



## Realizing Inclusive Education in the Era of Industry 4.0: The Role of the PTPN IV Dolok Ilir School Website

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**Abstract.** Inclusive education has become an increasingly important aspect in addressing the dynamics of the industry 4.0 era. To realize inclusive education at PTPN IV Dolok Ilir School, the utilization of digital technology, particularly the school website, is being employed. Inclusive education aims to provide equal and sustainable access to education for all students, including those with special needs. The application of technology in the form of a school website has opened up broader access for students, parents, and educational stakeholders. In the context of PTPN IV Dolok Ilir School, this website serves as an information hub providing a variety of learning materials, schedules, announcements, and interactions among teachers, students, and parents. Furthermore, this website system ensures high transparency in facilitating better communication between the school and students' families. The key role of digital technology in assisting in the creation of an inclusive educational environment at PTPN IV Dolok Ilir School results in increased access to education, student empowerment, and greater parental involvement in supporting their children's educational development. The broader implications of this approach include a positive contribution to the quality of education in an era dominated by technological change and ensuring that no student is left behind in reaching their full potential.

**Keyword:** Website, Education, Digitalization, Technology

**Abstrak.** Pendidikan yang inklusif menjadi suatu aspek yang semakin penting dalam menghadapi dinamika Era Industri 4.0. Untuk mewujudkan pendidikan yang inklusif di Sekolah PTPN IV Dolok Ilir maka dilakukan pemanfaatan teknologi digital, khususnya website sekolah. Pendidikan inklusif bertujuan untuk memberikan akses pendidikan yang setara dan berkelanjutan bagi semua siswa, termasuk yang memiliki kebutuhan khusus. Penerapan teknologi dalam bentuk website sekolah telah membuka pintu akses yang lebih luas kepada siswa, orang tua, dan stakeholder pendidikan. Dalam konteks Sekolah PTPN IV Dolok Ilir, website ini menjadi pusat informasi yang menyediakan beragam materi pembelajaran, jadwal, pengumuman, dan interaksi antara guru, siswa, dan orang tua. Selain itu, sistem website ini memberikan transparansi yang tinggi dalam memfasilitasi komunikasi yang lebih baik antara sekolah dan keluarga siswa. Peran kunci teknologi digital dalam membantu menciptakan lingkungan pendidikan yang inklusif di Sekolah PTPN IV Dolok Ilir hasilnya mencakup peningkatan akses pendidikan, pemberdayaan siswa, dan meningkatnya partisipasi orang tua dalam mendukung perkembangan pendidikan anak-anak mereka. Implikasi lebih luas dari pendekatan ini adalah kontribusi positif terhadap mutu pendidikan.

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*di era yang didominasi oleh perubahan teknologi dan memastikan bahwa tidak ada siswa yang tertinggal dalam mencapai potensi penuhnya.*

**Kata Kunci:** *Website, Pendidikan, Digitalisasi, Teknologi*

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## 1 Introduction

This Community Service activity will be conducted at the PTPN IV Dolor Ilir Private Junior High School, located at Merdeka Street No. 16 Serbelawan, Dolok Ilir Subdistrict, Simalungun Regency, North Sumatra Province. The distance from the University of North Sumatra to this junior high school is 112 kilometers, passing through the Sumatra Trans-Sumatra Highway, from Medan heading towards Pematang Siantar. Upon reaching Serbelawan Street, turn left onto Merdeka Serbelawan Street, and the destination is approximately 6.8 kilometers on the right.

This community service project aims to assist the school in creating a website and an E-Report system at PTPN IV Dolok Ilir School. Previously, students and parents often had difficulties accessing school-related information. Information such as schedules, announcements, curriculum, and academic results might have been hard to access, hindering parental involvement in their children's education. Parents might not have had quick access to information about their children's academic performance, which could hinder their efforts to support their children's educational development [1].

Therefore, the introduction of technology such as a school website is intended to improve efficiency in education management and academic reporting. Without this technology, the school might require more resources and manpower to carry out administrative tasks [2-3]. This digital technology, based on the school website, will provide a variety of interactive learning resources, such as educational videos, games, simulations, and learning applications. These resources can help students understand complex concepts in a more engaging and interactive manner, enhancing the attractiveness of learning [4].

## 2 Method

Training in web-based office management will be conducted to streamline work processes and the need for online data consolidation to make information readily available to others [5]. The transformation at SMP S PTPN IV Dolok Ilir will be carried out by establishing an official government website with the **.sch.id** domain. The school website registration process will involve verification by a school website verification institution, after which the official website can be launched and utilized [6].

The methods to be employed in the implementation of this community service are as follows:

1. School Needs Identification

**Initial Survey:** Conduct an initial survey at SMP S PTPN IV Dolok Ilir to identify the needs and challenges related to inclusive education. Interviews with students, teachers, and parents can also aid in gaining a better understanding of the school's situation [7].

2. School Website Development

**Planning:** Form a development team consisting of technology experts, designers, and educators. Identify the goals and needs of the school website, as well as the features to be provided.

**Website Design:** Create a website design that is intuitive, user-friendly, and accessible to all users, including students with special needs. Ensure good web accessibility by considering WCAG (Web Content Accessibility Guidelines).

**Development and Implementation:** Begin developing the website according to the established design. Ensure that the website is accessible online and has sufficient storage capacity to store all educational content.

**Testing and Correction:** Conduct thorough testing of the website to ensure that all features function correctly. Address any issues and apply improvements promptly.

3. Integration of Technology into the Learning Process

**Digital Content Development:** Teachers can develop digital content such as instructional videos, online tutorials, and other interactive resources to support inclusive learning.

**Collaborative Learning:** Encourage students to collaborate online, share projects, and learn together with the assistance of technology. Ensure that collaborative learning platforms are available and utilized.

4. Training and Ongoing Support

**Continuous Training:** Continue providing training for teachers and school staff in the use of the school website and other educational technologies. Ensure that they stay updated with technological advancements [8].

**Technical Support:** Provide technical support for students, teachers, and parents facing technical issues or difficulties in using digital platforms.

### 3 Results and Discussion

The community service activities were conducted on Saturday, September 15, 2022, at SMPS PTPN IV Dolok Ilir. There were two visits made by the community service team. The first visit took place on Saturday, July 11, 2022, with the agenda of a forum group discussion (FGD)

addressing issues that were emerging in the school environment and discussing program plans to address the challenges faced by the school, especially regarding online learning in the context of the new distance learning arrangement (PJJ).

The second visit occurred on a Saturday in October 2022, during which online learning training was provided to teachers and administrative staff at SMPS PTPN IV Dolok Ilir. In support of this online learning training, the community service team provided various resources and facilities, including an official school website and a web-based school Learning Management System (LMS) for effective management of online learning.

### 3.1 Focus Group Discussion (FGD)

The FGD (Forum Group Discussion) activity aims to initiate a discussion to learn and understand the school's progress in delivering education to students at SMPS PTPN IV Dolok Ilir. The event was attended by the School Principal of SMPS PTPN IV Dolok Ilir, teachers, administrative staff, and parents of students. The activity was opened by the Head of the Community Service Team and was conducted by members of the Community Service Team.



**Figure 1.** Chairman of USU Community Service Welcome Speech

Through the FGD (Forum Group Discussion), the Chairman of the USU Community Service Team presented all the contributions and solutions that will be provided by the university, especially USU, in equipping the school to face the challenges of the Industry 4.0 revolution, particularly in dealing with changes in education caused by the Covid-19 pandemic. The provision and training offered are aimed at enhancing the quality of human resources at SMPS PTPN IV Dolok Ilir.

This activity also involved SMPS PTPN IV Dolok Ilir alumni, staff, teachers, and the community. From the discussions, it was agreed that the provision of facilities and infrastructure is greatly

needed by SMPS PTPN IV Dolok Ilir. Alumni, as stakeholders, also agreed that the outcomes of this FGD would contribute to the development of SMPS PTPN IV Dolok Ilir to the best of its ability, thereby realizing improved education at SMPS PTPN IV Dolok Ilir and producing alumni who can be proudly celebrated in the future.



**Figure 2.** Group photo with Alumni, Staff, and Teachers of SMPS PTPN IV Dolok Ilir



**Figure 3.** Group photo in the courtyard of SMPS PTPN IV Dolok Ilir School

### 3.2 Creation of the Official School Website

The training is conducted by teaching how to provide information to students and parents, promote school activities, or support online learning. Then, additional features are added that are in line with the school's needs, such as event calendars, contact forms, latest news, and photo galleries. If possible, consider features that facilitate online learning, such as virtual classrooms or access to digital learning materials. WordPress accounts are provided to school staff responsible for updating and managing the website. They should know how to publish news, upload content, and maintain site security.



**Figure 4.** Process of Establishing an Official School Website

The discussion outcomes of the USU community service team have resulted in an official school website with the .sch.id domain, which is the official domain and has been verified by a national verification institution, accessible at <https://smpls-ptpn4.sch.id/>.



**Figure 5.** Website SMP S PTPN IV Dolok Ilir

The establishment of the official website of SMP S PTPN IV Dolok Ilir marks the beginning of the implementation of the school's digital transformation with online office management. This website will be used as a continuous school information platform, both for student recruitment processes and for communicating students' learning outcomes at the school.

#### 4 Conclusion

From all the community service activities conducted, it can be concluded that these activities are of great importance because they have yielded many positive outcomes. From the first activity,

the Focus Group Discussion, numerous inputs and suggestions were obtained to improve the state of education in Indonesia. One of these suggestions is the need for facilities and infrastructure to operate the existing website effectively. In the subsequent activities, training was provided to teachers and staff to operate the website created through this community service. The development of the school website has improved the accessibility of educational information for all relevant parties, including students, teachers, and parents. Easily accessible information helps enhance transparency and parental involvement in their children's education.

Overall, the results of this community service demonstrate that the utilization of digital technology in the form of a school website has brought about positive impacts in supporting inclusive education at PTPN IV Dolok Ilir School. This effort not only aligns with technological advancements but also represents a crucial step in ensuring that every student has equal access and opportunities to develop their potential in this modern era.

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