



AUTOFORM SYSTEM: AN AUTOMATED TOOL TO IMPROVE TEACHER'S TIMELINESS, ACCURACY, AND PRODUCTIVITY IN THE COMPLETION OF ESSENTIAL SCHOOL FORMS

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Completed 2022



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DEPARTMENT OF EDUCATION CAGAYAN DE ORO CITY

**AUTOFORM SYSTEM: AN AUTOMATED TOOL TO IMPROVE TEACHER'S
TIMELINESS, ACCURACY, AND PRODUCTIVITY
IN THE COMPLETION OF ESSENTIAL SCHOOL
FORMS**



A Basic Education Research Fund Study

Presented to the School Division Research Committee (SDRC) of the
Department of Education Region 10

By

**Rubylinda E. Peralta
Leah Lyn A. Lingatong**

November 2022



DEPARTMENT OF EDUCATION CAGAYAN DE ORO CITY

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AUTOFORM SYSTEM: An Automated Tool to Improve Teacher's Timeliness, Accuracy and Productivity in the Completion of School Forms

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Abstract

The preparation and completion of school forms is one critical task for teachers at the end of the school year. This entails a significant amount of time and effort on the part of the advisers especially since they prepare these forms manually. Hence, an intervention was done through the development of the AUTOFORM System. This Action Research investigates the Effectivity of AUTOFORM SYSTEM in improving Teacher's Timeliness, Accuracy, and Productivity in the Accomplishment of School Forms. The participants of the study were the 88 Junior High School class advisers selected through purposive random sampling. A Practical Action Research Design conducted in two cycles was used to collect and analyze data. A qualitative approach through Focus Group Discussion was used in identifying the issues encountered by the advisers in the preparation of the school forms prior to AUTOFORM implementation. A quantitative approach through the use of researcher-made questionnaires validated by content experts was utilized in evaluating the AUTOFORM effectivity satisfaction response based on Timeliness, Accuracy, and Productivity, its effectivity, and usability. The findings reveal that for Timeliness, 93% were very satisfied and 7% were satisfied after the second cycle of the Autoform implementation. For accuracy, 97% of the users signified that they are very satisfied with the degree of data precision of the AUTOFORM in auto-computation of average and auto-generation of data in all forms. Further, the results for productivity reveal that 100% of AUTOFORM users were able to attend to their duties and responsibilities while preparing their school forms. They were able to comply with the school forms on time, perform their duties as class advisers, do their ancillary task/s and prepared their documents for the Year-end Individual Performance Evaluation. The AUTOFORM Effectivity Scale results reveal that 97% of the advisers find the tool extremely effective while 3% find it very effective. Furthermore, the Usability Scale results show that 97% strongly agree that the AUTOFORM system was very useful for the preparation of the school forms. The AUTOFORM SYSTEM aid the advisers to be productive in school task specifically submitting accurate , quality school forms on time.

Keywords: *AUTOFORM System, Timeliness, Accuracy, Productivity, Effectivity, Usability*



ACKNOWLEDGMENT

This study was funded under the Basic Education Research Fund Program of the Department of Education and we are deeply indebted to the Research Committee of the Division of Cagayan de Oro headed by our beloved Schools Division Superintendent **Dr. Cherry Mae Limbaco-Reyes** for this opportunity to be a part of the 2022 TOP14 BERF Grantees in the division of Cagayan de Oro. This endeavor would not be possible without the guidance and Expertise of our Division Research Coordinator **Dr. Joel Potane**, whose been very patient in motivating and encouraging us to come up with a quality research paper. Equal Gratitude is also extended to the research panelist of the Doctors Academic Circle in CDO, especially to Dr. Rachelle E. Lozano for the immense insights and knowledge extended to this paper during the preliminary Evaluation of our research proposal.

We cannot thank enough the contribution of **Dr. Norma B. Delima**, Our School Principal and Research Adviser for the unending support extended during the Implementation stage of this project. We are also extremely grateful to **Dr. Hasima N. Salic and Dr. Lloyd Allan Cabunoc** for their dynamic inspiration, valuable insights and push to come up with this study, especially during its proposal stage. They also served as Research Content experts during the content validity of our research instrument. To Ms. **Melane Pacudan**, our designated School Registrar for her technical assistance and untiring support during the Pre and post-implementation stages of this project. We also extend our gratitude to the Class Advisers who served as teacher participants in completing this study. Their resilience to adapt to new technology and welcome new innovation such as this project have made this research study come into its smooth completion – our felicitations for your generous time and effort.

Finally, We are very much overwhelmed with the love and support that we received from our families for the patience and understanding extended to us, especially during late night stays in school and overnight



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**I. Context and Rationale**

The use of Form Automation in the Department of Education has long been adapted since 2014 to reduce time and save energy in the clerical task of teachers. Accordingly, A secondary teacher spends 1.9 hours a day in accomplishing school forms, which is 382 hours or 48 school days per school year (DepEd School Forms Reengineering Team, 2012). As a result of this nationwide study, 36 DepEd school forms were put into critical review and was reduced and replaced into 7 modified School forms (SF1, SF2, SF3, SF4, SF5, SF6 and SF7) starting the School Year 2013-2014 (DO 4, S. 2014). However, the issue on Form Automation specifically in School Forms 9 and 10 remained to be unresolved and still caused a perennial burden among teachers in the accomplishment of school forms. In a study conducted by Belgacem (2002), he emphasized that Manual Form completion is time consuming and Error-prone. This fact is supported by Dellosa (2014) who indicated that the concept of Automation in School Forms will greatly enhance teacher's Timeliness and productivity in the accomplishment of School Forms. Automation is the use of control systems to control processes, reducing the need for human intervention (Dickinson, 2009). Putting this into context, automation eliminates the possibility of human errors increasing efficiency and productivity.



The Department of Education prescribed a standard guidelines in the preparation and Updating of School Forms to ensure Accuracy and Timeliness in the learner's records. Based on the DepEd Order No. 11, series of 2018, on the Guidelines in the Preparation and Checking of school forms, the mechanism and simplified procedure in the accomplishment of School Forms is anchored on the principles of Accountability, Accuracy, Reliability of Data and Efficiency. This guideline also targets to reduce the time and effort of teachers to clerical works. However, the Manual labor associated with the updating and completion of School Forms such as Grading Sheets, Master sheets, School Form 9 and School Form 10 is in conflict with the mentioned guideline objectives. During the Focus Group Discussion conducted by the researchers to the 15 randomly selected class advisers, about 93% of teachers still find the accomplishment of these Forms a perennial burden. This data holds true despite the availability of Modified Electronic School forms that can be generated online thru the DepEd LIS facility. Once these electronic School forms such as SF1 (School register), SF2 (Learners Attendance and SF3 (Record of Book Distribution) are downloaded from the LIS , it is a standard protocol that these generated data should be reflected in other forms of the class advisers such as Grading sheets, Master sheets, School Form 9 (Report) and School Form 10 (Permanent Record).



Traditionally, some of these forms are transferred and reflected thru handwriting process in duplicate copies. At the end of the school year, Teachers are expected to deliver a 100% Error-free forms on learner's Achievement Report in SF9 and SF10 respectively. However, human as they are, teachers normally committed errors in the manual entry of data. Hence, the whole procedure is repeated until the form gets perfected (Abuda,et al., 2021). Manually writing the data in these forms requires a lot of time, effort and reduces their time spent to perform another significant task in the classroom (Endsley, 2018).

In another study conducted by Nicodemus(2016), he revealed that teachers usually spends about 2 to 3 hours daily to manually prepare and accomplish school forms. At the end of the school year where checking and evaluation of these forms are required, teachers spend overtime in school and even late nights at home just to finish the needed forms on time. Based on the school data on the submission of School Forms during the SY 2020-2021, an average of 15 out of 25 teachers per grade level was not able to adhere to schedules and deadlines while 8 out of 10 teachers are not even ready during the set checking schedule. As a result, the school level checking committee has to extend their time up to 9:00 o'clock in the evening to accommodate a significant number of errors in the school form



data for teachers to revise and correct the next day. In another instance, the tendency to move the set schedule is also a common resolve which usually affects other classroom task. When there is a delay in the completion of these forms, the timeliness for School Report Submission is also affected. Time on task on the part of the teacher is compromised as these hours can be spent instead in performing other relevant task in the classroom such as preparing interactive lessons or creating an instructional learning material.

In addition, Accuracy in the forms is required for checking and submission. The teachers are expected to observe due diligence in writing the Learner's basic information and Academic Progress in these forms. Nevertheless, the manual handwriting of data in duplicate or triplicate copies will make it a challenge for teachers to submit a reliable and accurate school forms. It is a common practice that teachers do not have the rights to erasure especially in legal public documents like School Form 9 and 10. A Clerical mistake on a student age or the learner's middle initial will compel the teacher to write over the whole form. This becomes a problem when a corrected data affects a significant number of class population in a large class size. An average of 9 out of 10 teachers still get heavy data correction and are even asked to rewrite or replace the whole form



manually (Flores, 2010). According to Magsambol (2020), Manually accomplishing these forms is inefficient, time-consuming and error -prone.

Based on local research, there are existing Automated tools such as the Integrated School Form (ISF) available online to aid teachers in automating their school forms . This tool is recognized as an innovation in School governance throughout the division of Davao City and is undergoing revisions and development to meet teacher’s need (“Integrated School Forms”, 2020). However, the sub contents of this system is embedded in separate files and the latest released version does not include the automation of SF10 (Permanent Record). Another automated tool used by selected schools in the division of Cagayan de Oro is the Autocard. This system is a Microsoft excel-based program that provides a blank card template that enable teachers to accomplish printable Electronic Report Cards per grading period. The template is no longer updated to include essential forms such as SF10.

The recent pandemic has brought new changes and a higher demand of time for teachers to perform extra but relevant task in the classroom aside from the completion of School Forms. These tasks include Preparation, distribution, Retrieval or Sorting of Learner’s modules, Checking of Learner’s Output, Preparation of Learning Plan, Giving of Remedial



Activities to learner's at risk and Creating Instructional Power point or Video Lessons. Not to mention, the challenges encountered by teachers in learning about digital technology. Apparently, a big part of these tasks should be spent on Learner's Monitoring, Feedbacking and Remediation. But with the heavy time spent on Form Completion especially at the end of the school year, Time on Task in this period is always compromised leaving the teachers cramming on forms and eventually running short of time to perform another important task. Oftentimes, the exhaustion, lack of sleep and stress puts their health at risk and creates a negative impact. Thus, Teacher's productivity is affected.

Since Technology is the new landscape of Education in the new normal, the different challenges encountered by teachers in the completion of school forms and its rigid checking and risky submission at the end of the school year, is assumed to be addressed by an automated tool that will help the teachers to improve their Timeliness and Accuracy in the accomplishment of School Forms and Increase their Productivity to perform other relevant task in the classroom.

Hence, the need to develop the AUTOFORM SYSTEM, an updated electronic tool that features a one-stop automation of essential school forms from Grading sheet to Permanent record that adheres to the present needs



of class advisers in the new normal will be the main priority of this study. This tool shall conform with the present Guidelines and protocol set by the Department of Education in the Preparation, Updating and Completion of School Forms. The Switching from manual to an Automated form completion will aid Junior High School class advisers to improve their Timeliness, Accuracy and Productivity in the accomplishment of School Forms. AUTOFORM SYSTEM will be a One stop shop Macro-based excel program embedded with special automated features that speeds up a teacher's task in accomplishing essential school forms with respect to timeliness, accuracy and productivity to address the problem stated in this study.



II. Review of Related Literature

This chapter presents the studies and literature that provide relevant information on the present study.

Transition to the Electronic System

Among the critical activities conducted in a school year are the preparation and checking of school forms which are undertaken to ensure the quality and consistency of learner information.

The preparation and checking of forms before were tedious and time-consuming for they were done manually by the teachers. This problem was lessened with the issuance of DO 4, s.2014- Adoption of the Modified School Forms (SFS) for Public Elementary and Secondary Schools. This DO introduces streamlined and electronic school forms that are made available for download from the Learner Information System (LIS).

E-class Records

Several studies were conducted to design, develop, deploy and evaluate an electronic class record. Dellosa (2014) developed an electronic class record as a substitute to the conventional ways of recording the performance of the students and to lessen the activities and customize the content of the output. The e-class record developed automatically



computes the grades of the students following the standard grading system. This study recommends that more studies be conducted to utilize the output of the study as an input of an online application such as an online grade viewer and to add an additional feature which is the report card.

Furthermore, DepEd Memorandum No. 60, s. 2015, provides an Electronic Class Record Template free for use by all public-school teachers. This official electronic version allows for the computation of grades and gives the summary at the end of the school year.

Advisers Management System

The study Abuda, et al. (2021) assess the level of acceptability of a researcher-made Adviser's Management System via ISO/IEC 25010:2011 standards. The Adviser's Management System automatically imports the subject-teachers electronic class records summary of grades which are organized by the developed AMS with its ready-to-print SF1 and SF10 as its end result. One of the recommendations of this study is to have a one-click – derived all features of the AMS as well as the giving of FAQ-based handbook.



III. Innovation, Intervention and strategy

This paper aims to develop the AUTOFORM SYSTEM, an automated tool which is designed to improve teacher's Timeliness, Accuracy and Productivity in the Completion of Essential School Forms. The respondents of this study were limited to the Junior High School classroom advisers in all grade levels in a selected school in the Division of Cagayan de Oro City. This study has used a practical Action Research design with a combination of Qualitative and Quantitative Approach in the collection and Analysis of data.

Autoform System was created in a Macro-based enabled worksheet. A macro is a piece of programming code that runs in a Microsoft excel software designed to automatically write a code in Microsoft Visual Basic Application to save time on repetitive task that involves data manipulation or automation. The Autoform system's one-stop feature to automate a printable School form in one template thru single data entry based on the teacher's need and in compliance to DepEd Order No.4 Series of 2014, are the two things that made the tool unique from other existing automated tools used by selected schools in the division of Cagayan de Oro City. It aimed to be a potential partner of the DepEd LIS facility in automating the info data generated from SF1 and SF2 as well as the grade data collected



from Grading sheets to produce a printable file from master sheets to the learner's individual SF9 and SF10 respectively. These forms are the required files to be checked at the end of the school year

AUTOFORM SYSTEM featured the use of computer's Visual Basic software application in Excel to code scripts and formulas which was programmed to performed automatic calculations of Grade Average, Remarks, Quarterly Progress and Generated encoded learner's individual data from SF1 (School Register) and SF2(Learner's Record of Attendance) to multiple forms in just one click. This was designed to minimize errors in the input of data and auto-reflect the entries in multiple forms. The tool was composed of an interactive dashboard which contained a general instruction and a menu sheet where the teachers can easily navigate the buttons. An Encoding Sheet is intended for the teachers to encode General Information including the Learner's Basic Information Data obtained from the SF1 and reflect record of attendance from SF2. These data are automatically reflected to the Grading sheets, Master sheets, SF9 and SF10 respectively. Under Section 8 of RA 10173 on Data Privacy Act which imposed confidentiality on any individual's Personal data, the class advisers are the only authorized person to access the file. Grades from subject teachers was



given physically to class advisers and these data was encoded by the class advisers in the system's designated grading sheets. Afterwards, the grades was automatically reflected in the master sheet and the system had generated a printable SF9 and SF10 for every Individual learner. Class advisers was instructed during the implementation proper to double check the data before encoding them to the system.

Furthermore, the AUTOFORM system used automation strategies such as conditional formatting to emphasize unusual values and visualize data by color scales. This is to enhance data accuracy to easily detect data inconsistencies. Logical functions were employed in mapping the formulas to prevent the appearance of unnecessary figures like zero in the supposed to be blank cells. Macro programs was enabled to automate frequently used process or task and Coding using a programming language called Visual basic was employed to code instruction. Visual Basic is a Computer Programming language developed and owned by Microsoft Corporation. Specific Cells with formulas are also locked in place to prevent accidental changes of data.

With the additional salient features, the Autoform System ensured an easy navigation system to cater both the needs of Techy and non-techy users:



1. Installed with Command button panels to direct or go back to a sheet.
2. Command button for Printing set on standard paper
3. Auto-hide Functions and conditional Formatting of Learner's Remarks in all Forms
4. Quarterly and Annual Automatic Average Computation
5. Built-in Computation of Learner's Daily Attendance based on SF2 data.
6. Automatically creates a printable file such as Grading sheets, master sheet, SF9 and SF10 by just completing Encoding Sheet.
7. There will be an online and downloadable version.
8. In terms of Tool sustainability from G7 to G10, It will be Ideal for use with learners grouped by section according to geographic location. The Soft copy protected file shall be stored in a restricted school drive at the end of the SY after checking. The same file will be passed to the next receiving class adviser in the succeeding grade level. Data from Previous School year will be encrypted with password to avoid changes.
9. Editable Forms are available for learners with repeater issues.
10. Embedded with drop down menu and Instruction pop Ups.



The school form automation idea was first conceptualized in July 2020 when the school Checking Committee showed a significant data of Late submission and long corrections among teachers in the checking of their forms. In the advent of Digital technology, the researchers assumed that it is high time for teachers to put an end to their hurdles and embrace change in terms of automating the preparation of School Forms. Since Information Technology has affected every aspect of our Educational Landscape, It will be high time for the manual entry of grades to the grading sheets, the tedious transfer of these grades to the master sheet, the transfer of these data to the individual School Form 9 (Report Card) and writing again the same data to the individual School Form 10 (Permanent Record) to take it to the next level. Manual Completion thru a handwriting mode is an exhausting process and requires a significant effort and amount of time to complete. Since manual writing is prone to errors, class advisers couldn't help but get a long list of clerical errors to revise after checking. Their time on task is affected because a big amount of time is spent on completing these school forms instead of proceeding to a new task. Thus, the manual accomplishment of these forms by hand without an automatic system using a computer suffers a higher rate of inaccuracy and inefficiency and affects teacher's productivity (Neri et.al.,2003).



During the Pre- Implementation stage, A focus group discussion (FGD) and structured interview was conducted to the randomly selected class advisers from different grade levels. This activity was conducted to gather baseline data on the need to implement this project. Furthermore, this had answered research question number 1. Each of the participants was allowed to share the difficulties/challenges encountered in the accomplishment of school forms during the SY 2020-2021. Based on the results, the research proposal was crafted and presented to the School Administration for Feedback and approval. After approval, project launching and orientation of the participants had followed using an Autoform prototype tool. The development of the Autoform System requires special skills in Microsoft coding, mapping and programming of functions and formulas through the use of Microsoft Visual Basic Applications. Visual Basic for application is a computer programming language that runs in excel program.

The Implementation proper was divided into 2 Cycles. The first phase was a Training Workshop on Pilot Tool Testing. This workshop was conducted by Grade level. The teachers were given technical assistance during download and opening of file. The features and navigating functions were introduced and they were asked to test the functionality of the system by completing the encoding sheet with their updated learner's data from SF1



and SF2. The grade data from the first and Second Quarter grades was also encoded. The Second phase of the Implementation proper was the AUTOFORM ENRICHMENT ACTIVITY. This is a short workshop where participants was divided into techy and non-techy users. Special assistance was given to teachers who has difficulty in navigating computer functions while techy users was asked to help provide technical assistance to the non-techy group. The participants of this activity were trained with troubleshooting tips in case of system issues and each of their concerns regarding the system's use was properly addressed. The participants were asked to give their feedback through an online Padlet post activity and these inputs were used as baseline data for Autoform System revision.

The final phase of the Implementation was a Phase 3 Assessment Training that was conducted after the checking and submission of school forms. The project was evaluated through a researcher-made instrument survey which was administered to the participants via Google Form. The results of the survey were used to measure the effectiveness of the Autoform System in improving teacher's Timeliness, Accuracy and productivity in the completion of school forms.



There were 2 sets of instruments used to answer Research question number 2. The first tool was an Autoform Satisfaction Survey and the School Data Report template which was compiled by the head of the School Checking Committee, where Timeliness and Accuracy during checking and submission of school forms among the teachers were indicated by grade level for analysis of data and interpretation. The Second instrument was a survey form intended for the participant of the study and was administered during the Assessment training. This survey is the post- implementation survey in google form which is consist of 3 parts. The first part was a consent form to ensure that the research process is fair, well-considered and voluntary. The second part was the demographic profile where participants are asked for selected personal details and disclosing which category between techy and non-techy users they belong. This data was relevant in measuring the results of the mentioned variables such as timeliness, accuracy and productivity. The third section was the survey proper where Autoform Satisfaction Form, effectivity and usability of the Autoform system including teachers productivity was measured using a 5-point Likert scale.

The post-implementation Roll-out was gradually administered to the Selected Schools in the Division of Cagayan de Oro City.

With automation, this intervention had accomplished the forms much faster and reduced the time spent during form completion. It was also noted that the data showed a higher Accuracy rate and productivity rate among teachers participants.

IV. Action Research Question

This paper presented a tool to improve teacher's Timeliness, Accuracy and Productivity in the Completion of School Forms. It further seeks to answer the following research questions:

1. What are the issues encountered by advisers in accomplishing school forms in terms of timeliness, accuracy and productivity prior to AUTOFORM Implementation?
2. How Effective is the AUTOFORM SYSTEM in improving Teacher's Timeliness, Accuracy and Productivity in the completion of Essential School Forms?

V. Scope and Limitation

This study focused on the effectiveness of AUTOFORM SYSTEM in improving teacher's Timeliness, Accuracy and Productivity in the completion of essential school forms. The data collection was limited to the 88 classroom advisers in a selected Junior High school in the division of Cagayan de Oro. This automated tool worked best in a macro-enabled excel worksheet and can be shared through Gmail. It will be a downloadable file that requires No Internet for full functionality.

VI. Action Research Methods

This paper used a Practical Action Research method in Identifying the issues that class advisers encountered in accomplishing school forms. This design determined the impact of the AUTOFORM System to Junior High school teachers in the Completion of School forms in terms of Timeliness, Accuracy and Productivity. A combination of Quantitative-Qualitative approach was employed in this study in collecting, gathering and analyzing data. Qualitative data was taken from the Focus Group Discussion (FGD) and structured interview conducted among the 15 randomly selected participants. To ensure validity of results, the large group was divided into triads or group of 3 members where they shared and discussed a given question and shared it to the group. On the other hand, Numerical data was



generated from the results of a Researcher-made Survey Instrument which was validated through Test-Retest method. There were 2 sets of instruments employed in answering research question number 2. The first tool was completed by the head of the school Level checking committee in measuring Timeliness and Accuracy in the checking and submission of essential school forms among class advisers. The second tool was completed by the teacher participants in gauging the effectiveness on the use of the Autoform system and assess their productivity rate to perform other classroom task as a result of a prompt form completion.

This section also presented the participants and/or other sources of data, the data gathering methods, and the data Analysis Plan.

A. Participants/ Sources of Data Information

This study employed a non-probability purposive sampling in selecting the participants based on the goal of the study. The participants of this study were the 88 Junior High School classroom advisers in all grade levels in a selected Junior High School in the Division of Cagayan de Oro City. The participants were purposively selected based on their expected task performed as class advisers in accomplishing school forms.

B. Research Instrument Validity and Reliability

This study used a researcher-made instrument which was validated by three content experts obtaining a Content Validity Index of 1 as shown in table 1 below

Table 1 Content Validity Index

Table 1: The Relevance Ratings on the Item Scale by Three Experts

Item	Expert 1	Expert 2	Expert 3	Experts in Agreement	I-CVI	UA
Timeliness						
1	1	1	1	3	1	1
2	1	1	1	3	1	1
3	1	1	1	3	1	1
4	1	1	1	3	1	1
Accuracy						
5	1	1	1	3	1	1
6	1	1	1	3	1	1
Productivity						
7	1	1	1	3	1	1
8	1	1	1	3	1	1
9	1	1	1	3	1	1
10	1	1	1	3	1	1
Effectivity						
1	1	1	1	3	1	1
2	1	1	1	3	1	1
3	1	1	1	3	1	1
4	1	1	1	3	1	1
5	1	1	1	3	1	1
6	1	1	1	3	1	1
7	1	1	1	3	1	1
8	1	1	1	3	1	1
9	1	1	1	3	1	1
10	1	1	1	3	1	1
Usability						
1	1	1	1	3	1	1
2	1	1	1	3	1	1
3	1	1	1	3	1	1
4	1	1	1	3	1	1
5	1	1	1	3	1	1
6	1	1	1	3	1	1
7	1	1	1	3	1	1
8	1	1	1	3	1	1
9	1	1	1	3	1	1
10	1	1	1	3	1	1
Proportion Relevance				S-CVI/Ave	1	
Average Proportion of items judged as relevant across the three experts				S-CVI/UA		1
				CVI Context Validity Index		

Based on the above calculation, It can be conclude that I-CVI, S-CVI/Ave and S-CVI/UA meet satisfactory level, and thus the scale of questionnaire has achieved satisfactory level of content validity . This



means that the tool has passed through scrutiny and careful review and were proven to be substantially relevant in measuring the effectivity of the Autoform System.

Furthermore, a reliability test was conducted to 15 non-participants of the study. Results were statistically treated using Cronbach Alpha in a table below. The instrument obtained a reliability result of 0.759 in terms of Timeliness, 0.750 in terms of Accuracy and 0.768 in terms of Productivity being the primary variables being measured in this study. These results indicates that the tool's internal consistency was acceptable. Further, the reliability index of the automated tool's effectivity and Usability as assessed in the research instrument was also shown in Table 1 below:

Table 1_. Cronbach Alpha Analysis

Determinant	\bar{x}	Sd	Cronbach's Alpha	Internal Consistency
Time1	4.6667	0.48795	0.759	Acceptable
Time2	4.6667	0.48795		
Time3	4.6000	0.50709		
Time4	4.6667	0.48795		
Acc1	4.6000	0.50709	0.750	Acceptable
Acc2	4.5333	0.51640		
Prod1	4.6000	0.50709	0.768	Acceptable
Prod2	4.5333	0.51640		
Prod3	4.4667	0.51640		
Prod4	4.4667	0.51640		
Eff1	4.6000	0.50709	0.719	Acceptable
Eff2	4.9333	0.25820		
Eff3	4.6000	0.50709		
Eff4	4.6667	0.61721		
Eff5	4.8000	0.41404		
Eff6	4.6667	0.48795		
Eff7	4.8000	0.41404		
Eff8	4.8000	0.41404		
Eff9	4.8000	0.41404		
Eff10	4.6000	0.50709		
Use1	4.6667	0.48795	0.891	Good
Use2	4.6667	0.48795		
Use3	4.4000	0.50709		
Use4	4.6667	0.48795		
Use5	4.7333	0.45774		
Use6	4.4667	0.51640		
Use7	4.3333	0.48795		
Use8	4.4000	0.50709		
Use9	4.4667	0.51640		
Use10	4.4667	0.51640		

Interpretation: $\alpha \geq 0.9$ Excellent, $0.9 > \alpha \geq 0.8$ Good, $0.8 > \alpha \geq 0.7$ Acceptable, $0.7 > \alpha \geq 0.6$ Questionable, $0.6 > \alpha \geq 0.5$ Poor, $0.5 > \alpha$ Unacceptable

Table 1 shows the Cronbach Alpha Analysis. The results show that the items in Timeliness, Accuracy, Productivity and Effectivity have an

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acceptable level of internal consistency. On the other hand, items under Usability have good internal consistency.

C. Data Collection Methods

A letter of approval was sent to the Principal of Cagayan de Oro National High School Junior High in conducting FGD among the class advisers of CDONHS-JH in all Grade levels, qualitative data on the issues encountered by class advisers in the accomplishment of school forms prior to AUTOFORM Implementation was gathered. A letter of consent was signed by the participants to ensure that their personal information was protected and their responses were taken with utmost confidentiality and integrity. These data were used as baseline in the development of the tool specifically in addressing the research Problem indicated. Quantitative Data was obtained from the results of the conduct of Project Evaluation. Both data obtained from Quali-Quanti method were analyzed and results were interpreted using the indicated statistical tool. The data collection took about two months to complete.

D. Ethical Issues

In upholding the integrity and confidentiality of this study, various measures were taken. The participants were oriented on the goal and purpose of the research. Letter of consent was provided to the respondents. Data collected in this study was held with utmost confidentiality.

E. Data Analysis

The researchers used a practical Action research design with a combination of Qualitative-Quantitative approach in the analysis of data. Qualitative data were analyzed and interpreted using an online Padlet wall platform and video transcript gathered from the structured interview and Focus Group discussion during the Planning stage. On the other hand, the obtained quantitative data from the School report on Form Submission and Checking as well as the researcher-made survey in google form use statistical tools such as Frequency(f) and Percentage (%) in interpreting the teacher's timeliness and accuracy in the checking and submission of school forms . Weighted Mean was used to analyzed the results of survey in terms of the improvement of teacher's productivity using a 5- point Likert scale

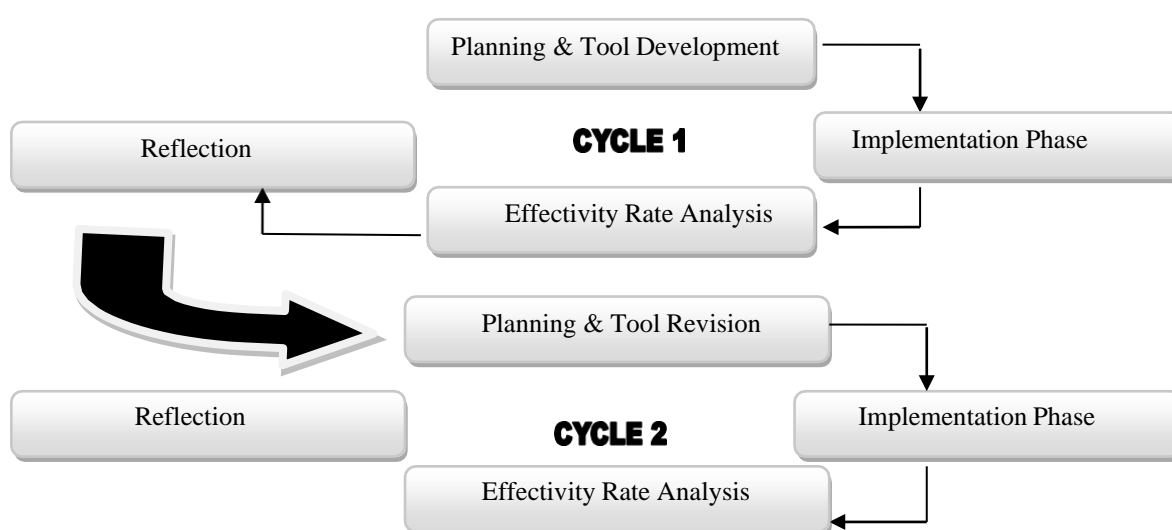


Figure 1 Autoform Action Research Cycle



Figure 1 presented the Action Research conducted in 2 cycles. This cycle employed four steps namely Planning, Implementing, Evaluating and Reflecting. Cycle 1 and 2 were conducted in two sessions respectively.

During the Planning stage, A Focus Group Discussion was administered among the randomly selected participants to identify the issues that they have encountered in the accomplishment of School Forms. They were grouped into triads of 5. The data collected served as a baseline data in the identification of the problem and its variables leading to the development of the Autoform System as an Automated Tool aimed at improving the identified variables during Teacher's Needs and Assessment such as Timeliness, Accuracy and Productivity. Tool Development took One month to complete. The second stage was Project Implementation which was divided into 2 Phases – Pilot Testing Stage and Tool Enrichment Session. During the Pilot testing stage, Autoform System was introduced to the participants in a hands-on workshop. Each of them was guided in navigating the functions and features of the tool. Data Entry to Autoform System from LIS files was successfully conducted. The second phase was the Tool Enrichment Session where participants are divided into techy and non-techy group. Intensive coaching and technical assistance were generously extended to the Non-



techy group in terms of tool navigation mastery. Data entries were carefully checked and validated. Automated Features like Auto Computation of Formulas and Automated generation of data were verified during this stage. The third stage was the Evaluation stage. A researcher-made Survey instrument was used to collect data to determine Autoform Effectivity Rate in terms of Timeliness, Accuracy and Effectivity. Data collected were analyzed using statistical treatment such as Weighted Mean, Frequency and Percentage. The last stage was the reflection stage where results from data in cycle 1 was discussed and the reflection result became the basis for Revisions and Improvement in administering Cycle 2.

**VIII. DISCUSSION OF RESULTS AND REFLECTION**

This study aimed to improve the effectiveness of the AUTOFORM SYSTEM in improving teacher's Timeliness, Accuracy and Productivity in the completion of School Forms. The results obtained were put through a statistical analysis and are presented in this part of the research. The Collection and Analysis of data were carried into 2 cycles. The qualitative interpretation was based on the results of the Triad Focus Group Discussion conducted among the participants while the Quantitative interpretation was based on the data collected from survey questionnaire. These results were divided and presented under the following research questions

1. What are the issues encountered by the advisers in accomplishing School Forms in terms of Timeliness, Accuracy and productivity prior to AUTOFORM implementation?

The findings from the Focus Group Discussion (FGD) and subsequent data analysis were presented in this chapter, drawing on the major themes.

The following themes emerged as issues encountered by the advisers in accomplishing the school forms prior to the Autoform Implementation: handwritten school forms, class size, no erasures policy, physical and psychological/mental stress, overlapping tasks, and time constraints.

**A. Handwritten School Forms**

All participants agreed that the manual preparation of the school forms was their first issue. Although modified school forms are available in the Learner's Information System, the SF9 (Report Card) is not included. Therefore, all advisers write the grades and other information in the said form. In addition, the electronic SF10 found in the LIS is only used by the Grade 7 advisers. The grade 8–10 advisers do not use the said electronic form since they have to continue recording an individual learner's academic achievement in the same SF10 handed over by the previous grade level advisers. Hence, they have to write the data in the SF10, which has to be prepared in two copies. Aside from the SF 9 and SF 10, the class advisers also manually prepare the SF 2-Learner's Daily Class Attendance and SF 3-Books Issued and Returned. The manual preparation of these forms is prone to errors and requires more time to prepare, as articulated by the participants. There are cases where entries in one school form do not coincide with the other forms for various reasons associated with writing the data manually. Below are some of the reasons mentioned by the participants.



Participant 1:

"Daghan kaayo forms na sulatan. Struggle kayo sa akona nga part kay hinay ko musulat busa madugay gyud ko ug accomplish sa forms."

Participant 4:

"Since I am manually writing, there are unavoidable errors in preparing the school forms. Malipat ko usahay pagtan-aw sa grades, so mali ang entry nga mabutang. Ilisdan nasad dayun nako ang form then isulat balik ang data kay no erasures man."

Participant 8:

"I write my students' grades in the SF10 at the end of the school year. Galarason nako ug sulat ang mga grades sa bata from the 1st quarter to 4th quarter apil na ang final grades ug remarks to minimize errors. Busa dugay ko ug kahuman then two copies pa gyud akong buhaton."

B. Class size

During the Focus Group Discussion, the class advisers identified that, on average, they spend one (1) hour writing the grades and other information in SF9 and SF10 for a learner. This means that a class adviser handling a small class size of 15 students will be able to finish all the school forms in 15 hours



and those with a large class size consisting of 52 or more students will have to spend 52 hours or beyond. The larger the class size, the longer the time is needed to accomplish all the forms.

Participant 2:

"I only have 15 students in my class since I am handling the Special Education Program (SPED). I can finish writing their school forms in 15 hours, so I can really submit them on time."

Participant 10:

"Here in the Science, Technology, and Engineering Program, we have only 30–35 students, so we are able to write data in all our students' forms in approximately 20–25 hours. We do not spend a week preparing all the school forms."

Participant 7:

"Sa akong daghan ko ug gasulaton nga forms kay 55 man ako students mao naang mag-overtime gyud ko ug sulat para makapasa on time."

In the case of Cagayan de Oro National High School-JH, the advisers handling small class sizes come from special programs such as the Special Education (SPED), Science, Technology and Engineering (STE), Special Program for Technology and Vocational Education (SPTVE), Special Program



in Journalism (SPJ) and the Special Program in the Arts (SPA). Large class sizes are found in the Basic Education Curriculum (BEC).

C. No erasures policy

Department Order 11. s 2018 stipulates that the accuracy of the learner's information and the quality of school forms should not be compromised and strictly no errors and erasures should be reflected in these forms. Given this scenario, the advisers are very careful in writing data in these forms. However, those advisers who committed errors in input data in SF9 and SF10 should replace these forms and rewrite all data. This means that if you are an adviser to a Grade 10 student, then you have to rewrite all the data starting from Grade 7. So much time is consumed in replacing these forms, especially with SF10, where advisers have to manually write in two (2) copies.

Participant 15:

"Dapat ang forms no erasures gyud ug dapat sakto ang entries. So ang akong gabuhaton, pagmasayop ko, magkiskis ko sa card gamit ang blade kaysa sa ilisdan nako ug bag-o ang card ug magsulat napud ug balik. Hasol na kaayo siya."

Participant 3:

"In my case, I redo the forms whenever a mistake is done kay dili man kokabalo magkiskis."

Participant 4:

"Careful gyud kaayo ko magsulat sa school forms sa akong mga studyante kay no errors ug erasures gyud dapat ilang forms then dapat nagcoincide tanan. Meticulous kaayo ko ana then gusto ko wala nako corrections pag-abot sa checking committee. With that, "slowly but surely" gyud akong motto pagmagsulat ko sa school forms. Bahalag dugay ko mahuman basta wala nakoy corrections pag-abot sa checking committee. Pero dili man ko gakalate sa submission kay gagahinan gyud nako siya ug oras"

Participant 5:

"Struggle kaayo pag Grade 10 adviser. Parehas sa akoo. Nasayop ko ug copy sa grades sa MAPEH padulong sa SF10. Wala koy choice. Nagbag-o gyud ko ug SF10 sa bata ug gisulat nako tanan niya nga input data sukad katong grade 7 pa siya."

D. Physical and Mental/ Psychological Stress

Given that teachers only have 2 hours per day for clerical tasks, they opted to spend time beyond the working hours to finish their school forms before the scheduled check by the school checking committee. 10 out of 15 participants articulated that they are able to finish the school forms on time. However, they either spend sleepless nights or sleep late at night to be able to submit it by the deadline. Then, they have to go to work the next day without enough sleep. There are implications for this scenario as shared by the participants.

Eight (8) participants associated sleep deprivation due to school form preparations with physical stress.

Participant 14:

"Gakavertigo nako ug copy sa grades from one form to another."

Participant 11:

*"Sakit kaayo akong ulo kay wala koy tulog pagbinuhata sa forms.
Lutang kaayo ko."*

Participant 10:

"Sakit na akong mata ug kinopyaha sa grado."

Participant 6 and 13:

"Hahoy na kaayo akong kamot sa pagsinulata then ga-cramp pa gyud usahay."

Participant 9:

"Sakit na akong liog ug dinunguay."

Participant 1:

"Stressful kaayo during the reading and checking of forms kay tag alas-niwebe nami mahuman. Sakit pa gyud sa tilaok kay murag gaflaptop nami ug binasaha sa grades, remarks ug uban information. Tedious siya nga trabaho. Ipaagi nalang namo sa katawa para dili mi mastress."

Participant 11

"I experienced overfatigue after the preparation and checking of school forms."

Meanwhile, five (5) participants have identified some psychological/mental stress caused by school form preparations.

Participant 6

"Dili ko mahimutang nga naa pako wala nahuman nga forms unya hapit na ang deadline, so magdugay gyud ko ug tulog or dili sa ko matulog hantod mahuman nako and then muskwela pa dayun ko pagkabuntag. Lutang kaayo akong pamati and dili ko productive sa work nako."

Participant 13

"Naay time nga nagduka nako pero ako pa gihapon pugson ako self nga humanon ang forms para makaapas sa deadline. Dili malikaya nga masayop ko ug copy kay nalipat na. Makafrustrate usahay."

Participant 12

"Makulbaan ko ug sulat kay basin masayop ug entry busa madugay ko ug samot. Kapoy kaayo labi na ug masayop kay magbalik-balik nasad ug sulat. Lami na kaayo ihilak ug naay sayop."

Participant 7

"Gakapressure ko kay paspas kaayo magprepare ang akong mga kauban sa forms unya ako kay hinay kaayo magsulat. Wala pa kaayo koy diskarte. Maygaling gapangutanahan ko sa ilaha ug ga-ask ug tips unsaon pagprepare sa forms especially kay bag-o pako nga teacher."

Participant 6

"I feel guilty about bringing my work home and sacrificing my family time."

The above findings reveal that the manual preparation of the school forms contributes immensely to the physical and mental stress experienced by the advisers. This finding agrees with the study of Sarabia, et.al (2020) which identified work-related paperwork as one of the factors that cause stress among teachers. Complying with work-related papers like school forms in a limited amount of time would sometimes lead to skipping meals, sacrificing time for rest, and forgoing spending quality time with family.

E. Overlapping Tasks

All participants acknowledged that the end of the school year is a very busy time for teachers. Several activities of equal importance to the preparation and checking of the school forms are conducted, such as the submission of the list of honor students and accomplishment reports, practicing for the completion and recognition ceremonies, preparing pertinent documents for the IPCRF evaluation, and updating the LIS.

With these overlapping tasks, the advisers are compelled to multitask which according to Alquizar (2018) has become prevalent in the workplace, especially for teachers. The participants of this study had different



approaches to coping with the experience. The new advisers had so much trouble with multitasking. They recognized that they are still learning to be immersed in the system as novices in the field. They are still adjusting and even felt the need for technical assistance in complying with the school forms, as they were doing this activity for the first time. They also felt that accomplishing the school forms is the most important among all the tasks at the end of the school year. With that, even if it is against their will, they tend to set aside other tasks given to them and focus on preparing the school forms first. Meanwhile, others spent their weekends doing school-related work to cope with some delays during the weekdays.

Participant 9

I had to burn midnight candles just to submit all my deliverables on time.

Participant 13

Submission of other reports gets delayed because I have to prioritize preparing the school forms.

Participant 7

I really wanted to do all the tasks given to me, but I am already getting tired of preparing the school forms. It takes up an ample amount of time, and I don't get enough sleep. My body has become weak and is not capable of multitasking anymore.

On the other hand, four (4) of the participants are year-level coordinators who are already seasoned advisers. With this, they have already developed best practices in the preparation of the school forms that enable them to submit quality and accurate output on time. They narrated that multitasking is part and parcel of being a teacher and that it challenges them more. They tend to be more productive when given more tasks. This may seem surprising, but the result of the study conducted by Alquizar (2018) reveals that teachers who are multitasking enjoyed and continued the workflow that comes from switching from one task to another and considered it as the most productive way when stimulated with a variety of tasks. The four (4) participants also highlighted the importance of proper planning and time management.

Participant 8

Dugay nako nga adviser, so kabisado na nako ang trabaho and kabalo nako ug diskarte nga mahuman nako siya on time nga walay errors or minimal lang.

Participant 5

Dapat kumpleto ang entries sa master sheet ayha dayun nako ginasulat sa uban forms para diretso diretso na ang trabaho.

Ginarequest sad gyud nako ang mga subject teachers to submit their grades on schedule para kumpleto na ang entries sa mastersheet.

Participant 6

Proper planning and time management are key. Work smart!

Participant 14

I list down my activities and write the corresponding time I intend to finish each one of them. With this, I am able to effectively manage my time.

F. Time constraints

All the participants said that they were only given one week to prepare all the school forms which for them is not enough since they only have two hours per day for clerical work. In this situation, the class advisers tend to expedite the process of preparing the school forms and due diligence is no longer manifested. This leads to committing errors in entering data in the school forms. Cramming was very evident.

Participant 10

Gamay ra time ang gihatag para pag prepare sa tanan forms unya handwritten pa gyud.

Participant 13

"Too many requirements in a very limited time."

Participant 4

Cramming- ga beat sa deadline so prone to mistakes.

Participant 12

*Nagpatong-patong ang trabaho unya gamay ra ang time.
Gakabyaan nako ang uban tasks kay dili na gyud makaya sa time ug
sa lawas.*

Participant 14

*Nag extend gyud ko sa akong time sa school para mahuman nako ug
prepare ang forms.*

The findings of the study reveal that these themes are interconnected. It can be deduced from the study that the manual writing of the school forms with limited time for its preparation, would compel the advisers to do all means to be able to submit quality school forms. Even if it requires them to sacrifice their physical and mental health. Furthermore, all of these issues are affecting the timeliness, accuracy, and productivity of the advisers while preparing the school forms.

To substantiate these findings, shown below are the quantitative results of the participant's responses obtained from the Focus Group Discussion in terms of the mentioned parameters:

Table 3. Teacher's Timeliness in School Form Submission Prior to the Autoform Implementation

Grade Level	5	4	3	2	1	Total
7	2	1	1	0	0	4
8	1	1	1	0	0	3
9	1	1	2	0	0	4
10	1	1	2	0	0	4
Total	5	4	6	0	0	15
Percentage(%)	33	27	40	0	0	100

Legend: 5- on-time submission to the checking committee
 4- 1 to 2 days late submission to the checking committee
 3- 3 to 4 days late submission to the checking committee
 2- 5 to 6 days late submission to the checking committee
 1- no submission to the checking committee

Table 3 shows the distribution of participants according to Timeliness in school forms submission before the Autoform implementation. It is shown in the result that there are 5 participants who rated themselves as 5. This implies that despite the tedious manual entry of data in the school forms, they are capable of submitting them on time to the school checking committee. However, they needed to sacrifice their physical and mental health by not getting enough sleep.

On the other hand, 4 and 6 advisers rated themselves 4 and 3 respectively as reflected in Table 3. This constitutes 67% of the total participants who were late in their school forms submission. It is very evident

that majority of the advisers were not able to meet the deadline as they may have encountered issues upon preparing the school forms. Aside from the disparity in the class size, several factors contributed to the delay in their submission which includes having ancillary works or an inability to properly manage their time.

As seen further in Table 3, nine (9) advisers from the Grade 8 to 10 were 5 to 6 days delayed in their submission which supports this claim.

Table 4. Teacher's Accuracy in School Form Submission Prior to Autoform Implementation

Grade Level	5	4	3	2	1	Total
7	0	3	1	0	0	4
8	0	2	1	0	0	3
9	0	2	2	0	0	4
10	0	3	1	0	0	4
Total	0	10	5	0	0	15
Percentage(%)	0	66	33	0	0	100

Legend: 5- 100% accurate (no errors in reflecting the data in all school forms)
 4- 90% accurate
 3-80% accurate
 2- 70% accurate
 1- 60% accurate

The class adviser is accountable for the accuracy of the basic information and all other contents in the school forms of a learner. However, during the school-level checking of forms, it was found that advisers have



some errors in writing the data as reflected in Table 4 above. Overall, no adviser was able to prepare 100% error-free school forms. Sixty-six percent (66%) were rated 4, while 33% were rated 3. In the FGD, the advisers articulated the reasons for the inaccuracy. The primary reason is that they manually input data in all forms, as such, it is prone to errors. There are cases where entries in one school form do not coincide with the other forms. Second, it is due to time constraints. When teachers are working under time pressure, they are most likely to commit mistakes or errors. Additionally, the Grade 9 to 10 advisers were still using the old Form 137, and some of these forms are not uniform especially in the sequence of the subjects. Furthermore, ideally, students' grades in all subjects are reflected by quarter. However, there are subject teachers who leave the grade blank until such time that the student is able to finish his/her remedial classes. This contributes to having incomplete data in the master sheet which causes the adviser to commit mistakes in transferring the grades in the school forms.

Table 5. Teacher's Productivity Prior to Autoform Implementation

Grade Level	5	4	3	2	1	Total
7	1	0	1	2	0	4
8	1	1	1	0	0	3
9	1	1	2	0	0	4
10	1	2	1	0	0	4
Total	4	4	5	2	0	15
Percentage(%)	27	27	33	13	0	100

Legend: 5-100% productive
4- 90% productive
3-80% productive
2- 70% productive
1- 50% productive

As shown in Table 5, There are four (4) advisers who identified themselves as productive despite the demanding preparation of the school forms. This means that they attained time on the task on the form completion, performed 100% of duties as a class adviser, performed ancillary tasks, and 100% clerical tasks for Year-end Individual Performance Evaluation.

On the other hand, two (2) advisers from trade 7 had a self-rating of 2 with regard to their productivity. They reasoned out that they find it difficult to attend to several things at once.



Reflection:

The findings of the study reveal that the primary issue that the advisers face prior to the Autoform System Implementation is the manual writing of the school forms. This issue leads to other issues such as the physical and mental stress it gives to the advisers. The results agree with the study of Sarabia et.al (2020) that working under time pressure to beat the deadline of so much paper works made teachers feel stressed which creates a detrimental effect on their well-being. Thus, it is necessary that these issues be addressed. One option would be to automate the forms to increase the adviser's timeliness, accuracy, and productivity.

2. How Effective is the AUTOFORM SYSTEM in improving Teacher's Timeliness, Accuracy and Productivity in the completion of Essential School Forms?

Table 6 : Respondents Ability in Navigating Computer Functions

Techy		Non-Techy	
Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
73	83%	15	17%

Table 6 indicates that 83% of the respondents are techy which means they are expert in using Technology and knows basic computer functions while 17% are Non-Techy teachers who needs technical assistance in the basic computer operation. This data was important in determining the success percentage of the implementation and the extent of training phases extended to the participants with beginning level of skills in terms of computer use. Non-Techy users lacked patience and stamina in adapting to technology (Anoush et.al,2020). This is supported by the claim of Ove et.al(2013) that Non-Techy users known as Digital Natives easily quit and are hard to please. This only means that they would rather stay within their own comforts such as Manually accomplishing these school forms rather than trying something new. This is the main reason why this data was collected



during the Pre-implementation stage. In this regard, Buddy System was utilized where techy participants were empowered to assist the non-techy group in the navigating functions of the Automated tool. It was observed that once a task was successfully completed, Non-techy users became deliberately engaged to use the Automated tool and wanted much to extend time to practice in the Encoding of learner's personal data from the generated LIS data.

Further, the data shown on the table implied that while a larger percentage of participants were techy, the smaller percentage for Non-techy participants cannot be taken for granted. In this case, the training phases was modified to include specific time allotment intended for special technical assistance for Non-Techy teachers to familiarize the user-friendly commands and navigations in the Autoform System and to increase their motivation to use the tool in the completion of school forms.

Table 7: Average Class Size

Frequency (f)	Average	Percentage (%)
40	50	45.4 %
33	47	37.5%
10	45	11.36%
5	40	5.68%
TOTAL	88	Weighted Mean: 46 Weighted Percentage: 24.99

Table 7 shows the distribution of Participants in terms of the number of students in their class. It was indicated in the table that the weighted average number of learners per class is 46 with a Weighted Percentage of 24.99. Based on D.O no. 21 series of 2006, the ideal class size in DepEd classroom ranges from a minimum of 15 learners to a maximum of 45 to 50 students. This means that the weighted average for class size shown in the table basically conformed to the DepEd guidelines. In a study by Dellosa(2014), he pointed out that teacher's accuracy in the completion of school forms was highly affected by class size. This was supported in a survey carried out by ATL (2009,p1), where most respondents echoed the difficulties that comes in having a large class size particularly in the delivery of instruction and the accomplishment of clerical task. This only implied that the more learners on the list, the more data to encode and the more forms to accomplish. For manual completion, a large class size entails more time



and effort on the part of the teacher to complete not to mention the higher probability of inaccuracy rate due to the bulky task. Since manual completion is prone to errors, the frequency of rewriting the same form due to wrong entry of data cannot be prevented. This is true for participants who are handling the regular BEC program where the number of learners even exceeds 50. In addition, some of these learners have academic issues. They were usually subjected to remediation at the end of each quarter to catch up where Grades are Recomputed. These changes caused a lot of discrepancies in the partially accomplished School Forms and would require the teacher to manually REDO the task for that purpose alone. On a lighter note, participants who are handling special programs like STE (Science & Technology and Engineering), SPA (Special Program in the Arts), SPTVE(Special Program in Technical and Vocational Education), SPJ (Special Program for Journalism) with class size ranging from 30 to 35 learners often managed to manually prepare School forms but still find it to be a very heavy clerical task that took a lot of their time and energy.

**Table 8 : Distribution of AUTOFORM Users in the Implementing School Year (2021-2022)**

Grade Level	Frequency Users (f)	Percentage Users (%)
7	23 of 25	92 %
8	23 of 25	92. %
9	21 of 25	84%
10	21 of 25	84%
TOTAL	88 of 100	88%

Results from Table 8 indicated the distribution of Autoform Users among the teacher participants in the completion of School Forms for the calendar year 2021-2022. Data showed that about 92% of teachers in the Grade 7 and 8 levels are AUTOFORM users and 84% from the grade 9 and 10 respectively. Out of the 100 class advisers, the remaining percentage who did not use the Autoform system opted to stick to manual completion due to laptop speed issues, and printing issues. In addition, some teachers had decided to continue what they have started on the forms manually prior to the project implementation. The Grade 7 Participants were encouraged to use the System so they can pass on the template to the next receiving adviser in the next grade level provided sectioning is still Geographical. This way, the hassle of encoding the same learner's information will be saved and the data that will only be updated by the receiving adviser are the quarter grades including new data from student transferees. In addition, the class advisers



who utilized Autoform in the Grades 8 ,9 and 10 respectively are given the option to use the Autoform in the completion of master sheet and SF9 (Report Cards) while the accomplishment of SF10 can either be automated or manual since there are existing forms from learners which are checked and verified already from the previous grade level. Moreover, the urgent Physical School Monitoring where printed forms are required to be shown to Division monitoring personnel compelled some teachers to stay in their own comforts of manual handwriting. In general, about 88% of the teacher participants are AUTOFORM Users. This only implied that majority of the teachers looked forward to fast and convenient way of automated form completion to end the exhausting days of manual completion and repeated correction of data

First Cycle Autoform Implementation

The first Action Research cycle in this study was conducted in 2 separate sessions. It took place between April 2022 to May 2022. There was a separate session for the participants from the Regular BEC program and the Special programs since they have separate Autoform Templates.



Planning

Action Plan and Autoform Training Matrix was formulated based on the Identified Parameters of this study and the Necessary Research Instruments were prepared and validated thru Content Validity Test and Cronbach Reliability Test.

Implementation

The action taken in the first cycle was the Pilot Testing Stage where the tool was first introduced to the participants following an intensive Hands-on workshop. It was observed that the participants worked on different pacing. Though majority are fast learners, still a few finds difficulty in basic computer operations and are hesitant which buttons to click. This important observation was carefully noted and was considered for intervention in the Second cycle implementation. Moreover, in this stage, Issues on computation and automation values in the template cells were also carefully noted for first stage revision. The 2nd phase was the Autoform Enrichment Session where the initially revised and Improved Autoform template was used featuring a Downloadable Excel Format with user friendly command buttons for printing and navigation. The participants were also divided into Techy and non-techy group where appropriate intervention through buddy system



was implemented and technical assistance was extended to the non-techy group.

Analysis of AUTOFORM Effectivity Rate

Following the First cycle Implementation was the collection of data through survey questionnaire and Analysis of Results. The distribution of the Participant's satisfaction responses on AUTOFORM Effectivity Scale based on the identified parameters such as Teacher's Timeliness, Accuracy and Productivity in the completion of School forms were shown in Table 8.



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Table 9: AUTOFORM Effectiveness Satisfaction Responses based on Timeliness, Accuracy and Productivity in Cycle 1

CRITERIA ITEM How Effective is the AUTOFORM System on the basis of the following Parameters?	5 Very Satisfied (f) (%)		4 Satisfied (f) (%)		3 Neutral (f) (%)		2 Unsatisfied (f) (%)		1 Very Unsatisfied (f) (%)	
TIMELINESS (Time Spent for..)										
1. Encoding of Data	73	83%	15	17%	0		0		0	
2. Auto Computation of Ave.	80	91%	8	9%	0		0		0	
3. Auto Generation of Data in SF9 and SF10	81	92%	7	8%	0		0		0	
4. Completing School Forms per learner	85	96%	3	4%	0		0		0	
MEAN PERCENTAGE		91 %		9 %	0		0		0	
ACCURACY (Degree of Data Precision)										
5. Auto- Computation of Average in all forms	80	91%	8	9%	0		0		0	
6. Auto Generation of Data in all forms	81	92%	7	8%	0		0		0	
MEAN PERCENTAGE		92%		8 %	0		0		0	
PRODUCTIVITY (While on Autoform Completion was also able to do the ff)										
7. Time on Task on Form Completion Attained	78	89%	10	11%	0		0		0	
8. Performed 100% of Duties as Class Adviser	81	92%	7	8%	0		0		0	
9. Performed Ancillary Task	82	93%	6	7%	0		0		0	
10. Performed 100% Clerical Task for Year-end Individual Performance Evaluation										
MEAN PERCENTAGE		91%	9%		0		0		0	
OVER ALL WEIGHTED MEAN		93%		7%						



Criteria Indicators for Items 1 to 4 determines the participant's responses in terms of Timeliness in the accomplishment of School forms. In this study, Timeliness refers to the time the task was accomplished at a higher time rate than expected. About **83%** of the participants signified that they were **very satisfied and 17%** tagged themselves as **satisfied** in terms of the time Spent in Data Encoding using the Autoform system. This only means that majority of the respondents find the automated tool to be time-wise and time- efficient in accomplishing school forms. The process of using time Effectively results in achieving maximum productivity (Sahito, Khawaja, Panhwar, Siddiqui, & Saeed, 2016). However, the 17 participants who tagged themselves "Satisfied" were mostly a population taken from the non techy group who were not too confident enough to use the system due to laptop issues and poor computer skills. It was noted that there were no significant data under other responses. The results from the table was supported by the Autoforms dynamic automation feature where Learner's data from the generated Form 1 on Learner's School Register downloaded from the LIS can be copied and pasted on the Autoform Template. This feature made it easier for teacher's to complete the encoding of needed data within time-bound since learner's personal information automatically was generated in Grading sheets, Master sheets, School Form 9 and School Form 10



respectively in one single entry. In terms of Auto computation of Grade Average, **91%** of the participants were Very satisfied and **92%** signified the same when it comes to Auto generation feature of the Autoform system. It was observed that a small percentage of participants under Satisfied were nalso from the non-techy group who were still in the beginning skill to learn navigation. However, on the basis of Timeliness, these results indicated that much time and energy was saved in completing school forms using the automated tool as compared to manual preparation as supported by the Mean Percentage rate of **91%** for very satisfied Users and **4%** for satisfied users on the basis of time spent for data encoding, Auto-computation of Grade Averages, Auto generation of data in SF 9 and SF 10 and the individual completion rate of school forms per learner.

Criteria Indicator Items 5 and 6 measured the participant's satisfaction response in terms of Accuracy in accomplishing School Forms. Accuracy in this study refers to the degree of data precision featured in Auto computation and Auto generation of data in the Autoform System. The table showed that **91%** of the participants manifested a Very Satisfied rate in terms of the Autoform System's Auto Computation and Auto Generation features. The Mean Percentage of **91%** in terms of the Tools Accuracy Rate denoted that there were slight issues and shortcomings in Auto Generation and Auto



computation that needs to be corrected and revised. Acknowledging this important observation, It was hinted that a tool improvement and revision was necessary for the Second Phase Cycle Implementation.

Items 7,8,9 and 10 are criteria indicators intended to measure the participant's Productivity while using Autoform System in the completion of School forms. In this study, Productivity measures the teacher's efficiency in completing more outputs with less inputs specifically not only accomplishing teacher's school forms but also can attend to the basic duties and responsibilities of being a teacher despite the heavy clerical task on form completion. These duties include instructional delivery, lesson preparation, Development of Instructional materials, Student Assessment, Feedbacking, Counseling, Remediation, Classroom Maintenance and performing special ancillary task in school. Results indicated that **89%** of the participants were very satisfied with Time on Task on the Form Completion with the use of the Autoform System. Time on Task in this study refers to a teacher's productivity in spending a relevant amount of time leading to the completion of a task on schedule. With much time spent on the manual accomplishment of forms at the end of the school year, many of the Teacher's expected task are compromised leading to inefficiency and less productivity. With Autoform System, they were able to accomplished forms using Task on Time and



fulfilled other duties and responsibilities as class advisers without cramming and catching deadlines. On the other hand, About **92%** are Very Satisfied when it comes to performing other duties in the classroom while using Autoform system and **93%** was able to performed ancillary task well. With a Mean percentage of **91%** in terms of Teacher's productivity, this result only indicated that the participants were able to discharge well their duties and responsibilities expected of them as class advisers while using autoform system. It means that much of their time and effort were saved resulting into a productive discharge of their duties and responsibilities as classroom teachers.

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Table 10 : Summary of Responses on AUTOFORM EFFECTIVITY SCALE CYCLE 1 IMPLEMENTATION

CRITERIA ITEM No. of Cases: 88	5 Extremely Effective (f) (%)	4 Very Effective (f) (%)	3 Moderately Effective (f) (%)	2 Slightly Effective (f) (%)	1 Not Effective (f) (%)
	(f) (%)	(f) (%)	(f) (%)	(f) (%)	(f) (%)
1. Accessibility: The tool is easy to obtain and use	39 (44%)	37 (42%)	12 (13%)	0	0
2. Learnability of the tool: The trainings conducted enough to effectively use the tool.	50 (57%)	30 (34%)	8 (9%)	0	0
3. Instructions and Command Prompts: It is well organized and simple to follow .	43 (49%)	35 (40%)	10 (11%)	0	0
4. Reviewing Previous Pages: Users can backtrack or review previous pages if needed.	40 (45%)	38 (43%)	9 (10%)	0	0
5. Automation Feature : The data or values during encoding are reflected correctly in designated forms.	25 (28%)	35 (40%)	18 (20%)	0	0
6. Format and Structure: The tool is designed to focus on the relevant needs of class advisers.	42 (48%)	30 (39%)	16 (18%)	0	0
7. Logical flow : The content is organized and comprehensive for use.	34 (39%)	30 (34%)	24 (27%)	0	0
8. Content Functionality: The features are working perfectly on my device	40 (45%)	33 (37%)	15 (17%)	0	0
9. Time wise and Satisfaction: the tool helps in a speedy completion of the forms.	45 (51%)	43 (49%)	0	0	0
10. Over All User Experience	46 (52%)	36 (41%)	6 (6%)	0	0
WEIGHTED PERCENTAGE	45.8 %	45.0%	13.1 %		



The data on Table 10 shows the summary of responses on Autoform System Effectivity Scale based on the tool's Accessibility, Learnability, Command Prompts, Instruction, Automation Feature, Format Structure, Organization, Logical Flow, Content Functionality, Time-wise Satisfaction and the Over-All User Experience. In terms of Tool accessibility, about 44% of the participants claimed that the tool was extremely effective while 42% find it to be Very Effective and 6% remained Neutral. These data were attributed to the template used during the first cycle implementation which was built using Google Sheet Application and the participant's only access was when they are connected to the internet. Considering that Internet connectivity in the workplace is limited to certain spots near ICT laboratories or admin office, participant's access became a problem. This feedback was noted and the issue was carefully considered for intervention during the 2nd cycle implementation where a downloadable file built using Microsoft excel was taken into consideration. One idea to note is from the study of John Qi Dong (2019) who claimed that Downloadable Excel Files are much advantage for use to get a better spreadsheet user experience. Google sheets and Excel files are known to have significant incompatibilities when it comes to their



interface features. Some built in features in google sheets does not worked when downloaded as an excel file. This fact is supported by the findings from the study of Karl (2019) which denotes that Users completed a set of basic tasks in a quicker and less error-prone manner when working with desktop excel based spreadsheets compared to Cloud-based google sheets. In terms of Tool Learnability, about 57% of the participants claimed it to be Extremely effective while 34% says Very effective. This means that the training conducted are enough to effectively use the tool. Furthermore, the Instruction Commands and User backtrack feature also obtained a similar higher percentage rate as Extremely effective. However, in terms of automation feature, it garnered the lowest percentage of 28% under the item Extremely Effective. This is due to unprotected formulas in some cells which were easily edited or accidentally removed by users. This case was carefully noted and was considered for intervention in the 2nd cycle implementation where specific formulas need to be protected or locked. In terms of Format, structure and logical flow, the tool obtained a percentage score of 48% and 39% respectively. This means that the tool design is catered to the needs of the adviser in simplifying their task in preparing school forms. Any tool with a logical content structure produces a coherent favorable



results (Siddiki, 2012). In terms of Time Wise and Satisfaction, the tool obtained a percentage of 45% for Extremely Agree and 37% for Strongly agree. This data proves that the participants find the tool to be very helpful in terms of speedy completion of school forms.

To sum it up, the criteria on over all user experience on the use of the Autoform system among the participants obtained a percentage of 52% under Extremely Effective and 41% under Very Effective. This result indicates that the Automated tool was able to serve effectively the purpose of this study in its first implementation despite the issues encountered in Automation feature which was considered for intervention in the second cycle implementation. The Overall Weighted Percentage Score of 45.8% under Extremely effective and 45.0% under Very Effective proves that the Autoform System is an effective tool in aiding teachers to simplify a heavy clerical task of form preparation and submission at the end of every quarter.

Table 11 : Distribution of Responses on AUTOFORM USABILITY SCALE CYCLE 1

CRITERIA ITEM	5 Strongly Agree (f) (%)	4 Agree (f) (%)	3 Neutral (f) (%)	2 Disagree (f) (%)	1 Strongly Disagree (f) (%)
1. I Like to use this tool in accomplishing School Forms	48 (55%)	25 (28%)	15 (17%)	0	0
2. I find this tool simple to navigate and Easy to Use	50 (57%)	30 (34%)	8 (9%)	0	0
3. I find the tool functioning well.	35 (43%)	35 (40%)	10 (11%)	0	0
4. I am confident in using this tool	40 (45%)	38 (43%)	9 (10%)	0	0
5. I learn to use the tool quickly and easy	25 (28%)	35 (40%)	18 (20%)	0	0
WEIGHTED MEAN PERCENTAGE	46.8 %	37%	13.4 %	0	0
6. I find the tool complicated as it should be	0	0	16 (18%)	30 (34%)	42 (48%)
7. I need a lot of technical support in using this tool	0	0	24 (27%)	30 (34%)	34 (39%)
8. I find a lot of irregularities in this tool.	0	0	15 (17%)	33 (39%)	40 (45%)
9. I find this tool to be time-consuming	0	0	0	43 (49%)	45 (51%)
10. I think there are a lot of things to learn from this tool before I can start using them	0	0	6 (6%)	40 (45%)	42 (48%)
OVER ALL WEIGHTED PERCENTAGE	0	0	13.6%	40.2%	40.6%



In the first cycle of the Autoform implementation, a mean percentage of 49.2% strongly agree that the AUTOFORM system is useful and easy to navigate, 32.6% agree and 13% were neutral. Furthermore, looking at indicators 1-5, it is evident that indicator no.3 has the lowest percentage of 40% in the strongly agree column. This means that 51% (those who answered agree and neutral) have seen that there are glitches in the AUTOFORM System and it is not functioning well on their end. Several issues came out during the first cycle of implementation. The system is made in Google Sheets and the advisers can only access it if they have an internet connection. Another problem is that the AUTOFORM is a large file, hence it will run slowly in low-storage computers. There was also no shortcut command button for easy navigation. The users felt that a lot of technical support is needed for them to be able to use the AUTOFORM system and maximize it.

Reflection

The Reflection in the first cycle was done after the Autoform Implementation. It could be shown during the pilot testing stage that the participants had different pacing in using the automated tool. Laptop speed and basic computer skills were two of the issues carefully noted. Another important reflection was the tool's accessibility where it can only work best under a stable internet connection. There was a need to revise the template



to become available offline. Navigation on sheets took time to complete due to the lack of shortcut button features. These factors have been found to affect timeliness in the completion of school forms. Moreover, in terms of Tool Accuracy, some issues were carefully noted specifically on Auto generation and Auto-computation. Therefore, in the second cycle implementation, these concerns were deliberately addressed. A buddy system was used to consider the issue on beginning computer skills among some participants. The file underwent revision and a downloadable excel file was created to solve internet issues. Participants with laptops who has speed issues were accommodated in the ICT laboratories and Autoform Focal persons were capacitated to give technical assistance to a large Autoform user. A more specific user guide was created in the Dashboard sheet which contains specific instructions on Encoding and printing of data.

The Second Action Cycle Implementation

The Second Cycle was conducted on July 2022 after the Final Checking and Submission of Forms.

Planning

Deliberate Planning for appropriate intervention was done during the second cycle to address the issues transpired from the first cycle. The automated tool has undergone intensive revision based on participant's feedback and survey results from the first implementation.

Implementation

Phase 2 Implementation was a separate session among grade level participants. Buddy System was used to address the issues on techy and non -techy users where techy participants were empowered to give technical assistance to non-techy users. Computer Laboratories were used to cater participants with laptop speed issues. Focal persons were identified per grade level and were capacitated to give technical assistance to teachers who are autoform users.

Analysis of Autoform Effectivity Rate

Shown in the table below are the results of the participant's responses during the second implementation .



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Table 12: AUTOFORM Effectivity Satisfaction Responses based on Timeliness, Accuracy and Productivity in Cycle 2

CRITERIA ITEM How Effective is the AUTOFORM System on the basis of the following Parameters?	5 Very Satisfied (f) (%)		4 Satisfied (f) (%)		3 Neutral (f) (%)		2 Unsatisfied (f) (%)		1 Very Unsatisfied (f) (%)	
TIMELINESS (Time Spent for...)										
1. Encoding of Data	85	97%	3	3%	0		0		0	
2. Auto Computation of Ave.	85	97%	3	3%	0		0		0	
3. Auto Generation of Data in SF9 and SF10	87	99%	1	1%	0		0		0	
4. Completing School Forms per Learner	88	100%	0	0	0		0		0	
MEAN PERCENTAGE		98%		4%	0		0		0	
ACCURACY (Degree of Data Precision)										
5. Auto- Computation of Average in all forms	85	97%	3	3%	0		0		0	
6. Auto Generation of Data in all forms	85	97%	3	3%	0		0		0	
MEAN PERCENTAGE		97%		3%	0		0		0	
PRODUCTIVITY (While on Autoform Completion was also able to do the ff)										
7. Time on Task on Form Completion Attained	88	100%	0		0		0		0	
8. Performed 100% Duties as Class Adviser	88	100%	0		0		0		0	
9. Performed Ancillary Task/s	88	100%	0		0		0		0	
10. Performed 100% Clerical Task for Year-end Individual Performance Evaluation	88	100%	0		0		0		0	
MEAN PERCENTAGE		100%		0	0		0		0	

OVER ALL WEIGHTED PERCENTAGE 98% 2%



Table 12 shows the AUTOFORM Effectivity Satisfaction Response based on Timeliness, Accuracy, and Productivity in Cycle 2. It is evident from the table that the AUTOFORM System users' overall satisfaction response increased from 93% in the first cycle to 98% in the second cycle. This is attributed to the fact that the AUTOFORM System developer has updated the system adding more features that would resolve issues encountered during the first cycle. The AUTOFORM System is already downloadable, shortcut buttons are also added for easy navigation and printing settings was simplified in just one click. In terms of Timeliness, 97% are very satisfied while only 3% remained satisfied with data encoding. This indicates that there are those non-techy advisers who were given technical assistance and the buddy system was implemented for them to acquire skills in navigating through the system. Others were also able to acquire a better laptop. The results for auto computation of the average are the same with data encoding since the Autoform system automatically computes the average upon data encoding. From the findings, it can be deduced that the advisers were able to prepare the school forms faster in the second cycle of the AUTOFORM implementation as compared to the first cycle which means that they were able to spend a lesser amount of time completing a learner's school forms. This finding agrees with the results of the study conducted by



Gutierrez(2022) wherein the electronic class record lessens the time spent by teachers in grade computation. They were able to store and keep records and most importantly, submit on time. The results also indicate that the added features of the system worked better in terms of automation.

For Accuracy, 97% of the users signified that they are very satisfied with the degree of data precision of the AUTOFORM in auto-computation of average and auto-generation of data in all forms. This means that the issues encountered in the first cycle in auto-computation and auto-generation were already addressed. However, there are cases when automation did not work not because of the AUTOFORM system but of issues concerning laptop speed and the encoding process. Slow laptop speed disables the macro, hence it will not perform the task of auto-generating data.

Additionally, there are advisers who have discrepancies in their data which force them to insert rows in the encoding sheets that affect the auto-generation and auto-computation of grades that were already programmed. When this case arises, the adviser needs to update the formula found in the sheet so that the data will reflect in the other forms in the AUTOFORM System. Table 12 also shows very remarkable results in terms of productivity. All the AUTOFORM users were able to attend to their duties and responsibilities. They were able to comply with the school forms on time,

perform their duties as class advisers, complete their administrative tasks and prepared their documents for the Year-end Individual Performance Evaluation.

Table 13 : Summary of Responses on AUTOFORM Effectivity Scale in Cycle 2

CRITERIA ITEM No. of Cases: 88	5 Extremely Effective		4 Very Effective		3 Moderately Effective		2 Slightly Effective		1 Not Effective	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
11. Accessibility: The tool is easy to obtain and use.	85	(97%)	3	(3%)	0		0		0	
12. Learnability of the tool: The trainings conducted are enough to effectively use the tool.	85	(97%)	3	(3%)	0		0		0	
13. Instructions and Command Prompts: It is well-organized and simple to follow.	83	(94%)	5	(6%)	0		0		0	
14. Reviewing Previous Pages: Users can backtrack or review previous pages if needed.	85	(97%)	3	(3%)	0		0		0	
15. Automation Feature: The data or values during encoding are reflected correctly in designated forms.	84	(95%)	4	(5%)	0		0		0	
16. Format and Structure: The tool is designed to focus on the relevant needs of class advisers.	85	(97%)	3	(3%)	0		0		0	
17. Logical flow: The content is organized and comprehensive for use.	85	(97%)	3	(3%)	0		0		0	
18. Content Functionality: The features are working perfectly in my device.	85	(97%)	3	(3%)	0		0		0	
19. Time wise and Satisfaction: The tool helps in a speedy completion of the forms.	87	(99%)	1	(1%)	0		0		0	
20. Over All User Experience	85	(97%)	3	(3%)	0		0		0	
WEIGHTED MEAN PERCENTAGE	97%		3%							



Table 13 reflects the responses of the AUTOFORM users on its effectiveness. There were 97% of the users who find the Autoform System as extremely effective while 3% rated it as very effective. This denotes that the AUTOFORM System impressively served its purpose and worked well. The system is easy to obtain and learn, its commands are simple to follow, its automation feature is functioning and it helps in the speedy completion of the forms. In general, it greatly helped the class advisers to prepare a quality and accurate school forms in a just a short period of time.

Table 14 : Distribution of Responses on AUTOFOR USABILITY SCALE in CYC E 2

CRITERIA ITEM	5 Strongly Agree		4 Agree		3 Neutral		2 Disagree		1 Strongly Disagree	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
11. I Like to use this tool in accomplishing School Forms	88	(100%)	0		0		0		0	
12. I find this tool simple to navigate and Easy to Use	85	(97%)	3	(3%)	0		0		0	
13. I find the tool functioning well.	83	(94%)	5	(6%)	0		0		0	
14. I am confident in using this tool	85	(97%)	3	(3%)	0		0		0	
15. I learn to use the tool quickly and easily.	85	(97%)	3	(3%)	0		0		0	
WEIGHTED MEAN PERCENTAGE	97%		3%							
16. I find the tool complicated as it should be.	0		0		0		3	(3%)	85	(97%)
17. I need a lot of technical support in using this tool.	0		0		0		5	(6%)	83	(94%)
18. I find a lot of irregularities in this tool.	0		0		0		5	(6%)	83	(94%)
19. I find this tool to be time-consuming.	0		0		0		0		88	(100%)
20. I think there are a lot of things to learn before I can start using this system.	0		0		0		1	(1%)	87	(99%)
WEIGHTED MEAN PERCENTAGE	0		0		0		3.2%		96.8%	



Table 14 reflects the responses of the users in terms of the usability of the AUTOFORM System. This is done to evaluate the ease of use of the system by the advisers. Indicators 1-5 are expressed as positive statements. The weighted mean percentage for this based on the table is 97% for those who strongly agree that the system is very useful. Meanwhile, 3% agreed that it is usable. The AUTOFORM system, therefore, is widely accepted by the advisers and they opted to utilize the system in the preparation of their school forms because it is easy to navigate and functions well. On the other hand, indicators 6-10 are stated negatively. This measures the disagreement of the participants to use the AUTOFORM system. As expected, 96.8% strongly disagree with these statements which means that they find the system very useful and user-friendly.

Table 15 : AUTOFORM Effectivity Scale on Teacher's Timeliness in School Form Submission

Grade Level	5	4	3	2	1
7	23	0	0	0	0
8	23	0	0	0	0
9	21	0	0	0	0
10	21	0	0	0	0
TOTAL CASES :	88				
Average Percentage	100%				

Legend: 5 – Submitted on time , 4- 1 to 2 Days Late , 3 – 3 to 4 Days Late , 2 – 5 to 6 Days Late , 1 – No Submission

Source : School Registrar Data SY 2021-2022

The figures in Table 15 shows the frequency of data in the Autoform Effectivity Scale in terms of Teacher's Timeliness in School Form Submission. The data shows that 100% of the class advisers who are Autoform Users submitted their School Form on time. This implies that the Autoform System had helped teachers accomplished School Forms at a much faster convenient rate with less effort in the entry of data.

Furthermore, based on School Registrar report for the SY 2021-2022, the school checking of Forms was well - facilitated by the Grade level Coordinators. Initial Checking on learner's personal data against official birth documents was fast and easy with the use of the Autoform System. Discrepancies were easily detected and corrected right on the spot. Copies of newly corrected forms were easily printed and previous Adviser's signature

was easily secured. The Checking of grade data as it appears on the system was made very fast and convenient.

Table 16 : Comparative Frequency on the Time Spent for Manual and Autoform Completion

Manual Form Completion (Average Time per Learner)	Autoform Completion (Average Time per Learner)
1 hour	5 minutes

The data on table 16 presents a comparative frequency on the time spent for Manual and Autoform completion of forms. This data was taken from the online survey conducted during data collection. Evidence from this table clearly shows that the Time spent for Manual Form Completion is relatively time consuming with an Average Time Per Learner of I hour. This Time frame includes the entry of personal data as it appeared in the attached birth documents to the completion of Grade data both in the master sheets, School Form 9 and School Form 10 respectively which was usually prepared in duplicate copies. This means that for a teacher to accomplished the required forms in a class with an average of 45 to 50 learners, she has to spend about 45 to 50 hours in total to complete this clerical task at the end of the school year. As a result, Long Overtime hours are spent at home just to catch deadline and submissions resulting into poor sleep, teacher's health issues and low productivity rate.



In contrast, the data also revealed that with the use of the Autoform System in Form Completion, Average Time Spent to accomplish the forms was significantly fast and time-wise with an Average rate of 5 Minutes Per Learner. What made this feasible is the Automation Feature of the system that allowed the Encoding of Learner's data done through Copy and Paste from the LIS generated School Form 1, plus the Auto-generation and Automatic computation of Final grades in Master sheets, School Form 9 and School Form 10 respectively. This implied that a class of 45 to 50 learners will take only about 250 Minutes or equivalent to approximately about 4 hours to accomplished the needed School Forms. Since Printing settings are set using Macro, a single button click will make the task done efficiently.

REFLECTION

The preparation and Checking of school forms is undertaken to ensure the quality and consistency of Learner Information (DO 11,S.2014), yet these are among the critical activities conducted at the end of every school year. Despite the Issuance of Deped Order No.4 s of 2014 entitled " Adoption of the Modified School forms for Public Elementary and Secondary School forms" , the preparation of forms remained to be manually tedious and took up a significant amount of time and effort on the part of the teachers. This

project intends to substantially lessen this burden highlighting its automation feature. The 2nd cycle implementation successfully addressed the issues encountered in the first cycle. Shown below is the summary of Mean Percentage in the first and second cycle Implementation based on the Measured Indicators

Table 17 : Summary of Mean Percentage on First and Second Cycle Implementation

INDICATORS	1 st Cycle Implementation	2 nd Cycle Implementation
Timeliness	91%	98%
Accuracy	92%	97%
Productivity	91%	100%
Effectivity	45.8%	97%
Usability	46.8%	97%
OVER ALL WEIGHTED AVERAGE	93%	98%

The above table shows a relative increase from the first to the second implementation in terms of Timeliness, Accuracy and Productivity in the preparation of School Forms. Interventions done in the 2nd cycle such as Tool Revisions and the conduct of capacity training to Autoform Focal Persons to extend technical assistance to teachers has drastically increase the Over All Weighted Average on Effectivity from 93% to 98% in the Second Cycle Implementation. This result indicates that the Autoform System has served its purpose in helping teacher's improve their Timeliness, accuracy and Productivity in the preparation of School forms.

VII. ACTION PLAN

Table 1 Action Research Work Plan and Timelines

Activities/ Strategies	Timeline/ Time Frame	Person/s Involved	Means of Verification
Pre-Implementation			
1. Needs Assessment (FGD)	January 2022	Researchers	Needs Assessment Report
2. Research Proposal Making	January 2022	Researchers	Research Proposal Paper
3. Presentation of the Research Proposal to the Principal	February 2022	Researchers School Principal Research Coordinator	Approved/Signed Research Proposal Endorsement
4. Launching of the Project	February 2022	Researchers Classroom Advisers Registrar	Photo Documentation
5. AUTOFORM Development - Coding, Mapping and Programming Using Visual Basic application	February to March 2022	Researchers	AUTOFORM Automated Tool
Implementation Proper			
6. Training-Workshop Phase I Pilot Tool Testing Cycle 1 Implementation	April 2022	Researchers Classroom Advisers Registrar	Training-workshop outputs Evaluation Forms
7. Autoform System Revisions	May 2022	Researchers	Revised Autoform System
8. Training Workshop Phase II Autoform System Cycle 2 Implementation	July 2022	Researchers Classroom Advisers Registrar	Training-workshop outputs Evaluation Forms
9. Project Evaluation	July 2022	Researchers Classroom Advisers Registrar	Evaluation Forms Survey Results FGD Results
Post-Implementation			
10. Crafting of the Final Paper	August 2022	Researchers	Revised Research Paper
11. Presentation of the Findings of the Project	September 2022	Researchers Principal Faculty	Approved letter from the Principal for Project School Use.
12. Polishing and Submission of the Final Paper	October to November 2022	Researchers, SDRC	Final Research paper



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XI. REFERENCES

- Abuda, B. F., Balazo, G. F., & Rivera, K. D. (2021).** Gamified track-based remote instruction: Its use and impact on mathematics competence. *TARAN-AWAN Journal of Educational Research and Technology Management*, 2(1), 25-34. <https://journal.evsu.edu.ph/index.php/tjertm/article/view/258>
- Alquizar, J. (2018).** Multitasking of Teachers in the Contemporary Settings: Boon or Bane?. Available at SSRN 3283601. (n.d.).
- Alson, J. (2019).** Stress Among Public School Teachers. *Journal of Research Initiatives*, 4(2)3.
- Anoush Margaryan, Allison Littlejohn, Gabrielle Vojt (2011),** Are digital natives a myth or reality? University students' use of digital technologies, *Computers & Education*, Volume 56, Issue 2, 2011, Pages 429-440, ISSN 0360-1315, <https://doi.org/10.1016/j.compedu.2010.09.004>.
- Belgacem, H., Li, X., Bianculli, D., & Briand, L. A** Machine Learning Approach for Automated Filling of Categorical Fields in Data Entry Forms. *ACM Transactions on Software Engineering and Methodology*. <https://doi.org/10.1145/3533021>
- Boachie, E. (2016).** The Effectiveness of Microsoft Excel to Improve Students Continuous Assessment in Secondary in Ghana. *International Journal of Trend in Research and Development*, 441-446. (n.d.).
- COMMISSION, N. P. (2012).** IMPLEMENTING RULES AND REGULATIONS OF REPUBLIC ACT NO. 10173, KNOWN AS THE "DATA PRIVACY ACT OF 2012".
- Delloso, R. (2014).** Design and Evaluation of the Electronic Class Record for LPU-Laguna International School. *Asia Pacific Journal of Multidisciplinary Research*.
- Demir, S., Shagiakhmetova, M. N., Bystritskaya, E. V., Stepanov, R. A., Grishnova, E. E., & Kryukova, N. I. (2022).** Primary Teachers Difficulties Related to Compulsory Distance Education During COVID-19. *CONT ED TECHNOLOGY*, 14(2), ep357. <https://doi.org/10.30935/cedtech/11589>
- Dickinson, D. L. (2009).** Statistical discrimination in labor markets: An experimental analysis. *Southern Economic Journal*, 76(1), 16-31. <https://doi.org/10.4284/sej.2009.76.1.16>

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DO 4, S. 2014 - DO 4, S. 2014 - ADOPTION OF THE MODIFIED SCHOOL FORMS (SFS) FOR PUBLIC ELEMENTARY AND SECONDARY SCHOOLS EFFECTIVE END OF SCHOOL YEAR 2013-2014.

Retrieved from <https://www.deped.gov.ph/2014/01/30/do-4-s-2014-adoption-of-the-modified-school-forms-sfs-for-public-elementary-and-secondary-schools-eeffective-end-of-school-year-2013-2014/>

DO 58, S. 2017 - Adoption Of New School Forms For Kindergarten, Senior High School, Alternative Learning System, Health And Nutrition And Standardization Of Permanent Records | Department Of Education. (n.d.). Retrieved November 1, 2021 Education, DepEd School Forms Reengineering Team (March, 2012). MODIFIED SCHOOL FORMS. Retrieved from <https://www.slideshare.net/dorothyneri/modified-school-forms-55998821>.

Education, D. O. (2018, March 7). DO 11, S. 2018 - GUIDELINES ON THE PREPARATION AND CHECKING OF SCHOOL FORMS. Retrieved from GOVPH: <http://www.deped.gov.ph/2018/03/07/do-11-s-2018-guidelines-on-the-preparation-and-checking-of-school-forms/>

Endsley, M. R. (2018). Level of Automation Forms a Key Aspect of Autonomy Design. Journal of Cognitive Engineering and Decision Making, 12(1), 29-34. <https://doi.org/10.1177/1555343417723432>

ERIC - ED336825 - A Systems Analysis Approach To Selecting, Designing And Implementing Automated Systems: Administrative Uses Of Microcomputers In Schools., 1990. (n.d.). Retrieved November 1, 2021, from Greenwald, E. K. (1991). Electrical Hazards and Accidents. John Wiley & Sons.

Flores, Martin K. (2010) .Methodology for the calculation of response factors through experimental tests and validation with simulation, Energy and Buildings, Volume 42, Issue 4, 2010, Pages 461-467, ISSN 0378- 7788, <https://doi.org/10.1016/j.enbuild.2009.10.015>.

Gutierrez, E. A. (2022). The Electronic Class Record Used by the Cavite State University-Naic Faculty: Its Prospects. International Journal of Multidisciplinary: Applied Business and Education Research, 3 (4), 703-709.

Harris, Douglas N. and Sass, Tim R., "SKILLS, PRODUCTIVITY AND THE EVALUATION OF TEACHER PERFORMANCE" (2012). *UWRG Working Papers*. 50. https://scholarworks.gsu.edu/uwr_workingpapers/50

Indriyanti, Rita & Prasetyo, Zuhdan. (2018). Improving the experiment report writing skills of fifth graders through the discovery learning method. Jurnal Prima Edukasia. 6. 102. 10.21831/jpe.v6i1.17284.

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DEPARTMENT OF EDUCATION CAGAYAN DE ORO CITY

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Into, C. A. D., & Gempes, G. P. (2018). Untold stories of teachers with multiple ancillary functions: A phenomenology of fortitude. *Journal of Advances in Humanities and Social Sciences*, 4(1), 13-25.

John Qi Dong, Weifang Wu, Yixin (Sarah) Zhang(2019), The faster the better? Innovation speed and user interest in open source software, *Information & Management*, Volume 56, Issue 5, 2019, Pages 669-680, ISSN 0378-7206, <https://doi.org/10.1016/j.im.2018.11.002>.

Karl, Mernagh and Kevin, McDaid (2014) *Google Sheets v Microsoft Excel: A Comparison of the Behaviour and Performance of Spreadsheet Users*. Psychology of Programming Annual Conference, 2014.

Magsambol, B. (2020) 8.8 Million Parents Prefer Modular Learning for Students—DepEd [Web Log Post]. <https://www.rappler.com/nation/depd-says-parents-prefer-modular-learning-students>

Marcial, D. E. (2017). Predicting the Adoption of an Android-Based ClassRecord Using the Unified Theory of Acceptance and Use of Technology Model. *Proceedings of International Conference on Technology and Social Science*. (n.d.).

Morgan, D. L., & Spanish, M. T. (1984). Focus groups: A new tool for qualitative research. *Qualitative sociology*, 7(3), 253-270.

Neri, F. et.al (2003). An Overview of Current Research on Automated Essay Grading. *Journal of Information Technology Education: Research*, 2(1), 319-330.

Nicodemus, J. (2019, July 10). Automation: The Future Of School Forms – Department Of Education.

M. Y. Feng and A. McAllister, "A Tool for Automated GUI Program Grading," *Proceedings. Frontiers in Education*. 36th Annual Conference, 2006, pp. 7-12, doi: 10.1109/FIE.2006.322402.

Ove Edvard Hatlevik, Gréta Björk Guðmundsdóttir, Massimo Loi, Digital diversity among upper secondary students: A multilevel analysis of the relationship between cultural capital, self-efficacy, strategic use of information and digital competence, *Computers & Education*, Volume 81, 2015, Pages 345-353, ISSN 0360-1315, <https://doi.org/10.1016/j.compedu.2014.10.019>.

Sahito, Z., Khawaja, M., Panhwar, U. M., Siddiqui, A., & Saeed, H. (2016). Teachers' Time Management and the Performance of Students: A Comparison of Government and Private Schools of Hyderabad, Sindh, Pakistan. *WJE*, 6(6). <https://doi.org/10.5430/wje.v6n6p42>

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DEPARTMENT OF EDUCATION CAGAYAN DE ORO CITY

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SARABIA, A., & COLLANTES, L. M. (2020). Work-related stress and teaching performance of teachers in selected school in the Philippines. *Indonesian Research Journal in Education | IRJE|*, 6-27. (n.d.).

Siddiqui, F. (2012). Microsoft Excel For Teachers - Ideas for Using MicrosoftExcel Worksheets in the Classroom . Retrieved from [www.linkedin.com:https://www.linkedin.com/pulse/20140823090813-59817714-microsoft-excel-for-teachers-ideas-for-using-microsoft-excel-worksheets-in-the-classroom](https://www.linkedin.com/pulse/20140823090813-59817714-microsoft-excel-for-teachers-ideas-for-using-microsoft-excel-worksheets-in-the-classroom). (n.d.).

Valenti, S., Neri, F. & Cucchiarelli, A. (2003). An Overview of Current Research on Automated Essay Grading. *Journal of Information Technology Education: Research*, 2(1), 319-330. Informing Science Institute. Retrieved January 17, 2022 from <https://www.learntechlib.org/p/111481/>

Victor, J. R. S., & Barela, R. N. S. Acceptability and Experiences of Selected Teachers in the Philippines on the Power of MS Excel in Computing/Consolidating the Grades of Students. (n.d.).

Villanueva, E. Z., Mella, M. C. G., Eldifonso, N. R. G., Limueco, J. M., & Ferrater, J. (2019). iSUBMIT: Improving School Forms Submission Process. *Ascendens Asia Journal of Multidisciplinary Research Abstracts*, 3(2M). (n.d.).

Yusoff, M. S. B. (2019). ABC of response process validation and face validity index calculation. *Educ Med J*, 11(10.21315).

Yusoff, M. S. B. (2019). ABC of content validation and content validity index calculation. *Resource*, 11(2), 49- 54.

Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A. R. (2015). Design and implementation content validity study: development of an instrument for measuring patient-centered communication. *Journal of caring sciences*, 4(2), 165-178.

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Task	SY 2021-2022																SY 2022-2023																										
	TIMETABLE/GANTT CHART AUTOFORM SYSTEM IMPLEMENTATION																																										
	January				February				March				April				May				June				July				August				September				October				November		
Week	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
1. Needs Assessment																																											
2. Literature Review																																											
3. Drafting Methodology																																											
4. Research Proposal																																											
Drafting and Submission																																											
5. Autoform Development																																											
Coding, Mapping of Tool																																											
6. First Cycle																																											
Implementation																																											
7. Reflection & Revision																																											
8. Second Cycle																																											
Implementation																																											
9. Data Analysis																																											
10. Drafting of Final Paper																																											
11. Final Research Note																																											

*Deliverables

R - Draft report submitted for SDRC review.

F - Revised report submitted to SDRC for publication. End of contract.

II. COST ESTIMATE



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Objectives	Activities	Target Date	Persons Involved	Success Indicator
<ul style="list-style-type: none"> Empower teachers on the basic navigation and Tool Automation Printing Features of the Autoform System for Self-Service Troubleshooting 	<ul style="list-style-type: none"> Autoform Enrichment Session for Same Paper Printing by Quarter 	<ul style="list-style-type: none"> January 12, 2023 January 13, 2022 	<ul style="list-style-type: none"> Autoform Users for Special Program Autoform Users for BEC Program 	<ul style="list-style-type: none"> Same Paper Autoform Print Outs in vellum board for SF9
<ul style="list-style-type: none"> Sustained the Use of the Autoform System in the School level through capacitating Autoform Focal Persons by Grade Level for Technical assistance. 	<ul style="list-style-type: none"> Capacity Training Workshop Series For Autoform Focal Persons 	<ul style="list-style-type: none"> February 10, 2023 	<ul style="list-style-type: none"> Autoform System Focal Persons by Grade Level 	<ul style="list-style-type: none"> About 90% of Autoform users are provided with technical assistance by their respective focal persons.
<ul style="list-style-type: none"> Extend Immediate Technical Assistance to Autoform Users through shared social media platform 	<ul style="list-style-type: none"> Establish Autoform Community Group Chats 	<ul style="list-style-type: none"> November, 2022 	<ul style="list-style-type: none"> Autoform Users, Focal Persons, Researchers 	<ul style="list-style-type: none"> About 95% of Autoform users are updated with latest Autoform features.
<ul style="list-style-type: none"> Conduct a School Roll Out to selected districts and Schools in the Division of Cagayan De Oro through LAC Sessions. 	<ul style="list-style-type: none"> LAC Session on School Form Automation to Improve Teacher's Timeliness, Accuracy and Productivity in the Completion of School Forms 	<ul style="list-style-type: none"> January 18, 2023 January 24, 2023 January 29, 2023 	<ul style="list-style-type: none"> Macasandig NHS Indahag NHS Camaman-an NHS 	<ul style="list-style-type: none"> About 80% of the participants will be able to prepare School Forms Using the Autoform System.

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IV. SUMMARIZED RAW DATA

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AUTOFORM SATISFACTION SURVEY MEASURING TIMELINESS, ACCURACY AND PRODUCTIVITY

CRITERIA ITEM N=88	Cycle 1 Implementation Level of Satisfaction Responses (f) (%)		Cycle 2 Implementation Level of Satisfaction Responses (f) (%)	
TIMELINESS (Time Spent for..)	VS – Very Satisfied		VS – (Very Satisfied)	
1. Encoding of Data	73	83%	85	97%
2. Auto Computation of Ave.	80	91%	85	97%
3. Auto Generation of Data in SF9 and SF10	81	92%	87	99%
4. Completing School Forms per learner	85	96%	88	100%
MEAN PERCENTAGE SCORE	91 %		98%	
ACCURACY (Degree of Data Precision)				
5. Auto- Computation of Average in all forms	80	91%	85	97%
6. Auto Generation of Data in all forms	81	92%	85	97%
MEAN PERCENTAGE SCORE	92%		97%	
PRODUCTIVITY (While on Autoform Completion was also able to do the ff)				
7. Time on Task on Form Completion Attained	78	89%	88	100%
8. Performed 100% of Duties as Class Adviser	81	92%	88	100%
9. Performed Ancillary Task				
10. Performed 100% Clerical Task for Year-end Individual Performance Evaluation	82	93%	88	100%
MEAN PERCENTAGE	91%		100%	
OVER ALL WEIGHTED MEAN	93%		98%	

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B. AUTOFORM EFFECTIVITY SCALE SUMMARY OF RESPONSES

CRITERIA ITEM N=88	Cycle 1 Implementation Level of Satisfaction Responses (f) (%)	Cycle 2 Implementation Level of Satisfaction Responses (f) (%)
1. Accessibility: The tool easy is easy to obtain and use	39 (44%)	85 (97%)
2. Learnability of the tool: The trainings conducted enough to effectively use the tool.	50 (57%)	85 (97%)
3. Instructions and Command Prompts: It is well organized and simple to follow .	43 (49%)	83 (94%)
4. Reviewing Previous Pages: Users can backtrack or review previous pages if needed.	40 (45%)	85 (97%)
5. Automation Feature : The data or values during encoding are reflected correctly in designated forms.	25 (28%)	84 (95%)
6. Format and Structure: The tool is designed to focus on the relevant needs of class advisers.	42 (48%)	85 (97%)
7. Logical flow : The content is organized and comprehensive for use.	34 (39%)	85 (97%)
8. Content Functionality: The features are working perfectly on my device	40 (45%)	85 (97%)
9. Time wise and Satisfaction: the tool helps in a speedy completion of the forms.	45 (51%)	87 (99%)
10. Over All User Experience	46 (52%)	85 (97%)
WEIGHTED MEAN PERCENTAGE	45.8 %	97%

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C. AUTOFORM USABILITY SCALE SUMMARY OF RESPONSES

CRITERIA ITEM N=88	Cycle 1 Implementation Level of Satisfaction Responses		Cycle 2 Implementation Level of Satisfaction Responses	
	(f)	(%)	(f)	(%)
1. I Like to use this tool in accomplishing School Forms	48	SA Responses (55%)	SA Responses 88 (100%)	
2. I find this tool simple to navigate and Easy to Use	50	(57%)	85 (97%)	
3. I find the tool functioning well.	43	(49%)	83 (94%)	
4. I am confident in using this tool	40	(45%)	85 (97%)	
5. I learn to use the tool quickly and easy	25	(28%)	85 (97%)	
6. I find the tool complicated as it should be	42	SD Responses (48%)	SD Responses	
7. I need a lot of technical support in using this tool	34	(39%)		
8. I find a lot of irregularities in this tool.	40	(45%)		
9. I find this tool to be time-consuming	45	(51%)		
10. I think there are a lot of things to learn from this tool before I can start using them	42	(48%)		
*SA (strongly Agree) * SD (Strongly Disagree)				



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D. School Forms Checking and Submission Report

SCHOOL FORMS CHECKING AND SUBMISSION COMMITTEE REPORT

IMPORTANT: This form will be accomplished by the Head of the School Forms Checking and Submission Committee.

A. TIMELINESS

Year Level	Autoform Users who submitted their school forms on time	Percentage (%)	Autoform Users who submitted their school forms late	Percentage (%)
Grade 7	22 of 23	96%	1	0.04%
Grade 8	21 of 24	88%	3	0.12%
Grade 9	19 of 20	95%	1	0.04%
Grade 10	18 of 21	86%	3	0.12%
TOTAL	80	91%	8	0.08%


Melane P. Pacudan

Signature over Printed Name

Chairman- School Forms Checking and Submission Committee

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V. STATISTICAL REPORTS

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Summary Report on Content Validation for Researcher-made Instrument

A. AUTOFORM EFFECTIVITY SATISFACTION SURVEY CONSOLIDATED VALIDATION RESULT

CRITERIA ITEM <i>(How effective is the AUTOFORM System on the basis of the following parameters?)</i>	Rater 1	Rater 2	Rater 3	Mean	Interpretation
TIMELINESS <i>(Time spent for...)</i>					
1. Encoding of Data	4	4	4	4	Highly relevant
2. Auto Computation of Average	4	4	4	4	Highly relevant
3. Auto Generation of Data in SF9 and SF10	4	4	4	4	Highly relevant
4. Completing School forms per Learner	4	4	4	4	Highly relevant
ACCURACY <i>(Degree of Data Precision)</i>					
5. Auto Computation of Average in all Forms	4	4	4	4	Highly relevant
6. Accuracy of the Generated Data in all Forms	4	4	4	4	Highly relevant
PRODUCTIVITY <i>(While on Autoform Completion was also able to do the following:)</i>					
7. Time on the Task on the Form Completion Attained	4	4	4	4	Highly relevant
8. Performed 100% of Duties as a Class Adviser	4	4	4	4	Highly relevant
9. Performed Ancillary Task/s	4	4	4	4	Highly relevant
10. Performed 100% Clerical Task for Year-end Individual Performance Evaluation	4	4	4	4	Highly relevant

Interpretation: 1.00 - 1.75 - not relevant
 1.75 - 2.50 - somewhat relevant
 2.50 - 3.25 - quite relevant
 3.25 - 4.00 - highly relevant



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B. AUTOFORM EFFECTIVITY SCALE SURVEY CONSOLIDATED VALIDATION RESULT

CRITERIA ITEM	Rater 1	Rater 2	Rater 3	Mean	Interpretation
1. Accessibility: The tool is easy to obtain and use.	4	4	4	4	Highly relevant
2. Learnability of the Tool: The trainings conducted are enough to effectively use the tool.	4	4	4	4	Highly relevant
3. Instructions and Command Prompts: It is well organized and simple to follow.	4	4	4	4	Highly relevant
4. Reviewing Previous Pages: Users can backtrack or review previous pages if needed.	4	4	4	4	Highly relevant
5. Automation Feature: The data or values during encoding are reflected correctly in designated forms.	4	4	4	4	Highly relevant
6. Format and Structure: The tool is designed to focus on the relevant needs of class advisers.	4	4	4	4	Highly relevant
7. Logical Flow: The content is Organized and comprehensive for use.	4	4	4	4	Highly relevant
8. Content Functionality: The features are working perfectly on my device.	4	4	4	4	Highly relevant
9. Time- wise and Satisfaction: The tool helps in a speed completion of the forms.	4	4	4	4	Highly relevant
10. Over-all User experience	4	4	4	4	Highly relevant

Interpretation: 1.00 - 1.75 - not relevant
1.75 - 2.50 - somewhat relevant
2.50 - 3.25 - quite relevant
3.25 - 4.00 - highly relevant



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C. AUTOFORM USABILITY SURVEY CONSOLIDATED VALID

CRITERIA ITEM	Rater 1	Rater 2			
1. I like to use this tool in Accomplishing school forms.	4	4	4	4	Highly relevant
2. I find this tool simple to navigate and easy to use.	4	4	4	4	Highly relevant
3. I find the tool functioning well.	4	4	4	4	Highly relevant
4. I am confident in using this tool.	4	4	4	4	Highly relevant
5. I learn to use the tool quickly and easily.	4	4	4	4	Highly relevant
6. I find the tool more complicated than it should be.	4	4	4	4	Highly relevant
7. I need a lot of technical support in using this tool.	4	4	4	4	Highly relevant
8. I find a lot of irregularities in this tool.	4	4	4	4	Highly relevant
9. I find this tool to be time-consuming.	4	4	4	4	Highly relevant
10. I think there are a lot of things to learn before I can start using this system.	4	4	4	4	Highly relevant

Interpretation:

1.00 - 1.75

1.75 - 2.50

2.50 - 3.25

3.25 - 4.00

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Dear Experts,

Thank you for sharing your expertise in validating these tools. These questionnaires contain 5 domains and 30 items related to the effectiveness of the AUTOFORM System. We need your expert judgment on the degree of relevance of each item to the measured domains. Your review should be based on the definition and relevant terminologies that are provided to you. Please use the following rating scale in your review:

Degree of relevance:

- 1 = the item is not relevant to the measured domain
- 2 = the item is somewhat relevant to the measured domain
- 3 = the item is quite relevant to the measured domain
- 4 = the item is highly relevant to the measured domain

AUTOFORM Effectivity Satisfaction Response based on Timeliness, Accuracy, and Productivity

CRITERIA ITEM (How effective is the AUTOFORM System on the basis of the following parameters?)	5	4	3	2	1	RELEVANCE
TIMELINESS (Time spent for...)						
1. Encoding of Data						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2. Auto Computation of Average						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3. Auto Generation of Data in SF9 and SF10						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4. Completing School forms per learner						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Mean Percentage						
ACCURACY (Degree of Data Precision)						
5. Auto Computation of Average in all forms						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6. Auto Generation of Data in all forms						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Mean Percentage						
PRODUCTIVITY (While on Autoform Completion was also able to do the following:)						
7. Time on the task on the form completion attained						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8. Performed 100% of duties as a class adviser						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9. Performed Ancillary Task						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10. Performed 100% Clerical Task for Year-end Individual Performance Evaluation						1 2 3 4 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Mean Percentage						
OVER-ALL WEIGHTED MEAN						

Legend: 5 = Very Satisfied
4 = Satisfied

AUTOFORM Effectivity Scale



CRITERIA ITEM	5	4	3	2	1	RELEVANCE			
1. Accessibility: Is the tool easy to obtain and use?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Learnability of the tool: Are the trainings conducted enough to effectively use the tool?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Instructions and Command Prompts: Is it easy to follow and formatted in a clear way?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Reviewing Previous Pages: Can users backtrack or review previous pages if needed?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Automation Feature: Are the data or vales during encoding reflected correctly in designated forms?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Format and Structure: Is the tool designed to focus on the relevant needs of class advisers?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Logical flow: Is the content organized and comprehensive for use?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Content Functionality: Are the features working perfectly in your device?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Time wise and Satisfaction: Does the tool help in a speedy completion of the forms?						1	2	3	4
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Over-all User experience									
Weighted Mean									

Legend:

- 5 = Extremely effective
- 4 = Very effective
- 3 = Moderately effective
- 2 = Slightly effective
- 1 = Not effective

AUTOFORM Usability Scale

CRITERIA ITEM	5	4	3	2	1	RELEVANCE			
1. I like to use this tool in accomplishing school forms.						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
2. I find this tool simple to navigate and easy to use.						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
3. <u>Instructions</u> and Command Prompts: Is it easy to follow and formatted in a clear way?						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
4. Reviewing Previous Pages: Can users backtrack or review previous pages if needed?						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
5. <u>Automation Feature</u> : Are the data or vales during encoding reflected correctly in designated forms?						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
6. Format and Structure: Is the tool designed to focus on the relevant needs of class advisers?						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
7. Logical flow: Is the content organized and comprehensive for use?						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
8. Content Functionality: Are the features working perfectly in your device?						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
9. Time wise and Satisfaction: Does the tool help in a <u>speedy</u> completion of the forms?						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
10. <u>Over-all</u> user experience						1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
Weighted Mean									

Legend: 5 = Strongly agree
 4 = Agree
 3 = Neutral
 2 = Disagree
 1 = Strongly disagree

D.3 Certificate of Research Instrument Validation


Republic of the Philippines
Department of Education
Region X – Northern Mindanao
Schools Division of Cagayan de Oro City

**CERTIFICATE OF RESEARCH INSTRUMENT
VALIDATION**

This is to certify that the following research Instrument used by the researchers Rubylinda E. Peralta and Leah Lyn A. Lingatong in their research study titled **“AUTOFORM SYSTEM: An Automated Tool to Improve Teacher’s Timeliness, Accuracy, and Productivity in the Completion of Essential School Forms in the New Normal”** has undergone content validity by content experts on March 18, 2022.

- Autoform Effectivity Satisfaction Response based on Timeliness, Accuracy, and Effectivity
- Autoform Effectivity Scale
- Autoform Usability Scale

The content experts can attest that the questionnaires had passed through scrutiny and careful examination and were proven to be substantially relevant to their study.


LLOYD ALLAN CABUNOC, PhD
Content Expert


HASIMA N. SALIC, PhD
Content Expert

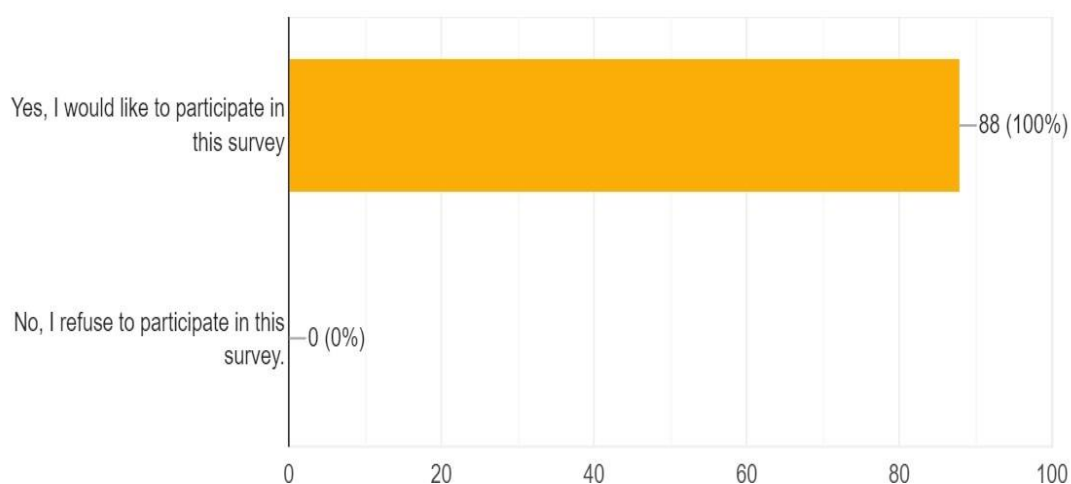

NORMA B. DELIMA, PhD
Content Expert

D.4 Electronic Data Consent Via Google Form (Screenshot)

DATA CONSENT: Dear teachers. Please take time to answer this Evaluation Survey to further improve the AUTOFORM SYSTEM in its Pilot Implementation Stage. Rest assured that all data will be held with utmost confidentiality as stipulated in the Data Privacy Act 2012 | Data Privacy Philippines (2018). Please Check the box that corresponds to your answer



88 responses





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G.2 SURVEY FORM

PART I AUTOFORM SATISFACTION SURVEY BASED ON TIMELINESS, ACCURACY AND PRODUCTIVITY

Instruction: Please state the level of satisfaction on the effectiveness of Autoform System by putting a checkmark on the table. Check only once per item

CRITERIA ITEM	5 Very Satisfied	4 Satisfied	3 Neutral	2 Unsatisfied	1 Very Unsatisfied
TIMELINESS (Time Spent for..)					
11. Encoding of Data					
12. Auto Computation of Ave.					
13. Auto Generation of Data in SF9 and SF10					
14. Completing School Forms per learner					
MEAN PERCENTAGE					
ACCURACY (Degree of Data Precision)					
15. Auto- Computation of Average in all forms					
16. Auto Generation of Data in all forms					
MEAN PERCENTAGE					
PRODUCTIVITY (While on Autoform Completion was also able to do the ff)					
17. Time on Task on Form Completion Attained					
18. Performed 100% of Duties as Class Adviser					
19. Performed Ancillary Task					
20. Performed 100% Clerical Task for Year-end Individual Performance Evaluation					
MEAN PERCENTAGE					
OVER ALL WEIGHTED MEAN					

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PART II AUTOFORM SYSTEM EFFECTIVITY SCALE SURVEY

Instruction: Please state the level of effectiveness for each statement as to the use of the AUTOFORM SYSTEM by putting a checkmark on the table. Check only once per item.

CRITERIA ITEM	5 Extremely Effective	4 Very Effective	3 Moderately Effective	2 Slightly Effective	1 Not at all Effective
1. Accessibility: Is the tool easy to obtain and use?					
2. Learnability of the tool: Are the trainings conducted enough to effectively use the tool?					
3. Instructions and Command Prompts: Is it easy to follow and formatted in a clear way?					
4. Reviewing Previous Pages: Can users backtrack or review previous pages if needed?					
5. Automation Feature : Are the data or values during encoding reflected correctly in designated forms?					
6. Format and Structure: Is the Tool designed to focus on the relevant needs of class advisers?					
7. Logical flow : Is the content organized and comprehensive for use?					
8. Content Functionality: Are the features working perfectly in your device?					
9. Time wise and Satisfaction: Does the tool help in a speedy completion of the forms?					
10. Over All User Experience					
State the challenges or Issues you have encountered in using the Autoform System?					
What are your suggestions/recommendations to improve the Autoform system?					



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PART III AUTOFORM USABILITY SCALE

Instruction: Please state the level of autoform usability for each statement as to the use of the AUTOFORM SYSTEM by putting a checkmark on the table. Check only once per item.

CRITERIA ITEM	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly Disagree
1. I Like to use this tool in accomplishing School Forms					
2. I find this tool simple to navigate and Easy to Use					
3. I find the tool functioning well.					
4. I am confident in using this tool					
5. I learn to use the tool quickly and easy					
6. I find the tool complicated as it should be					
7. I need a lot of technical support in using this tool					
8. I find a lot of irregularities in this tool.					
9. I find this tool to be time-consuming					
10. I think there are a lot of things to learn from this tool before I can start using them					