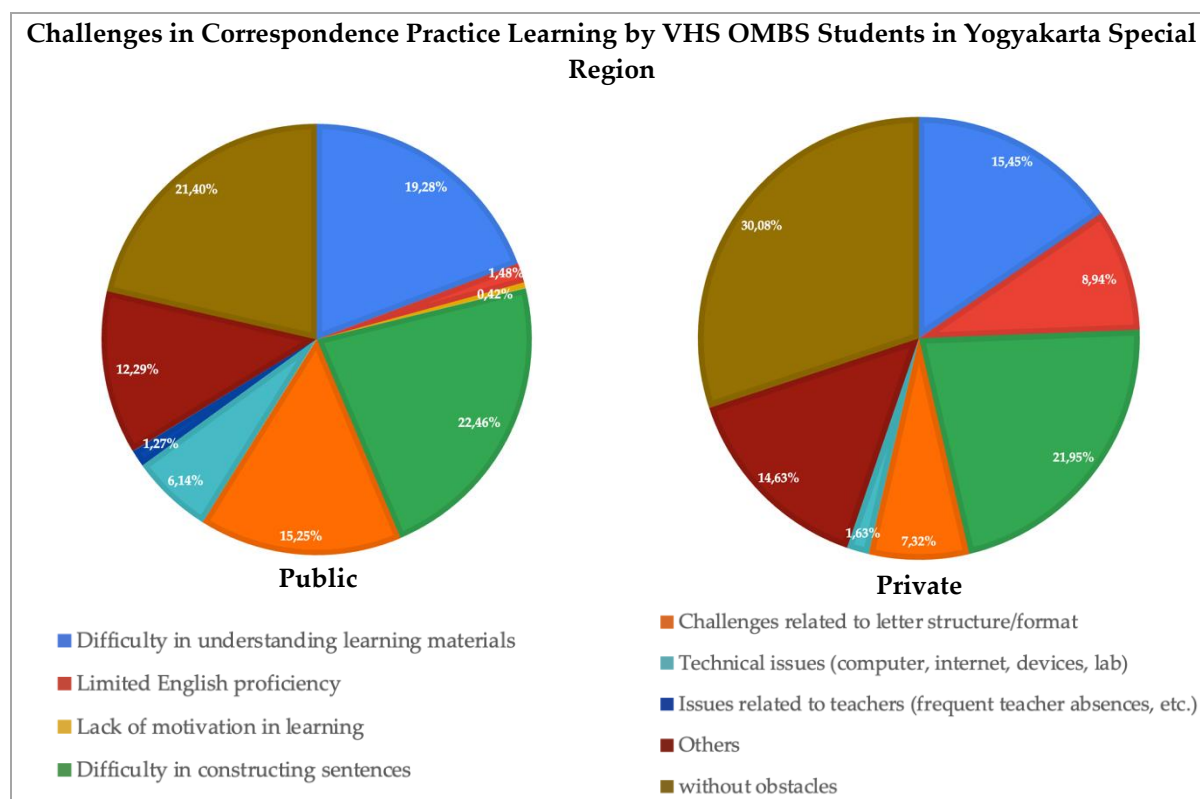
	Variable	Frequency	Percentage
Gender	Male	38	8,84%
	Female	392	91,16%
Grade	XI Grade	233	54,19%
	XII Grade	197	45,81%
School Status	Public	332	77,21%

	Private	98	22,79%
District	Kota Yogyakarta	55	12,79%
	Sleman	174	40,47%
	Bantul	41	9,53%
	Kulon Progo	81	18,84%
	Gunung Kidul	79	18,37%

The data indicate that respondents were distributed across various regions within the Special Region of Yogyakarta, including Yogyakarta City, Sleman, Bantul, Kulonprogo, and Gunung Kidul. The sample also represented a diverse group of students from both public and private vocational high schools, spanning grades X, XI, and XII. A total of 430 students participated in the study, exceeding the initial target sample size of 322. In quantitative research, a larger-than-expected sample size can enhance the richness and reliability of the data collected, offering deeper insights (Lakens, 2022). However, previous research also cautions that large datasets may introduce sampling biases, and researchers should remain vigilant when analyzing and interpreting the results to avoid potential misrepresentation.

### 3.1. Student Challenges in Practical Correspondence in VHS, OMBS in Special Region of Yogyakarta

During the process of correspondence practice, there are many aspects that need attention such as sentence construction, precision, and knowledge about the systematic arrangement and format of letters. Therefore, the researcher conducted a survey on the challenges faced by VHS OMBL students in the Special Region of Yogyakarta during their correspondence practice learning. The results of the survey are presented in the following graph.



**Figure 1.** Percentage of Student Challenges in Correspondence Practice Learning

Based on the two pie charts above, it can be observed that the greatest challenge in practical correspondence learning is the students' difficulty in sentence construction, with percentages in public and private vocational high schools (VHS) at 22.46% and 21.95%, respectively. Additionally, students

also face challenges in understanding learning materials and other issues. These findings are consistent with the results of research by Astuti et al. (2021), who found similar challenges among VHS OMBS students in letter writing, particularly with structure, wording, and grammar. Hasil ini juga sesuai dengan penelitian awal yang dilakukan oleh Sutirman et al. (2021) bahwa permasalahan yang dihadapi oleh siswa pada pembelajaran korespondensi diantaranya kemampuan bahasa Inggris yang kurang, tidak antusias dalam pembelajaran dan belum memahami proses korespondensi dengan baik dan benar.

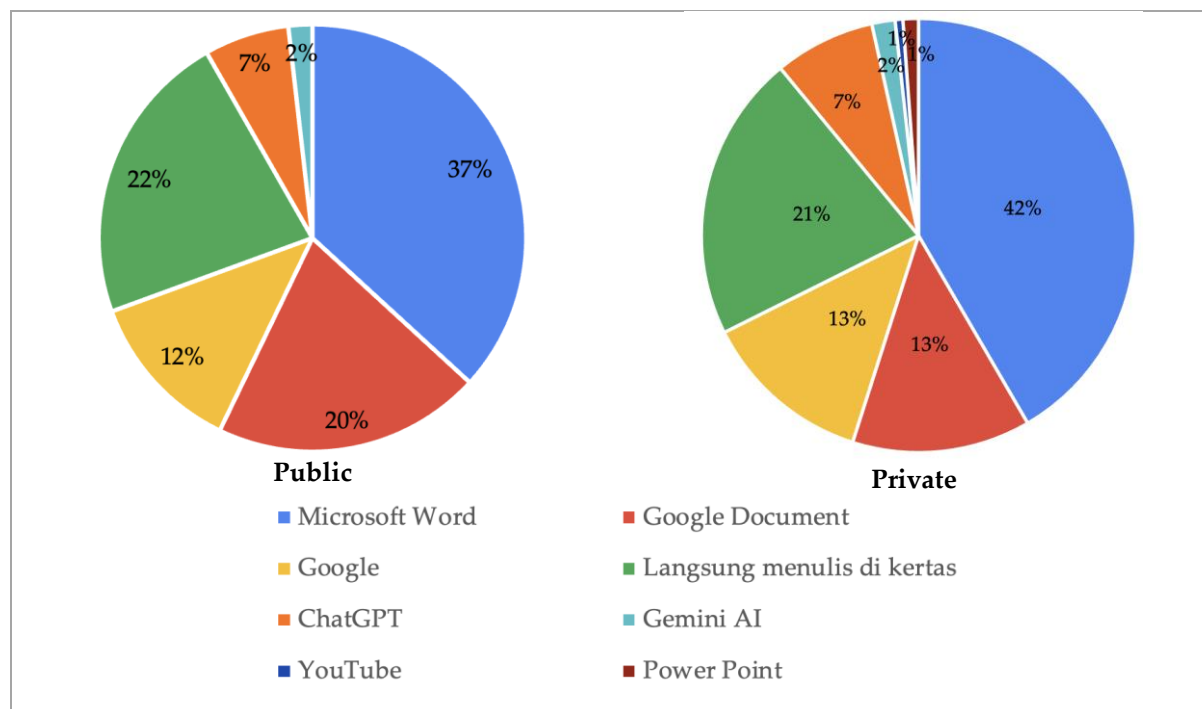
Another interesting finding is the technical difficulties experienced by public SMK students, such as operating computers, technical constraints, device issues, and lab availability, which are higher at 6.14% compared to 1.63% for private SMK students. This result contradicts research by Martono et al. (2020), which asserted that infrastructure in public SMKs is better than in private ones, potentially impacting the learning process. Learning infrastructure is one of the factors that can affect the success of the learning process. This result also identifies that students in both public and private SMKs still face challenges with computer operation. The same study also revealed that students in Junior High School rarely used computers, leading to their low proficiency in operating Microsoft Word. This is supported by research from Astuti et al. (2021), which showed that VHS students in Indonesia have low skills, especially in utilizing digital technology. One contributing factor, as stated by Nurhabibah et al. (2018) is the low confidence level of vocational students in Indonesia in utilizing ICT. Therefore, solutions must be found to help students improve their correspondence practice skills, as leaving this unaddressed could result in VHS OMBS graduates being less competent in creating formal or business letters. This is concerning, as correspondence is a critical competency needed by companies in the era of the Industrial Revolution 4.0 (Ariani et al., 2022; Nguyen, 2017; Suhairi et al., 2023; Widianingrum et al., 2020). Given the urgent need to help develop VHS OMBS students' competence in correspondence, efforts should be made, one of which is through the development of instructional media.

Surprisingly, based on responses from 21.40% of public SMK students and 30.08% of private SMK students, they did not experience difficulties in practical correspondence learning. This finding is intriguing because the percentage of students who do not face challenges in practical correspondence learning indicates that not all correspondence learning encounters difficulties. Nevertheless, the issues faced by students and the need for learning media have become a focus of challenges that need to be addressed. This is in line with the results of Sutirman et al. (2021), which emphasize the urgent need to find solutions for the availability of practical correspondence learning media in SMK DIY that support learning.

### **3.2. Instructional Media for Correspondence Practice in VHS, OMBS in Special Region of Yogyakarta**

Instructional media is one of the significant tools that greatly impact the achievement of learning objectives (Kandia et al., 2023; Muhamad et al., 2023; Puspitarini & Hanif, 2019)., the researcher aims to investigate the instructional media used by VHS OMBS students in the Special Region of Yogyakarta. This inquiry seeks to examine and correlate the challenges faced by students with the media that has been utilized for correspondence practice in the classroom. The following presents the instructional media used for teaching correspondence in VHS OMBS.

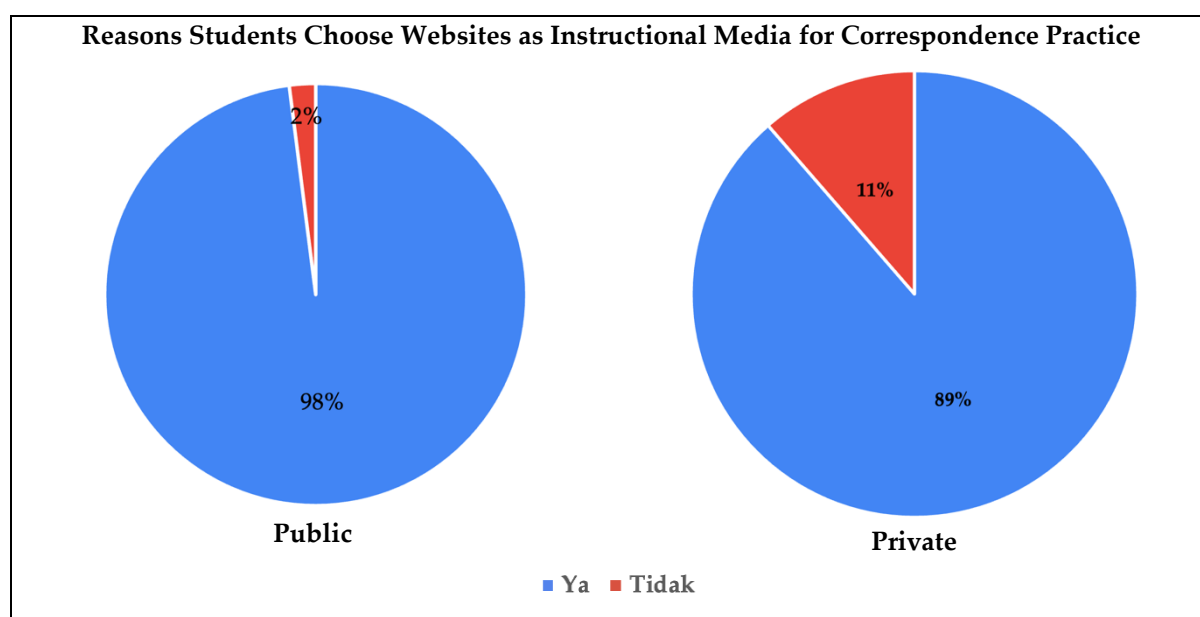




**Figure 2.** Instructional Media for Correspondence Practice Used by VHS OMBS Students in Yogyakarta Special Region

The data presented in the pie chart illustrate that students in both public and private vocational high schools (SMKs) primarily use Microsoft Office, handwritten methods, and Google Docs for practicing correspondence tasks. Notably, there is a growing trend among students from both types of schools to incorporate artificial intelligence tools, such as ChatGPT and Gemini AI, for correspondence practice in both Indonesian and English. This supports the view of Lacey and Smith (2023), who argue that AI can assist students with a wide range of tasks, including writing essays, blogs, workflows, and more. While previous research—such as that by Eichler (2024), Hutauruk and Daulay (2024), Kohnke et al. (2023), Slamet (2024), and Widianingtyas et al. (2023)—has primarily focused on AI’s role in language learning, particularly in writing, grammar correction, and error detection, it is important to recognize that correspondence practice, though not solely a language learning activity, inherently involves language application.

The findings also reveal that students currently do not use any specific software dedicated to correspondence practice. As a practical subject, correspondence requires students to create various types of letters (Basuki et al., 2021; Sulistiowati, 2022), and although applications such as Microsoft Word, Google Docs, and WPS Office are commonly used, they can be time-consuming due to formatting and layout requirements (Basuki et al., 2021). This highlights a gap in available educational tools, pointing to the need for a specialized program or application designed to support correspondence practice more efficiently. In response, the researcher conducted a survey to assess whether students see a need for dedicated instructional media tailored to correspondence learning. This initiative is grounded in the understanding that instructional media for practical learning should differ from that used in theoretical instruction. The following section presents the results of this survey, reflecting students’ responses to the proposed development of specialized learning media for correspondence practice.

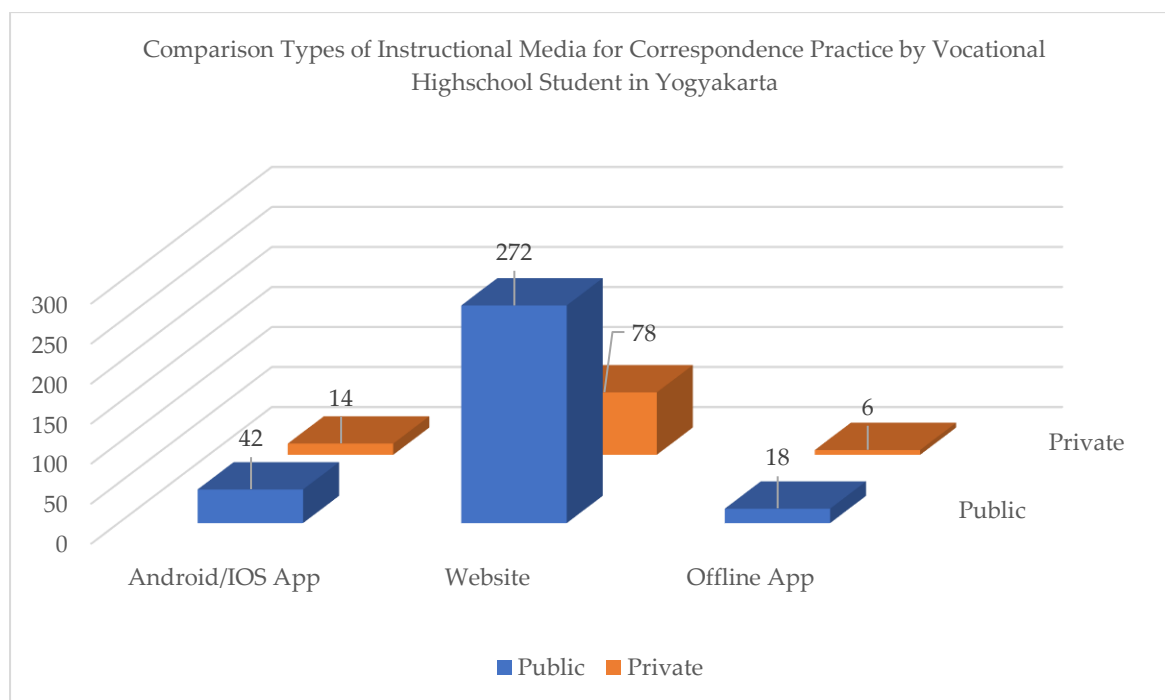


**Figure 3.** Survey Results on Students' Responses to the Benefits of Having Specialized Instructional Media for Correspondence Practice

The diagram above clearly demonstrates that the majority of students agree on the importance of having specialized instructional media to support correspondence practice. This indicates a strong demand for the development of such media among MPLB (Office Management and Business Services) students in the Special Region of Yogyakarta. The perceived usefulness of instructional media aligns with the Technology Acceptance Model (TAM) proposed by Davis (1989), which asserts that users are more likely to adopt a technology if they believe it will enhance their performance. When students perceive that a particular application will positively impact their learning, they are more inclined to use it in the future.

This is supported by Mohammadi (2015) and Zulkarnain & Yunus (2022), who emphasized that users' perceptions play a key role in determining whether they will adopt a given technology. These perceptions are often shaped by prior experiences and personal characteristics. Given that most of the students belong to Generation Z—a generation known for being highly familiar with digital tools—it is likely that a specialized application for correspondence practice would be well-received and readily adopted. Research also suggests that perception is influenced by factors such as individual readiness, technological familiarity, and past interactions with similar tools (Peart et al., 2017; Popovici & Mironov, 2014). Furthermore, Wahyuni & Hakiki (2023) found that a positive perception toward learning technology can enhance students' motivation and ultimately improve the effectiveness of the learning process.

To further understand students' preferences, the researcher asked specific questions about the types of instructional media they would like to see developed for correspondence learning. This approach is grounded in the principle that educational media should be tailored to the characteristics and needs of its intended users (Azhar, 2011; Bates, 2015; Dayton & Kemp, 1985). Based on this framework, a survey was conducted to explore the types of media students preferred. The results of this survey are presented in the following figure.



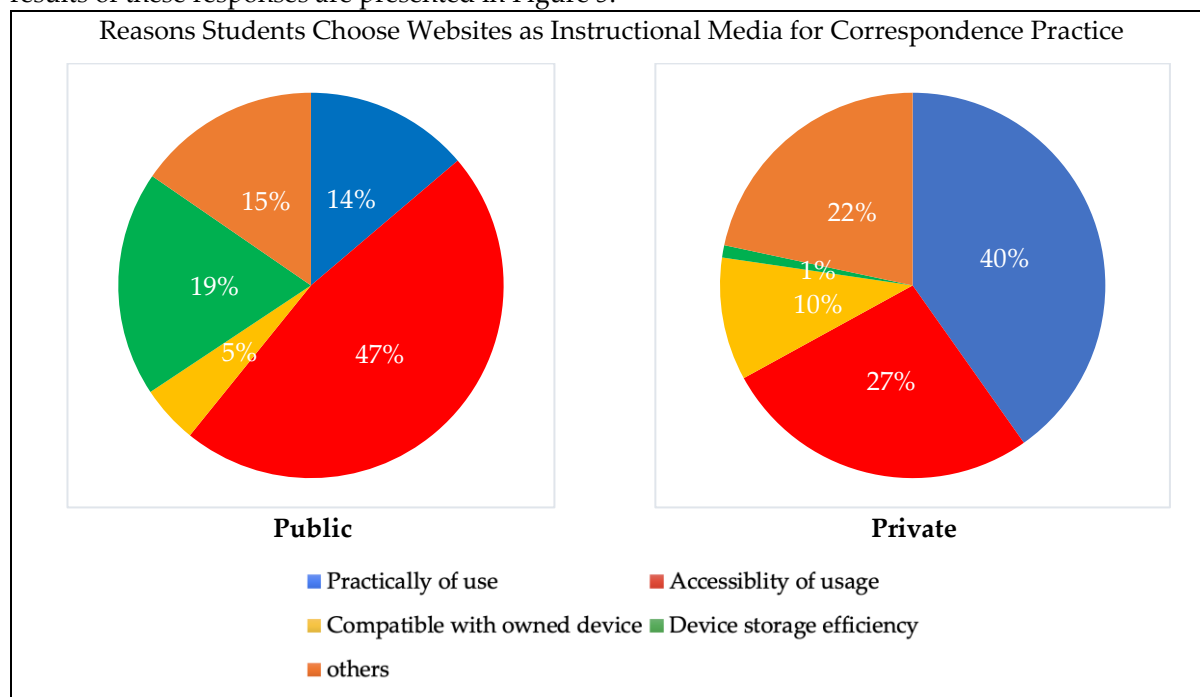
**Figure 4.** Comparison Types of Instructional Media for Correspondence Practice by Vocational High School Students in Yogyakarta

The chart above illustrates that the majority of VHS OMBS students in the Special Region of Yogyakarta prefer instructional media in the form of a website. This preference is attributed to the accessibility of websites anytime and anywhere. Only a small portion of students favor practical learning media in the form of applications that can be installed on smartphones, whether Android or iOS, or applications that can only be used during class sessions. This aligns with the findings of Szymkowiak et al. (2021), which indicate that Generation Z, the current cohort of vocational students in Indonesia, is very open to using technology in learning. Furthermore, Pancawardhani et al. (2022) state that website-based learning, such as vlogs, has a very positive impact on students. Indirectly, most students feel that learning through websites is very flexible because they can study from anywhere and at any time. This aligns with the view that one of the advantages offered by learning through websites is its flexibility and high accessibility. This eliminates geographical and temporal boundaries, allowing students to learn according to their own schedules, even when not in a classroom (Aleksandrova et al., 2020; Liu et al., 2020). Gernsbacher (2015) asserts that using multimedia embedded within websites makes the content interactive and engaging, which, in the long run, will enhance students' motivation to learn through interactive websites. However, these results differ from those of Rifai & Harini (2022), who argue that suitable instructional media for vocational learning include audio/video tutorials, simulators, interactive multimedia, and text formats. To better understand the strong reasons why some students prefer websites as the instructional media for correspondence practice, we can refer to the data presented in the following figure.

These results indirectly indicate that most students possess good learning independence. This can be seen from the low number of respondents who chose offline applications. This is consistent with the findings of Lupita & Armono (2023); Sumarwati & Setyaningsih (2023) that the level of student learning independence in the Special Region of Yogyakarta is high. Moreover, Sumarwati & Setyaningsih (2023) assert that, particularly in correspondence subjects, vocational high school students in Office Management and Business Services (MPLB) are able to learn independently through websites that have been developed. Thus, they can study the learning material independently even without direct supervision from teachers. Consequently, this addresses one of the research focuses of this study to determine whether the desired media for correspondence practice learning is effective.

The purpose of practical learning media is specifically to facilitate students in learning to write letters correctly. This aligns with the objectives of correspondence learning where students are expected to practice writing letters according to the correct rules of letter writing (BSKAP, 2022).

Next, based on the answers obtained about the type of computer-based learning media chosen by respondents. Respondents were then asked to state their reasons for choosing that type of media. The results of these responses are presented in Figure 5.



**Figure 5.** Reasons Students Choose Websites as Instructional Media for Correspondence Practice

The graph above reveals that the majority of students find websites to be a practical form of instructional media due to their high accessibility and ease of use. One key advantage is that websites do not require installation on students' devices—such as smartphones or laptops—thereby conserving internal storage space. Among students in public vocational high schools, 47% cited the ability to access website-based media anytime and anywhere as the main reason for their preference, followed by 19% who valued its efficiency in minimizing storage usage. Similarly, 40% of students in private vocational high schools reported that they prefer website-based media for its ease of use, while 27% appreciated the accessibility it offers.

These results suggest that students across both public and private vocational schools view website-based instructional media as more accessible and less burdensome on device storage compared to downloadable apps. The issue of limited device storage—especially on smartphones—was previously highlighted by Muktiono (2020), who noted that during the COVID-19 pandemic, students encountered storage problems due to the need to install multiple learning applications. Nurdianah et al. (2022) also reported that students often had to purchase additional external memory or free up space on their devices to accommodate educational apps. Similarly, Puspendik (2019) found that only 37.8% of Indonesian high school students were willing to install learning applications, further emphasizing that many learners are hesitant to fill their device storage with multiple apps.

Nevertheless, several studies have demonstrated the benefits of learning through mobile applications. Klimova (2019) argues that mobile apps can enhance student performance, while Nurdianah et al. (2022) and Sugiyanto et al. (2020) found that vocational high school students who use mobile apps show improved competence and greater learning independence through collaborative and project-based learning approaches.

In contrast, students in private vocational schools appear to be less concerned with storage efficiency and more focused on the practicality and usability of websites. They emphasized that

websites provide seamless access across a range of devices—including smartphones, laptops, and tablets—making them a versatile option for learning. This aligns with the findings of Ismail et al. (2021), Mohammadi (2015), and Song & Lee (2014), who point out that the primary benefits of web-based learning lie in its flexibility and the ability to be accessed anytime and from anywhere with an internet connection.

### *3.3. Challenges in implementing web-based learning media in VHS, OMBS in Special Region of Yogyakarta in the future*

The research findings indicate that the majority of Office Management and Business Services (OMBS) vocational high school students in the Special Region of Yogyakarta prefer web-based learning media. This preference holds important implications for the future implementation of websites as instructional tools, particularly in practical correspondence education. Given that correspondence materials—both in Indonesian and English—form the core of this subject, there is a clear need for web-based platforms to facilitate their delivery. Consequently, teachers must be adequately prepared to utilize and manage web-based learning tools. However, the current reality in Indonesia reveals a persistent gap in vocational high school teachers' proficiency in information and communication technology (ICT). Dwihartanti et al. (2021) reported that most vocational teachers in Yogyakarta still lack the necessary skills to effectively use and develop instructional media. This concern is echoed in the findings of Sutirman et al. (2021), who emphasized the urgent need for targeted teacher training and media development, particularly for correspondence instruction.

According to Azhar (2011), Bates (2015), and Sutirman & Yuliansah (2024), effective learning media should be easy to operate by both teachers and students. This highlights a critical consideration for researchers and developers: instructional media must not only enhance student understanding but also be accessible and manageable for educators. Therefore, professional development programs are essential, especially for vocational high school teachers in Yogyakarta, to ensure they are equipped to integrate web-based media into their teaching. By strengthening teacher competencies in using digital tools, students will be better positioned to meet the minimum industry standards, particularly in office administration—a field that demands proficiency in both technical and communication skills.

Additionally, the results of this study can inform policy-making aimed at improving the quality of learning infrastructure in vocational schools. Sutirman & Yuliansah (2023) highlighted that vocational education emphasizes the development of practical competencies, which must be supported by appropriate learning tools. Widianingrum et al. (2020) further emphasized that OMBS graduates must be proficient in digital communication, including email and website-based correspondence. Unfortunately, current conditions in vocational school laboratories remain below standard, due to issues such as insufficient equipment, limited infrastructure, and poor maintenance (Lestari, 2018; Oktafia et al., 2023). Without addressing these infrastructural challenges, the potential of web-based learning media will be significantly limited. Therefore, ensuring the availability of adequate equipment and digital infrastructure is crucial for the successful implementation and sustainability of website-based correspondence learning.

## **4. CONCLUSION**

Correspondence skills are critically important in the Industry 4.0 and digital era. Correspondence learning must utilize media that accommodate the needs and characteristics of learners. This study highlights that VHS OMBS students experience significant difficulties in practical correspondence learning, particularly related to sentence construction and understanding learning materials, especially in English. Additionally, practical correspondence learning has relied only on handwriting and Microsoft Word; however, students have a preference for web-based learning media for correspondence practice because it is considered more accessible and less burdensome on device storage.

This research provides a new perspective for stakeholders to significantly focus on providing the appropriate facilities and learning media. This is to ensure that VHS OMBS graduates can pursue professional careers in office administration in the future. For future research, the importance of exploring the effectiveness of web-based learning media in enhancing students' practical skills in correspondence learning under the Independent Learning curriculum is underscored. This will provide a broader picture of how the development of educational technology impacts the improvement of the quality of vocational education as demanded by Industry 4.0.

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