Research Article

Streamlining DepEd School Forms: Excel Automation for Simplified Teacher Workflows

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Abstract— The Department of Education (DepEd) is dedicated to improving education and supporting educators' professional growth. However, teachers often deal with a significant administrative workload. In response, this research develops a system that simplifies the creation of school forms, utilizing technology to enhance efficiency in education. This follows a developmental methodology, aligning with the System Development Life Cycle (SDLC) method, encompassing seven stages: analysis, planning, design, testing, deployment, and maintenance. This systematic approach ensures that the resulting system is finely tuned to teachers' needs. The research produces a validated instrument reviewed by experts to evaluate the system's efficacy and user-friendliness. Senior high school teachers assessed the system, and the results are promising. Respondents strongly favor automating various aspects of school forms, such as digital conversion, data integration, real-time validation, and more. The system receives high ratings for its usefulness and ease of use, significantly enhancing teachers' work efficiency. In conclusion, in line with the MATATAG agenda of the Department of Education to support teachers to teach better and to capacitate in utilizing technology to maximize the benefits of digital learning, this action research underscores the potential benefits of automating school forms, offering a practical solution for teachers to the administrative challenges. Innovation and technology can improve teachers' daily work, allowing them to focus more on teaching and lesson planning. This research recommends further innovations to simplify teacher workloads, provide ICT training, and potentially adapt the findings for application in other schools, extending the benefits of this innovative approach to a broader educational community.

Keywords— administrative workload, work simplification, DepEd school forms, automation, teaching-related tasks

1. Introduction

To improve the quality of education and the professional development of educators, the Department of Education (DepEd) creates and funds a variety of teaching and teaching-related activities. In addition to teaching, teachers frequently contribute to expanding and improving the institution or school where the instructional and educational parts of their job are. Teaching-related activities are the countless actions, tasks, and duties that teachers carry out to efficiently deliver instruction, create a positive learning environment, evaluate student progress, interact with students and parents, work with colleagues, and continuously improve their teaching practice. One includes developing and implementing tests to gauge students' understanding and progress, offering helpful criticism, keeping accurate performance records, and creating and submitting school paperwork.

Standardized school forms are crafted through a collaborative process comprising the Department of Education's (DepEd) national headquarters, regional offices, and numerous stakeholders. These forms are essential for assessing and monitoring the educational system. Specialized units or divisions that deal with curriculum development, assessment and evaluation, data management, and other pertinent areas are housed in DepEd's main office. These departments design and create school forms, ensuring they adhere to the system's goals and specifications. The importance of school forms in the educational system is enormous. At first, they act as well-structured tools for gathering and classifying crucial information about students, teachers, and academic institutions. Teachers use these forms to record and report grades, make observations, and give comments on students' performance.

Teachers and advisers are required to prepare DepEd school forms in conformity with DepEd regulations. These forms serve several functions in collecting and keeping track of crucial information about the school and its students. School Form 1 (SF1) is one such form, and it comprises basic information about the school and the students. School Form 2 (SF2) is another form used to track student attendance. The textbooks and teaching materials used at the school are listed on School Form 3 (SF3). Reporting on learners' learning

progress and promotion status is done using School Form 5 (SF5A, SF5B). The School Form 9 (SF9), which thoroughly summarizes the learner's academic performance, is distributed after each grading term. Lastly, School Form 10 (SF10) serves as a learner's official permanent record and includes comprehensive details on their educational history, grades, and accomplishments throughout their academic career. These are only a few of the school forms that teachers and advisors must create following the rules specified by the department.

The Department of Education (DepEd) is confronted with a widespread issue where teachers must perform a great deal of manual paperwork on top of their teaching duties, such as creating school forms, modules, lesson plans, and reports. According to Merlina Hernando-Malipot's post from August 10, 2021, there has yet to be a consensus that these documentation requirements raise educational standards [1]. David, Albert, & Vizmanos [2], who conducted a focus group with public school instructors and school division administrators, further addressed this issue in their report.

According to the researcher's pre-survey, preparing and checking exercises and keeping track of student performance data and classroom achievements are teaching-related responsibilities that teachers find challenging. Of the 52 respondents, 38 teachers said they had trouble with this. The survey also found that teachers work more than six hours a day on tasks linked to teaching, which causes them to have restless nights because of how time-consuming their jobs are. They must grade essays and other students' writing at home, which increases their burden. Teachers also mentioned that they were overworked from non-teaching tasks and found it challenging to finish their assignments due to their many commitments. Another activity identified as making school paperwork and reports contributed to their exhaustion.

Technology is critical in boosting efficiency and effectiveness in today's rapidly expanding world by leveraging tools and resources to assist people in all facets of their work and daily duties. Technology has fundamentally altered the way that people learn, particularly in the realm of education. Access to digital tools and information allows for lifelong learning and personal development for teachers and students. Since technology provides a wealth of helpful instructional resources, interactive educational platforms, and other essential tools, it has a huge impact, especially on teachers. Technology has improved teachers' capacities in some ways, including by making it possible to convert evaluations into online quizzes and by making it easier to create digital portfolios, which better engage students in the learning process. Technology can increase teaching productivity by encouraging collaboration and communication, which eventually results in the provision of high-quality education. Given the circumstances, the researcher decided to carry out the study to reduce the teachers' workload in creating school forms by constructing a system made in Microsoft Excel.
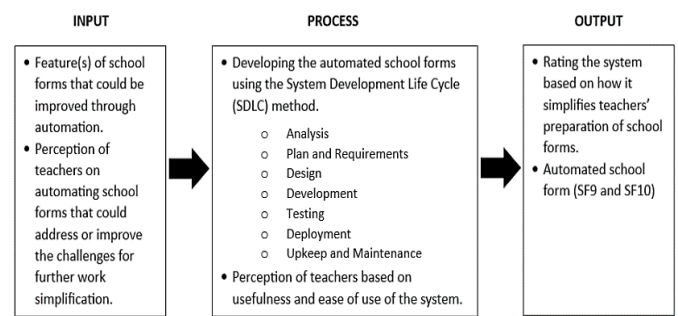
1.1 Conceptual Framework

Figure 1. The Paradigm of the Study

As shown in Figure 1, the input is to know which feature(s) of school forms improved through automation and the perception of teachers on automating school forms that address or enhance the challenges for further work simplification.

The process is the development of the automated school forms using the SDLC conceptual model and the teacher's assessment of the automated school form. In planning and developing the system, a set of processes is needed for improvement. The researcher used the System Development Life Cycle (SDLC) approach. The stages of an information system development project are described profoundly. It is a conceptual model for project management that encompasses the initial feasibility study to the maintenance of the completed application. Both technical and non-technical systems can use the SDLC. So, the researcher used this method as a guide to further develop the system. This model has seven (7) steps, namely: analysis, plan and requirements, design, development, testing, deployment, upkeep, and maintenance. Below is the research development for each step.

Analysis. The first step is the most necessary in creating a productive system. Consequently, the researcher defined an existing feasible problem that needs to be solved. Researchers also identified objectives and resources. As a result, the researcher decided to create an automated Excel to help teachers with school forms.

Plan and Requirements. Planning involves identifying the resource requirements and allocating the time needed to integrate the system. The researcher provided a schedule and defined the breakdown of tasks per day. As the project progresses, the researcher ensures quality, states the probable errors to be encountered, estimates project costs, and includes an acquisition plan.

Design. The design phase comes after a good understanding of the first two steps. This step includes the elements of a system, the components, and other structural interfaces. The researcher used to make design choices for easier access to and understanding of the system.

Development. This step is the concrete construction process after a completed and demonstrated design for the system.

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The system was divided into sheets to understand without confusion or difficulties easily. Each button is guaranteed to function correctly.

Testing. The testers tested the system to see if any errors or bugs appeared. Testing is essential to ensure that the teacher is satisfied and understands how the data input becomes the data that occurs as the output. After testing, immediate corrections take place.

Deployment. It is made available for everyone after ensuring the system works appropriately without errors or bugs. Senior high school advisers assessed the automated Excel using the evaluation form to confirm system accuracy and successful completion.

Upkeep and Maintenance. The researcher keeps upgrading the school year's data template and changes it for the better according to the school's needs.

The researcher assessed the teachers' perception of the automated school form. Meanwhile, the output is the revised and improved automated school form that simplifies the work of teachers.

1.2 Research Questions
This study aims to develop and assess the efficacy of school form automation using the System Development Life Cycle (SDLC) method.
1. What features of the school forms could be improved for automation?
2. How may school forms be automated for further work simplification?
3. How may the users describe the automated system of preparing school forms in terms of:
   3.1 usefulness,
   3.2 ease of use?
4. How does the automated system simplify teachers' preparation of school forms?

1.3 Significance of the Study
Teachers. Implementing this research helped teachers to reduce paper workloads. They can focus more on teaching, making lesson plans, and preparing modules for learners.

School Administration. The outcome of this research gave the administration ample opportunities to support teachers in enhancing the teaching and learning process.

Department of Education. This research produced a more practical approach to reducing teachers' workloads on paperwork. The institution's ICT (Information and Communication Technology) department can provide an efficient and effective system that teachers may use.

Other researchers. This research could be the foundation for creating and deploying a new automated system to reduce teachers' and school administrations' paper workloads.

2. Related Work

Technology seeks to make more efficient and effective use of equipment and other resources to aid people in their employment, domestic duties, and other methods in this fast-changing environment. Teachers are among those impacted by these changes, so they should consider how society is developing and influencing education today. Teachers' use of digital teaching and learning tools was relatively visible, and they were willing to put their practices into reality, acknowledge the advantages of doing so, and spread best practices in the workplace [3]. The relevance of automating workflow and information management to reduce human error and boost productivity is discussed in the paper [4]. It underlines people's need to employ cutting-edge technology and affordable automation solutions to traverse difficult times. The research concludes that automation can help an organization thrive while reducing costs and enhancing worker happiness. The workplace can close the assumption gap and reassure workers that embracing new technologies might be advantageous [5]. Additionally, it is concluded that workers who have faith in their work to provide them with possibilities for upskilling and reskilling may be more engaged and deliver better results. Future research can also concentrate on constantly reskilling the workforce to keep up with the labor market's shifting demands and technological improvements. Based on the conclusion of the study by Samota et. Al [6] examines the latest advancements in information technology (IT), highlighting its ease of use and swift integration into society. It highlights the contributions of IT to numerous industries and talks about how these advances affect diverse facets of society. The report offers valuable information for practitioners to comprehend and utilize current IT developments. The report also lays the groundwork for future scholarly and investigative work by pointing out possible directions for investigation and highlighting the continuous influence of IT on business and society.

Crisolo highlights the relevance of information and communications technology (ICT) in education and the need to create ICT-literate citizens to develop the infrastructure necessary to thrive in this digital age of society. It also talks about the Philippines' Department of Education's efforts to integrate ICT into its system and give its citizens access to modern technology. It also needs to address the government's obstacles to maintaining creative education in a rapidly evolving world, including the digital gap, a lack of funding and assistance, and connectivity problems. Overall, integrating ICT into education may significantly enhance students' learning experiences, and the government and other industries must collaborate to address the difficulties associated with maintaining creative education in a rapidly changing global environment [7]. Governments, companies, and employees must be mindful of any potential adverse effects of new technologies on the workplace and employees. It also implies that to assist employees in adjusting to new technologies, companies must give them the necessary training and assistance. It necessitates a more sophisticated comprehension of how new technologies affect various

worker types, such as those with more conventional employment arrangements [8].

According to DepEd Memorandum No. 60, 2015, public and private school teachers in the Philippines may utilize an "Electronic Class Record" (E-Class Record) or a free Microsoft Excel template. For any compliances submitted to the Department of Education, most schools use the Electronic Class Record (E-Class Record) as the legal basis. It summarizes the student's grades for each quarter but does not produce a Form 138 or Report Card, which requires teachers to manually type the information or still write it out on paper and spend much time doing it. Work overload is one of the causes of teacher burnout, which leads to a loss of physical and emotional energy in the educator. Public school teachers in the Philippines are routinely overworked and underpaid, as is well known [10]. Public school teachers are accountable for several non-teaching tasks in addition to their duties as educators. The Magna Carta for Public School Teachers mandates that each public school teacher devote no more than six hours daily to actual classroom instruction, equivalent to a regular full-time teaching load. Many different professional responsibilities come with being a teacher, frequently giving the feeling that one is carrying a heavy load. Examples of what it's like to work in the employment landscape include multiple meetings that take up preparation time, administrative paperwork produced by management, and being subject to ongoing modifications and changes that require restructuring work and job responsibilities. Each teacher also has various other administrative and student support concerns. Panela et al. agreed with them. Al [11], teachers frequently give up personal time to fulfil their professional obligations, making it challenging to balance their jobs within and outside the classroom. This conflict emphasizes how important it is for organizations to provide development and support services. These programs can help educators better manage their time, improving their health and the standard of instruction. Maintaining a healthy work-life balance in the teaching profession requires an understanding of and response to the demands placed on teachers' time.

Work simplification is the organized creation and application of more efficient, quicker, and easier ways to complete tasks and complete better work in less time and with less effort, enhancing work processes and doing research. The application can reduce the time invested in the process by almost 55%, significantly improving efficiency [12]. The application can generate documents and reports related to students' and teachers' timetables and calendars of disciplines, which can save time and reduce errors. Coordinators can use it to manage the educational process more efficiently, and it can be further designed and adapted to fit the unique requirements of different academic institutions and programs. A separate analysis reveals that the proposed automated form layout technique may result in a greater ratio of standard to nonstandard form (about 23%) when compared to existing methods that utilize a combination of automated and human approaches. The utilization of standardized forms has the potential to enhance the operational efficiency of form

designs, reduce the expenses associated with form manufacturing, and enhance the efficacy of form installation processes. To further increase the effectiveness and efficiency of the concrete construction process, the authors propose that future research should concentrate on creating a more thorough and integrated system that considers the entire construction process, including design, planning, scheduling, and monitoring. It also proposes that future studies can investigate the use of cutting-edge technology like robots, machine learning, and artificial intelligence to automate and improve critical steps of the concrete production process. One of the reasons classroom advisers work overtime is that it simplifies the process of submitting school papers [13]. Classroom advisers can prioritize their work and manage their time more efficiently by following the standard time for finishing each school form. Teachers could prioritize lesson planning and student engagement if the time spent filling out school forms is reduced. As a result, it exemplifies the potential of innovation to raise student performance levels, enhance educational quality, and help kids with learning difficulties learn more effectively. It proves that the electronic forms, particularly Forms 138 (Report Card) and 137 (SF10), are dependable, functional, and secure. The method assisted in easing the administrative or instructional staff member's job and paperwork [14].

3. Theory/Calculation

The Technology Acceptance Model (TAM) was created by Davis in 1989 as a theoretical framework aimed at comprehending and calculating the acceptance and adoption of novel technology by individuals. The primary constructs that are central to the Technology Acceptance Model (TAM) are perceived usefulness and perceived ease of use. This idea relates to the degree to which an individual has the belief that the adoption of a particular technology would enhance their efficiency or effectiveness in the workplace. On the contrary, perceived ease of use refers to the degree to which an individual perceives the technology as being easy to use and necessitating minimal exertion for operation.

According to the Technology Acceptance technology, these two elements exert a substantial impact on an individual's attitude towards and desire to utilize a technology. Based on the framework, individuals are more inclined to embrace technology if they believe it to possess usefulness and ease of use. On the other hand, if individuals see the technology as deficient in utility or challenging to operate, the likelihood of its adoption decreases. Additionally, the Technology Acceptance Model (TAM) posits that technology acceptance can be influenced by external variables, including social influence and conducive environments. Practical conditions refer to several technologies in the presence of technical assistance, training, and infrastructure, that can impact an individual's proficiency in utilizing the technology.

The Technology Acceptance Model (TAM) has been extensively utilized in diverse domains such as information systems, marketing, and education to comprehend and forecast user behavior about the adoption of technology.

TAM has been employed in educational environments to evaluate the views of teachers and their intentions on the utilization of educational technology in their classes. Through gaining insight into teachers' perspectives on the usefulness and ease of use of technology, educators and policymakers can develop interventions and offer assistance that facilitate the effective incorporation of technology into instructional and educational methodologies. The Technology Acceptance Model (TAM) offers a significant framework for both researchers and practitioners to identify obstacles and enablers to the adoption of technology. It also helps in developing strategies to improve the acceptance and utilization of technology.

The Technology Acceptance Model (TAM) provides a comprehensive theoretical framework for comprehending the attitudes and intents of teachers about the adoption of automated technologies such as Excel automation to streamline DepEd school forms. TAM posits that technology adoption is primarily influenced by two factors: perceived usefulness and perceived ease of use. The concept of perceived usefulness pertains to the opinions held by teachers regarding the potential benefits of utilizing Excel automation for school forms in terms of enhancing their job performance or productivity. Teachers may view Excel automation as beneficial for timesaving, alleviating administrative workload, guaranteeing data precision, and enabling convenient information retrieval. The assessment of the efficacy of Excel automation plays a pivotal role in influencing teacher viewpoints on the adoption of this technology.

Perceived ease of use, a crucial element in the Technology Acceptance Model (TAM), pertains to teachers' subjective evaluations of the level of simplicity involved in utilizing Excel automation for school forms. This encompasses factors such as the design of the user interface, the simplicity of inputting and manipulating data, the accessibility of support resources, and the coherence with current workflows. The adoption of Excel automation by teachers is more probable when they perceive it to be intuitive, user-friendly, and aligned with their abilities and practices. Furthermore, the acceptance of technology is influenced by external variables, including social influence and conducive conditions. Teachers can be more inclined to adopt Excel automation for school forms when they receive positive feedback from their peers and administrators and have access to training and technical assistance.

The intent of teachers to utilize Excel automation is ultimately shaped by their attitudes towards the technology, which are influenced by elements such as perceived usefulness, perceived ease of use, and external circumstances. There exists a positive correlation between positive intentions and increased levels of actual utilization, resulting in enhanced incorporation of Excel automation into the everyday workflows and practices of teachers. Educators and policymakers can acquire valuable insights into teacher views and actions regarding technology adoption by employing the Technology Acceptance Model (TAM) framework within the context of DepEd school forms and Excel automation. The comprehension of this concept can provide valuable insights for the formulation of tactics aimed at facilitating the effective integration and exploitation of automated systems within educational environments. Ultimately, this can lead to the streamlining of teachers' tasks and the improvement of administrative effectiveness.

4. Experimental Method/Procedure/Design

4.1 Type of Research
The researcher conducted the research using the developmental research methodology. The design, creation, and evaluation of educational products and programs are at the heart of instructional technology, according to Richey [15]. Furthermore, it is crucial for those using a wide range of computer programs. This research concentrated in part on design approaches and tools. In other words, the study of design, development, and evaluation was practiced in this study. This study was divided into three parts using the System Development Life Cycle (SDLC) methodology, with Phase I being dedicated to analysis, planning, and requirements. Phase II consists of design and testing or evaluation, and Phase III involves deployment, maintenance, and upkeep. Due to the nature of the research's development, many methodologies are used in various stages. Using an application as a tool for developmental research in innovation has several benefits. Although this program is frequently used as a spreadsheet, it also offers a variety of features that can be used to facilitate modelling, data visualization, and analysis—all essential components of developmental research.

4.2 Participants
The researcher targeted senior high school teachers handling advisory classes in both Grade 11 and Grade 12 in one of the public secondary schools in Marilao, Bulacan. The researcher intentionally selected this specific group using non-probability sampling, specifically purposive sampling, since they are essential to the study's objectives. This method allowed for selecting individuals with unique experiences and insights relevant to the study's innovation. While purposive sampling supports in-depth investigations, it may limit the ability to make broad predictions based on past observations. The respondents were asked to assess the automated school system's perceived usefulness and ease of use through an evaluation form. The population and sample of respondents are detailed in Table 1.

Table 1. Respondents of the Study

Respondents	Population	Sample Size
Grade 11 Teachers	35	27
Grade 12 Teachers	33	25
Total	**68**	**52**

This table outlines the scope of the study, providing specific figures for the overall population and the selected sample sizes within the Grade 11 and Grade 12 teacher groups. It serves as a foundation for understanding the extent of the survey's reach and the representation of teachers in the research.

4.3 Proposed Innovation

A system developed using Microsoft Excel in Office 365 aimed to simplify school form completion for teachers. Its crucial feature is integrating e-class records to automatically generate School Form 9 (Report Card) for students. This automation minimizes errors and facilitates the creation of School Form 10 (Learner's Permanent Record) without requiring manual grade entry. As the figure shows, the researcher developed the system using the SDLC method to implement it in the senior high school department properly.
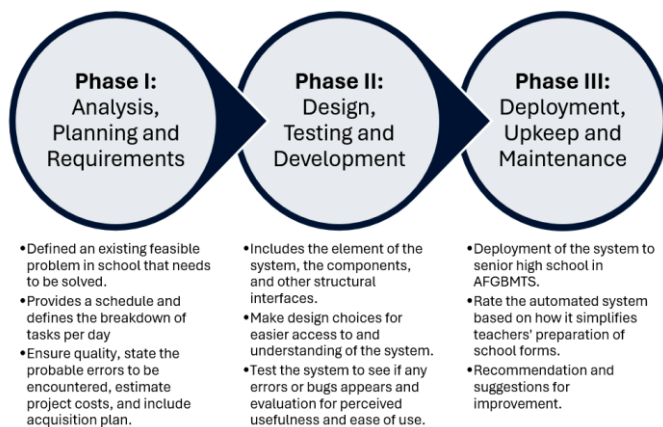

Figure 2. Development Phase of the System

This structured approach ensures a comprehensive system development lifecycle, from problem identification to deployment and ongoing assessment. It is a well-organized plan considering technical aspects and practical implications for end-users (teachers) in a school setting.

Advisers were introduced to the system's workflow through LAC sessions and meetings, encouraging senior high school advisers to attend and share insights on completing automated SF9 and SF10 applications. The researcher provided a Google Site to download and complete the templates and forms. After completion, the researcher reviewed the forms, identifying formula adjustments to prevent errors. Google Site was a centralized platform for uploading and downloading resources, simplifying access to avoid multiple URLs.

4.4 Instruments

The researcher developed a validated research instrument and initiated a three-phase innovation.

Analysis of a real, attainable problem in education that must be fixed constitutes Phase I of the innovation. To help teachers, the researcher provided a checklist of characteristics of school forms that could be improved through automation. The researcher also asked participants to score the following indications regarding their perception of how automating school forms may address or alleviate the difficulties associated with work simplification.

The second phase of the research focused on system components, elements, and other structural interactions. One is based on the system's usefulness and ease of use to test for errors or problems. The 52 respondents who rated the

system's likeliness based on the following factors were subjected to the survey:

Perceived Usefulness. This category refers to the system's usefulness in a teacher's job as a teacher if it is enabled to accomplish tasks more quickly, increase productivity, and make it easier to do.

Perceived Ease of Use. This category means it would be easy to use. Subsequently, if the system is clear and understandable, flexible to interact with, and skillful at using the system,
Phase III of the research, the final phase, involves deploying the system to senior high school teachers of a public secondary senior high school and rating the automated system based on how it makes it easier to fill out school forms and considering improvement suggestions.

4.5 Data Collection Procedure

The researcher received permission from the school principal to investigate how the system could ease teachers' paperwork. They collected data using a validated questionnaire, obtaining respondents' agreement before a three-day survey period. Microsoft Excel facilitated data analysis, displaying, examining, and interpreting the results. The focus was developing automated school forms like School Form 9 (Report Card), School Form 10 (Learner's Permanent Record), and other reports.

Through LAC (Learning Action Cells) sessions and meetings, the advisers were introduced to the system's workflow. Attendance was encouraged for senior high school advisers to exchange information, views, and inquiries regarding the completion of automated applications. The researcher provides a Google Site where the adviser downloads the template for automated SF9 and SF10 and accomplishes it. The researcher reviewed the completed school forms and discovered several formula adjustments that needed to be made right once to prevent mistakes and erroneous data. The researcher's Google Sites were also used for uploading and downloading the resources to avoid sending too many URLs and having just one link for everything.

4.6 Ethical Considerations

The policy guidelines put forward by the DepEd Regional Office III regarding the observance of ethical research obligations and principles in studies involving teaching, teaching-related, and non-teaching employees, and students. At the regional, divisional, and school levels, the policy seeks to improve the ethical conduct of research. The regulations were developed following DepEd Order No. 16, 2017 (Research Management Guidelines), Republic Act No. 10173 (Data Privacy Act of 2012), and DepEd Order No. 40, 2012 (Child Protection Policy).

The policy promotes the highest moral standards in educational research, particularly regarding students and their immediate surroundings. In addition to maintaining data confidentiality and securing consent when required, the researcher observed ethical norms. The researcher followed

the rights-based methodology and the inclusion, participation, and empowerment principles.

The researcher adhered to the same ethical guidelines for face-to-face data gathering and remote data collection, given the difficulties presented by the COVID-19 epidemic. These values included lowering the risk of harm, getting informed consent and assent, safeguarding anonymity, and secrecy, refraining from misleading methods, and granting the participant the right to withdraw. Additionally, the researcher stressed the significance of informing the participants about agreement and consent by outlining the research's objectives, potential risks and rewards, and available alternatives. Forms asking participants to sign informed permission and assent are worded in simple language. In addition to maintaining anonymity and ensuring that data is solely utilized for study objectives, the researcher considered the well-being of vulnerable participants.

The researcher submitted specific paperwork to obtain a permit at the regional and divisional levels. This paperwork includes an endorsement from the school, approval from the ethics review committee, research instruments, data collection and security procedures, and informed consent forms. In research, ethical ideals like respect for people and their welfare must be upheld, which is what these guidelines are meant to do.

4.7 Data Analysis

The researcher summarized and organized the scores described in terms of usefulness and ease of use of the system from respondents. With that, descriptive statistics is the best method for this action research. Descriptive research includes the mean, standard deviation, and frequency distribution to be presented significantly and comprehensively.

The frequency % distribution was employed to solve the first problem. Weighted arithmetic measures were used to determine the automated system's level of usefulness and ease of use. The formula reads as follows:

$$W = \frac{f1 + f2 + f3 + f4 + \cdots}{N}$$

Where, W= weighted mean, f = frequency distribution, N = number of respondents

Table 2. Descriptive Scale for Problems 2 and 4.

Scale	Range of Scale	Qualitative Index
4	3.26 – 4.00	Strongly Agree
3	2.51 – 3.25	Agree
2	1.76 – 2.50	Disagree
1	1.00 – 1.75	Strongly Disagree

The descriptive rating of the obtained weighted mean was determined using this scale. The descriptive scale for problems 2 and 4 is presented in Table 2.

Table 3. Rating of the System for Usefulness and Ease of Use

Scale	Range of Scale	Qualitative Index
5	4.20 – 5.00	Excellent
4	3.40 – 4.19	Very Good
3	2.60 – 3.39	Good
2	1.80 – 2.59	Fair
1	1.00 – 1.79	Poor

As shown in Table 3, The method used in evaluating the system is the Five-level Likert Scale, wherein in each category, the respondents will rate the system from 1 to 5. 5 being the highest, corresponding to Excellent, and 1 being the lowest, related to Poor, the system failed to meet the criteria.

5. Results and Discussion

The researcher used various analytical tools to discuss the study's findings. The researcher adopted the weighted arithmetic mean (WAM) and frequency-percentage distribution.

The demographic breakdown of the responders is shown in this table by sex. Most respondents were female. It indicates that more females than males responded to the survey.

Table 4. Average Number of Respondents Based on their Position.

Position	Frequency	Percentage
Special Science Teacher I	4	7.70%
Teacher III	14	26.90%
Teacher II	31	59.60%
Teacher I	3	5.80%
Total	**52**	**100.00%**

The most often reported position in the survey responses, as shown in the table, was Teacher II, concluding 59.60% of the respondents.

Table 5. Features of School Forms that Could be Improved through Automation.

Indicators	Frequency	Percentage
Digital conversion of paper-based forms into electronic formats.	45	86.54%
Autofill of known information from existing databases.	33	63.46%
Dynamic fields that adapt based on user input or predefined conditions.	26	50.00%
Real-time validation to ensure accurate and complete submissions.	32	61.54%
Online submission for convenience and paperless processing.	43	82.69%
Notifications for important updates or missing information.	31	59.62%
Analytics and reporting capabilities for data analysis and reports.	37	71.15%
Accessibility across devices and platforms.	33	63.46%
Integration with other systems or platforms for seamless data transfer.	38	73.08%
Data security and privacy measures.	33	63.46%
Others (online viewing of grades on the student's end).	1	1.92%
Others (centralized grading system)	1	1.92%

Table 5 shows the frequency and percentage of features related to school forms that respondents thought could be enhanced by automation. With 86.54% of respondents (45 out of the total) saying it might be improved by automation, the

feature of digital conversion of paper-based forms into electronic forms has the highest frequency. It implies an urgent need to automate data conversion to electronic formats, doing away with paper-based documents. Thirty-eight respondents, or about 73.08 percent, noted that automation could help with the seamless data transfer between school forms and other platforms or systems. Results suggest a need for better data interchange and interoperability between various systems or platforms. The feature of analytics and reporting capabilities for data analysis and reports was named a potential area for automation enhancement by 71.15% of the respondents (37 out of the total). This feature indicates the need for more efficient and timely analytics and reports to inform users of critical updates or missing data. Sixty-three percent of the respondents (33) identified indicators 2, 8, and 10 as areas for automation enhancement and showed an interest in automating data entry, validation, analysis, accessibility, and security on school forms, among other factors. Positive feedback on online submission for ease of use and paperless processing was obtained; 82.69% of the respondents (43 out of the total) said it is already effective. This high proportion indicates high satisfaction with the current functionality, notwithstanding the possibility of improvement. Of the total responders, 26 (50.00%) indicated that automation could enhance dynamic fields that change based on user input or predefined conditions. Findings highlight a need for form fields that are dynamic and flexible with more refined capabilities.

Only a tiny proportion of respondents (1.92% each) noted the "Others" category, which included a centralized grading system and online grade viewing on the student's end. Although the frequencies are reasonable, they point out specific areas of interest where enhancements or new features might be added.

The table gives an overview of the aspects of school forms that respondents thought may be enhanced by automation. In terms of digital conversion, integration, notifications, auto-fill, validation, analytics, accessibility, and data security, these insights can help develop automated systems to satisfy user needs and expectations better.

Table 6. Results on How Automating School Forms Could Address or Improve the Challenges for Further Work Simplification.

Indicators	Weighted Mean	Qualitative Index
Saves time by eliminating the need to fill out each form manually.	3.87	Strongly Agree
Reduce errors or inconsistencies in form completion and data entry.	3.73	Strongly Agree
Improves efficiency by pre-filling known information or integrating with existing databases.	3.81	Strongly Agree
Make it easier to track the progress of form submissions and receive real-time updates.	3.81	Strongly Agree
Enhances accessibility by allowing users to complete forms from any device with internet access.	3.77	Strongly Agree
Simplifies the process by automating data validation and error checks.	3.71	Strongly Agree
Enables collaboration by allowing users to review or generate reports that simplify the process of compiling and analyzing data	3.73	Strongly Agree
without the need for manual calculations or data analysis.		
Records that easily retrieve and reference form data whenever needed eliminate the need for physical storage and reduce the risk of losing important documents.	3.71	Strongly Agree
Integrate with other school forms that allow for seamless data transfer, reducing the need for duplicate data entry and simplifying the preparation of forms.	3.73	Strongly Agree
Implement security measures to protect the data collected through the automated school forms, ensuring compliance with data protection regulations, and maintaining privacy.	3.73	Strongly Agree

The perception of how automating school forms could solve or alleviate the difficulties for further work simplification is shown in the table. For each aspect, the weighted mean ratings and qualitative index are provided.

By eliminating the need to fill out each form manually, the respondents strongly agree (3.87 weighted mean ratings) that automating school forms saves time. Conclusions suggest that automation's ability to save time is highly valued. The responders overwhelmingly concur (3.81 weighted mean ratings) that pre-filling or combining with existing databases when automating school forms increases efficiency. They also agree that monitoring the status of form submissions and getting real-time updates is more uncomplicated and shows that automation boosts communication, improves data accuracy, and streamlines procedures. Strongly agree (3.77 weighted mean ratings) was the response to the statement that automating school forms improves accessibility by permitting form completion from any internet-connected device and shows that automation offers users ease and independence. 3.73 weighted mean rating was achieved by enabling collaboration of users to examine or generate reports that streamline gathering and evaluating data without manual computations or data analysis suggesting that automation enhances efficiency, speeds data processing, and encourages collaboration. By automating data validation and mistake checks, the respondents overwhelmingly agree (3.71 weighted mean ratings) that automating school forms simplify the process. They also coincide in that it lessens mistakes or discrepancies in data entry and form completion and shows that automation increases accuracy, decreases manual labor, and promotes data quality.

The outcomes highlight the advantages of time savings, efficiency improvement through pre-filling and tracking, improved accessibility, collaboration enablement, streamlined processes through automation of data validation and error checks, and decreased errors or inconsistent data entry.

Table 7. Rating of the Developed System Based on its Usefulness.

Indicators	Weighted Mean	Qualitative Index
Using the system in my job enables me to accomplish tasks more quickly.	4.92	Excellent
Using the system improves my job performance.	4.83	Excellent
Using the system in my job increases my productivity.	4.85	Excellent
Using the system enhances my effectiveness	4.81	Excellent

on the job.

	Weighted Mean	Qualitative Index
Using the system makes it easier to do my job.	4.89	Excellent
I find the system useful in my job.	4.89	Excellent

The developed system has gotten outstanding reviews based on its usefulness in numerous areas of users' job performance. With a high weighted mean rating of 4.92, system users strongly agree that utilizing it speeds up work completion, implying that the approach dramatically increases productivity and cuts down on waiting time. The system is useful, with a high weighted mean rating of 4.89 from users. It makes their jobs easier, indicating that the system offers valuable features and tools that make it easier for users to complete work activities that align with their demands. Users strongly believe that using the system boosts their productivity, as seen by their weighted mean rating of 4.85, showing that the system has features and capabilities that simplify processes and aid users in finishing jobs more quickly, ultimately boosting productivity. A weighted mean rating of 4.83 from system users indicates that utilizing it enhances their ability to accomplish their jobs, suggesting that the system offers users tools and resources to help them carry out their duties more successfully, which enhances overall performance. Lastly, a weighted mean rating of 4.81 for the system indicates that consumers firmly agree that utilizing it improves their effectiveness at work, meaning that the system offers tools and capabilities that enable users to perform their work duties more successfully and accomplish their objectives more quickly.

Overall, the usefulness of the developed system has been highly praised. Users highly value their capacity to speed up task completion, simplify job tasks, boost productivity, enhance job performance, and raise overall effectiveness in job responsibilities.

Table 8. Rating of the Developed System Based on its Ease of Use.

Ease of Use	Weighted Mean	Qualitative Index
Learning to operate the system is easy for me.	4.62	Excellent
I find it easy to get the system to do what I want it to do.	4.69	Excellent
My interaction with the system is clear and understandable.	4.67	Excellent
I find the system to be flexible to interact with.	4.58	Excellent
It is easy for me to become skillful at using the system.	4.62	Excellent
I find the system easy to use.	4.69	Excellent

The developed system has garnered outstanding evaluations based on how simple it is to use. Users strongly agree (4.69 weighted mean ratings) that the system is simple to use and can quickly get it to accomplish what they want. It shows that the system has an intuitive user interface and functionality, making it easy for users to explore and complete activities. Users highly believe that their contact with the system is clear and straightforward. Its high-weighted mean rating of 4.67 implies that the software offers clear guidelines, labels, and feedback to ensure a simple and understandable user experience. Users overwhelmingly agree that learning how to

use the system is simple. Doing so gives it a weighted mean rating of 4.62, suggesting that the system has an easy learning curve and offers enough help and direction for users to master using it quickly. The system has received a weighted mean rating from users of 4.58, indicating that they find it easy to use. It implies that the system provides flexible and individualized user interaction through customizability, adaptability, and user-friendly controls.

Users mention its user-friendliness, understandable interactions, skill acquisition simplicity, and versatility. These favorable evaluations show that the system is well-designed and successfully assists users in completing their tasks quickly and effectively.

Table 9. Rating of the Automated System Based on How it Simplifies Teachers' Preparation of School Forms.

Indicators	Weighted Mean	Qualitative Index
Provides pre-designed templates for common school forms.	3.89	Strongly Agree
Allows customization of forms to suit specific subjects or grade levels and auto-fills of known information to save time and effort.	3.81	Strongly Agree
Offers feature autofill-down menus, checkboxes, or radio buttons for easy selection.	3.85	Strongly Agree
Performs real-time validation checks to ensure accurate and complete form submission.	3.79	Strongly Agree
Creates a convenient platform for the paperless submission of school forms.	3.87	Strongly Agree
Provides notes and reminders for instructions and missing information.	3.75	Strongly Agree
Generates reports or summaries based on the data inputted in the forms.	3.87	Strongly Agree
Provides convenient access and storage of completed forms.	3.81	Strongly Agree
Integrates with other systems or school forms for seamless data transfer.	3.79	Strongly Agree
Adhere to data protection regulations and ensure privacy measures.	3.81	Strongly Agree

The automated system for simplifying teachers' preparation of school forms has received positive ratings in various aspects. With a weighted mean rating of 3.89, system users overwhelmingly agree that it offers pre-made templates for typical school forms which can reduce the time and effort required to create. Users strongly agree (3.87 weighted mean ratings) that the system creates a comfortable platform for paperless form submission and generates reports or summaries depending on the data provided in the forms. Users generally agree that the system provides features like autofill-down menus, checkboxes, or drop-down menus for quick selection, as seen by the weighted mean rating of 3.85, suggesting that the system has features of an intuitive and user-friendly interface that makes it possible to pick and input data quickly. The weighted mean score for each feature, Indicators 2, 8, and 10, was 3.81, indicating that users strongly agreed that the system delivers features which users greatly appreciate, including customization possibilities, automated data input, quick access to and storage of

completed forms, and compliance with data protection laws. Users of the system strongly agree that it interfaces with other systems or school forms for seamless data transmission and conducts real-time validation checks, as seen by the weighted mean rating of 3.79 that the system supports effective data interchange and guarantees data accuracy through real-time verification. Finally, system users overwhelmingly agree that it gives notes and reminders for instructions and missing information, as seen by the weighted mean rating of 3.75 the system aids users by providing practical guidance and reminders to guarantee accurate and thorough form completion.

Overall, the automated system has received favorable reviews in several areas concerning the ease with which teachers may prepare school forms. The system's pre-designed templates, a practical platform for paperless submission and report generation, accessible features, customizability possibilities, data protection measures, integration capabilities, real-time validation, and helpful reminders are all highly praised by users. These evaluations show that the method helps teachers prepare school forms more simply and successfully.

6. Conclusion and Future Scope

In line with the MATATAG (MAke the curriculum relevant to produce competent and job-ready, active, and responsible citizens; TAke steps to accelerate delivery of basic education facilities and services; TAke good care of learners by promoting learner well-being, inclusive education, and a positive learning environment; and Give support to teachers to teach better) agenda of the Department of Education to support teachers to teach better and to capacitate in utilizing technology to maximize the benefits of digital learning, this action research underscores the benefits of automating school forms that offer a practical solution to the teachers' administrative workload challenges. Also, innovation and integration of technology allow teachers to improve and focus more on teaching and lesson planning. To completely harness this action research, it is recommended that the system be utilized and adopted in the broader school communities. Moreover, training and seminar workshops can improve teachers' ICT knowledge and skills. Lastly, as educators and researchers, we should continuously embrace the new culture of education by adapting and utilizing the advancement of technology.

Data Availability

The system was developed by Microsoft Excel and designed for senior high school teachers to provide automated school forms such as School Form 9 (report card), Homeroom Guidance Learners Development Assessment Form, and School Form 10. It only allows teachers to copy information with LIS-generated learner's name or in School Form 1, and the automated e-class record template provided that the learner's name is the same at both e-class record and summary grading sheet to read by the system and has more accurate data. Also, it needs to enable macros and editing.

Conflict of Interest

As a result of this research work, I declare that I have no relevant conflicts of interest concerning this research project. I have no financial interests, personal or professional affiliations, or obligations that would compromise my work's objectivity, integrity, or impartiality. The highest ethical standards were followed in the conduct of this study, and I reaffirm my dedication to openness and honesty in all study-related dealings.

Author's Contribution

Implementing an automated system to streamline the creation of school forms for teachers is an honorable achievement. The researcher's focus on automation within the system signifies a substantial advancement in improving efficiency. This system will likely include innovative features such as pre-established templates, interfaces that are easy for users to use, and automated data. Automation incorporates a range of tasks, including data entry, validation, and creating reports, which help to minimize manual work and decrease the chances of errors. These elements are all designed to reduce the time and effort needed to create forms. Using technology to automate repetitive processes, the system empowers teachers to enhance their efficiency and concentrate on activities that directly contribute to the achievement of students.

Furthermore, the researcher emphasizes that advancing digital transformation within educational institutions is vital in the current era of growing digitalization. Promoting digital tools and systems makes organizing and accessing data more accessible and equips teachers and students with the skills they need to succeed in a constantly changing technology environment. Implementing digital technology in schools can improve cooperation, communication, and learning results.

In addition, the researcher's suggestions for additional advancements emphasize their dedication to ongoing enhancement and professional growth in education. By identifying opportunities for improvement, such as streamlining teacher workloads and offering ICT training, they are fostering a culture of innovation and expansion in educational institutions.

In summary, the researcher's work is a thorough endeavor to enhance productivity, advance the use of digital technology, and bolster teachers' efficacy in the education field. By creating a simplified system, advocating for digital conversion, and providing proposals for future developments,

they are contributing to establishing a more efficient, effective, and technologically advanced educational environment.

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