Variates on the Extent of Enhanced Basic Education Information System-Learners Information System (EBEIS-LIS) Implementation Among Elementary Teachers

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Abstract

This study correlated teachers'/LIS in-charge profile parameters as variates of their perceived extent of implementation of the Enhanced Basic Education Information System-Learners Information System (EBEIS-LIS) in the San Julian district, province of Eastern Samar during the school year 2020-2021. The data concerning teachers' profile and their perceived extent of EBEIS-LIS implementation were collected via a validated researcher-made survey instrument and was analyzed using frequency count, percentage, median, Spearman rho, and point-biserial correlation at 0.05 level of significance. Findings revealed that most of the respondents are married female teachers who have earned units leading to a Master's degree and have attended district-based training. Moreover, they perceived a high extent of EBEIS-LIS implementation in terms of manpower requirement, methods of employment, and materials for implementation which are all significantly variated with their teaching experience ($p<.05$). Hence, the researcher recommends the conduct of an extensive training program appropriate to teachers' teaching experience especially in handling their respective school's information system.

Key Words: Enhanced Basic Education Information System-Learners Information System, Perceived Extent of Implementation, Teaching Experience

Background of the Study

Information technologies and other aspects of digital culture have changed the ways people live, work, play, and learn in the 21st century. An article published by ECPI University (2020), articulated the importance of such technology, especially in the fast delivery of the necessary information, aiding in better organizational decisions and courses of action. According to Demir (2006), information technologies such as information systems serve as the bloodline in the continuous advancement of information exchange among many countries worldwide. The top reasons for using information systems are to improve work effectiveness by processing information, managerial effectiveness by meeting information needs, and competitive superiority by directing strategies (Yuen, Law, & Wong, 2003). In the context of education, some academic institutions utilized information systems to "digitalize their services like admission, evaluation, examination, provisional mark memo, submission of assignments, and even attendance of students and teachers" (Sahebrao & Bajranglal, 2019, p. 23). In general, the use of information systems provides a robust mechanism among schools to rethink and redesign their educational systems and processes, given the fast processing of data which will lead to quality education.

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Unfortunately, despite these extensive efforts to support teachers by integrating information and communication technologies (ICT) into their classroom practice, several researchers have reported the enormous challenges teachers face in using IT-based tools (Pozas & Letzel, 2021). In addition, Sangrà and González-Sanmamed (2010) unveiled that most educators are less confident in utilizing ICT tools to promote the development of more complex educational processes in the documentation, evaluation, and organization of data. Similarly, Robertson (2003) reported that "successful schools represented only a very small fraction with available electronic facilities and that most teachers are left largely on their own as they struggle to integrate technology into their curricula" (p.323). The findings of Robertson (2003) highlighted the role of teachers and administrators in gaining adequate guidance and relevant opportunities for exploration and full implementation of ICT tools in the school. Hence, obtaining the skills and competence in gathering, processing, transmitting, and storing of information are essential competencies of teachers for the quality of tasks performed in the organization.

The annual learners' registration and encoding of learners' information have been two of the most common problems in the school management system, which are rooted in the schools' paper-based processes (Anjani, 2019). Other factors identified by Hanior, Achor, and Gire (2019) include fire outbreaks, flooding, pests and rodents, and improper storage, among others. All these are related to poor job discharge of the assigned personnel. In the Philippines' public basic education setting, the registering and updating of students' records is mostly assigned to teaching personnel, who may be a subject teacher or a class adviser, due to the minimal number of non-teaching staff, especially among barangay or small-size schools. These problems directed the Department of Education to develop an electronic information system that manages schools' data, including learners' personal information up to schools' infrastructure and resources, widely known as the Enhanced Basic Education Information System or EBEIS (Department of Education, 2015). One of its most utilized facilities is the Learners' Information System (LIS) where teachers can encode learners' details and update their annual statuses. Unfortunately, Llego (2018) mentioned that the most misused facility is noted for erroneous data entries among teachers/LIS in-charge.

Notably, the Asian Development Bank (2020), in their review of the country's monitoring and evaluation system, revealed that "human resources and technical capacity are not aligned with reporting requirements and that DepEd's institutional capacity is inadequate for the development and maintenance of various information systems" (p. 5). Identified as a fifth-class municipality in the province of Eastern Samar, the San Julian district is one of the school districts in the schools division of Eastern Samar with teachers experiencing problems in maneuvering the Department of Education Learners Information System (LIS) aside from the fact that most teachers cannot submit a report on time (Organista, 2018). The Rsearcher, being an LIS in-charge of their school, noted several problems, including multiple LRNs of students, accidental enrolment of a student not included in the teacher's master list, failed enrolment due to data issues, erroneous data entry, and the compounding issue of online versus actual data discrepancies, which delay information sharing, data extraction, reporting and submission, and electronic delivery to higher end-user offices. In the context of Monitoring and Evaluation (M&E) sharing, the DepEd district of San Julian is beseeched with delays in the turnout of reports and deliverables, including M&E-related data reported regularly. These could be attributed to some extent to the implementation parameters as outlined in the LIS guidelines.

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The absence of empirical data on the underlying factors in the implementation of DepEd's Enhanced Basic Education System facilities, specifically on the LIS among teachers/LIS in-charge, prompted the Researcher to conduct this correlational research and look into the socio-professional variates that may influence the EBEIS-LIS implementation in the San Julian district of the schools division of Eastern Samar during the school year 2020-2021. The findings of this research will serve as a basis for developing a training program or project proposal that is aimed at improving the mechanisms of the present information system.

Framework of the Study

This study finds the following theoretical underpinning relevant in understanding the researcher's assumptions.

Ajzen's (1991, as cited by Nueva, 2019) theory of planned behavior suggests, a number of predictors of an individual's attitude towards technology. Existing related studies reveal that age, years of stay in school, and grade level assignment were found to have a significant association with these predictors. For instance, Cavas et al. (2009) conducted a study about the attitude of science teachers towards Information and Communication Technologies (ICT) in education, which showed that younger teachers who have considerable experience of using technology have a better appreciation of its integration into education than their counterparts.

Madon (2000) proposed a stable relationship between the Internet and developing a person's socio-economic development, suggesting that the Internet has a primarily positive impact on four main factors: economic growth, as measured by productivity; social well-being, including health, education, and poverty alleviation; political well-being, as measured by democracy; and physical well-being, as measured by sustainable development. Madon emphasizes the importance of intermediary institutions, such as government actions, that help the Internet's impact on socio-economic development.

The Partnership for 21st Century Skills' (2005) framework includes Learning and Innovation Skills, Information, Media and Technology Skills, and Life and Career Skills. In order to cultivate 21st Century Skills, according to Windschitl (2009) in his study on teacher readiness, there should be active learning opportunities, practice, and evidence of student quality learning. This includes both modern and innovative assessment methods for the twenty-first century. Hence, the inclusion of professional development parameters in the present study.

The Developed Program Theory of Funnell and Rogers (2011) explains how an intervention such as a project, a program, a policy, or a strategy is understood to contribute to a chain of results that produce the intended or actual impacts. It can include positive impacts which are beneficial and negative impacts which are detrimental. It can also show the other factors which contribute to producing impacts, such as context and other projects and programs. Furthermore, the said theory can be used to provide a conceptual framework for monitoring, evaluation, or an integrated monitoring and evaluation framework. It can be a very useful way of bringing together existing evidence about a program, and clarifying where there is agreement and disagreement about how the program is understood to work, and where there are gaps in the evidence. It can be used for a single evaluation, planning cluster evaluations of different projects funded under a single program, or to bring together evidence from multiple evaluations and research (Funnell & Rogers, 2011).

Implementation of the MIS in the different public schools in the country, including how it is monitored and evaluated, is governed by several key indicators viewed to be indicative of how these variates influence the

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success of the implementation process at the school level. These variables are: manpower requirements, method of implementation, and materials for implementation. The Department of Education (2015) suggested that the success of EBEIS-LIS implementation at the school level is believed to be influenced by manpower, methods and processes, and material factors each scaled by a ten-point indicative criterion.

Hence, these theories addressed the gaps in the speed and accuracy of the recording of the learners' information. Therefore, there must be a careful evaluation of the extent by which these innovations are being implemented, monitored and evaluated in the various schools by the Department of Education.

Methodology

The researcher employed a descriptive-correlational research design in assessing the respondents' profiles as variates of their perceived extent of the Enhanced Basic Education Information System-Learner Information System (EBEIS-LIS) in the district of San Julian, Schools Division of Eastern Samar during the school years 2020-2021. Part 1 of the study focused on determining the respondents' profile in terms of age, sex, civil status, highest educational attainment, number of years in teaching, and the highest level of training on EBEIS-LIS. Likewise, the Researcher examined the respondents' perceived extent of EBEIS-LIS implementation in terms of manpower requirements, method of implementation, and materials for implementation. *Afterward, correlation analysis was conducted to determine the significance of the relationship between the respondents' perceived extent of* EBEIS-LIS *implementation and each of their profile variates in terms of* age, sex, civil status, highest educational attainment, number of years in teaching, and the highest level of training.

The respondents of this study are the elementary grade teachers/EBEIS-LIS in-charge in the 13 public elementary schools in the district of San Julian, Schools Division of Eastern Samar. This involved all the 87 pre-identified elementary grade teachers, EBEIS-LIS in-charge of a school in the said district, a regular-permanent employee and would agree to be part of the study. Majority of the respondents came from San Julian Central Elementary School (n = 11, 12.64%), followed by teachers from San Isidro Elementary School (n = 9, 10.34%). While only one teacher is assigned to manage the EBEIS-LIS account of Layog Elementary School. Due to the minimal number of identified participants, the Researcher found it necessary to utilize total enumeration or universal sampling, tapping the prospect-respondents who are public elementary school teachers in the said locale and will meet the inclusion criteria set by the Researcher.

The study utilized a researcher-made survey questionnaire to capture the relevant information to answer the specific research objectives. Part I of the questionnaire was a checklist-type survey with items consisting of the respondents' profile in terms of their age, sex, civil status, highest educational attainment, number of years in teaching, and highest level of training. *In this part of the questionnaire, the respondents were asked to fill in the needed information on the line spaces provided in each item and place a checkmark (/) on the appropriate line spaces of their answers. Part II of the questionnaire was a Likert-scale-based assessment reflective of the respondents' perceived extent of* EBEIS-LIS *implementation. This part was divided into three parts: manpower requirements, method of implementation, and materials for implementation. Each part consisted of 10 statement indicators, with the following five-point scale to quantify the responses of the teacher-respondents: 5 for Very Highly Implemented (VHI), 4 for Highly Implemented (HI), 3 for Moderately Implemented (MI), 2 for Fairly Implemented (FI), and 1 for Not Implemented (NI).*

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Since the questionnaire is self-structured, it was validated in terms of its content and reliability through expert analysis and the Internal Consistency Method using Cronbach Coefficient Alpha. A copy of the questionnaire was submitted to the Research Adviser as well as to the Research Advisory Committee for expert analysis as to its content. After their comments and suggestions were incorporated, the questionnaire was finalized and pilot tested among 15 teachers in the District of Sulat, Schools Division of Samar. It has the same characteristics as a municipality and is a neighboring locality of San Julian. An overall Cronbach alpha value of 0.87 showed that the material is acceptable to be used in this undertaking.

The data gathering proceeded after all letters requesting approval to conduct the study were given by concerned authorities. At the outset, a letter requesting permission to conduct the present research was secured from the Schools Division Superintendent of the Schools Division of Eastern Samar. Upon the approval by the said authority, separate letters requesting approval to conduct the study were submitted to the Public Schools District Supervisor of the District of San Julian, and the school principals of the 13 elementary schools in said District. When the conduct of the study was approved in these schools, the survey was conducted involving the elementary grade teachers in the District of San Julian.

Finally, the Researcher proceeded with the tabulation, computation, analyses and interpretation of data. This study followed the appropriate research ethics guidelines. Consent forms were given and collected from the involved participants, and a permit from government sectors directly concerned in this investigation, was obtained. The respondents were assured that the data would be kept confidential and shall not be used for any legal action against them.

The data was tabulated, organized, analyzed and interpreted with the use of descriptive as well as inferential statistical tools, including frequency count, percentage, median, Pearson's Product-Moment Coefficient of Correlation (Pearson's r), and Cramer's V test at 0.05 level of significance.

Result And Discussion

Profile of the respondents

The first objective focuses on determining the profile of the respondents in terms of age, sex, civil status, educational attainment, teaching experience, and training level related to EBEIS-LIS, using frequency count and percentage. The results are presented here [inTable -2 below].

In terms of age, 33 respondents are young adults whose age range is between 31 and 40 years old. This is followed by middle-age adults (n = 25, 28.70%), and fairly young respondents (n = 14, 16.10%). While only 2.3% or two (2) teachers are in their late years and are qualified for the early retirement program among government employees. A contrasting age trend was documented by Merillo and Domingo (2019) and Kiboro's (2012) evaluation of teachers' ICT integration in the classroom setting, respectively, noting that most teachers who are well-adept in the use of technology are in the age range of 21 to 30. This implies that the assigned LIS coordinators in the San Julian district are highly populated by young adults who are expected to be mature enough in dealing with matters concerning the school's data management. Likewise, it shows the high regard given to these teachers with respect to their skills and the practice of nepotism in the educational setting. Furthermore, teachers who have amassed competence and confidence among their colleagues are entrusted with such huge responsibility of encoding learners' information, approving requests for transfer in and out, and other tasks related to DepEd's information system.

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In terms of sex, 77 respondents are female teachers, while only 10 are male teachers who are handling their respective school's EBEIS-LIS accounts. Similarly, Bello (2009) found that the majority of Elementary teachers are female, while Moses, Admiraal, and Berry (2016) reported more female than male student–teachers to be highly androgynous. Though no significant difference was found, Alufohai and Ibhafidon (2015) revealed that female teachers' learners performed better than male counterparts. This implies that the majority of teachers who are specially assigned to work on the school EBEIS-LIS accounts, are female.

In terms of civil status, 66 respondents are married, followed by 19 teachers who are single, and 2.3% are widowed. Zabala and Lachica (2018) unveiled that the majority of elementary teachers are married. Similarly, Alufohai and Ibhafidon (2015) found that most learners learned better among married teachers who can significantly differentiate their English Language performances. In contrast, findings from Abarro (2018) study revealed a number of single teachers who are greater in number and performed better in their profession than the married ones.

In terms of educational attainment, 63 respondents or 72.4% of the total samples hold units leading to Master's degree, followed by 16 teachers who are bachelor's degree holders. Notably, 6.3% of the total respondents are Master's degree holder, while only two (2) respondents are currently earning units leading to a doctorate degree. Zabala and Lachica (2018) reported that most elementary school teachers are master's units' earners. Similarly, Kadtong et al. (2017) shared the same finding from a national survey. These results imply that the respondents tried to pursue professional development programs such as that being offered by graduate schools to be promoted to higher position or rank in teaching. Also, the results on graduate education imply the relevance given by teachers to their academic intentions.

In terms of teaching experience, 49 respondents are veteran teachers, having earned more than ten (10) years of teaching experience. This is followed by 20 semi-veteran respondents, while only 18 respondents are neophytes. Similarly, Oyewole (2011) found that less than 50% are teachers with more than ten years in the teaching profession. The result is aligned with the findings of a national survey conducted by Kadtong et al. (2017), revealing that most teachers have earned 11 to 15 years in service. The result implies that teachers who have earned much teaching experience termed veteran teachers are assigned highly technical tasks such as maneuvering the schools' learner information system. Likewise, collegiality is considered one factor in assigning teachers with such responsibility as it will require good riddance among their co-faculty members and expertise in handling highly advanced soft and hard tools.

Regarding training level related to the implementation of the Enhanced Basic Education Information System-Learner Information System (EBEIS-LIS), 30 respondents or 34.5% have attended training at the school level, followed by 28 respondents or 32.2% who were sent to the district level of EBEIS-LIS-focused training. Surprisingly, only two (2) respondents have undergone regional-based capacity building. The result shows the high regard given to teachers' professional development starting from the grassroots, leading to higher productivity in the future. These results are aligned with the work of Khan, Khan and Khan (2011), in their research paper, which suggests that "in today's competitive business world the most important factor is capacity building and professional development, concluding that for both employees and the organizations, efficiency and the effectiveness is increased only by training" (p.38). This is in contrast to the findings of Kulshrestha and Pandey (2013), revealing that the teachers in the upper primary elementary levels have little academic and professional training.

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Table 2 Profile of the respondents

Profile indicators	Frequency	Percent
Age		
Fairly young (21-30)	14	16.1
Young adult (31-40)	33	37.9
Middle age (41-50)	25	28.7
Early late years (51-60)	13	14.9
Late years (61 and above)	2	2.3
Sex		
Male	10	11.5
Female	77	88.5
Civil status		
Single	19	21.8
Married	66	75.9
Widowed	2	2.3
Educational attainment		
Bachelor's degree holder	16	18.4
With units leading to master's degree	63	72.4
Master's degree holder	6	6.3
With units leading to doctorate degree	2	2.3
Doctorate degree holder	0	0
Teaching experience		
Neophyte (1 – 5)	18	20.7
Semi-veteran (6 – 10)	20	23
Veteran (More than 10 years)	49	56.3
Attended training related to EBEIS-LIS		
School	30	34.5
District	28	32.2
Division	26	29.9
Regional	3	3.4

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Respondents' perceived extent of EBEIS-LIS implementation in terms of manpower requirements

The second objective focuses on determining the perceived extent of EBEIS-LIS implementation of its three parameters, namely (1) manpower requirement, (2) methods of implementation, and (3) materials for implementation using median, a measure of central tendency. The results are presented as follows.

The ten (10) indicators of manpower requirement are aggregately perceived to be "highly implemented" in terms of the manpower requirements in maneuvering the Department of Education's Enhanced Basic Education Information System (AM = 4). Specifically the "Learner's Information System in terms of self-paced learning on LIS and EBEIS" (n = 48), "graduate degree programs where education management information systems are discussed" (n = 46), and the "provision of user-friendly guides and simulation activities on ICT tools" (n = 44) are its top indicators, while "trainings/seminars and workshops on ICT for teachers" got the least number of responses among the ten highly implemented indicators (n = 34).

The results are in accordance with the statement of Nwankwo (2020), stating "the fast-changing environment of education brought about by rapid technological advancement has created a wide gap between what the school provides and what society demands" (p.400), and Balcita and Palaoag (2020) "the need to adapt to the latest trends in IT will help improve the quality of education and handling various activities of the school" (p.455). Moreover, the results are coherent to Cuartero and Role's (2015) findings' unveiling that the schools are highly effective in implementing schools' management information systems.

This implies that the conduct of self-paced trainings, attendance to graduate programs, and the availability of user-friendly guides improve manpower capacity of the schools' EBEIS-LIS in-charge, especially in the use of ICT tools embedded in the information system provided by the Department of Education.

Table 3.1 Respondents' perceived extent of EBEIS-LIS implementation in terms of manpower requirements

Indicators of manpower requirements	5	4	3	2	1	Median	Interpretation
ICT-related short-term courses for teachers	37	34	14	1	1	4	Highly Implemented
Trainings/seminars and workshops on ICT for teachers	40	33	11	3	0	4	Highly Implemented
School-Based Learning Action Cells (SLAC) sessions for teachers on LIS, EBEIS and ICT-related topics	34	39	9	5	0	4	Highly Implemented
Hands-on workshops on LIS and EBEIS management for teachers	33	41	10	2	1	4	Highly Implemented
LIS, EBEIS user-friendly guides, manuals and media-based tutorials.	27	44	14	0	2	4	Highly Implemented

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Table 3.1	Respondents' perceived extent of EBEIS-LIS implementation in terms of manpower requirements—cont'd						
Simulation activities on ICT tools handling from TESDA and other similar technical agencies	20	44	21	0	2	4	Highly Implemented
School one-on-one coaching and mentoring on how LIS and EBEIS must be used and maintained by teachers	33	34	17	2	1	4	Highly Implemented
Requisite National Certification from accredited agencies on NC Computer Software use and other similar TESDA-related courses	17	41	25	2	2	4	Highly Implemented
Graduate degree programs where education management information systems are discussed	17	46	20	3	1	4	Highly Implemented
Self-paced learning on LIS and EBEIS	17	48	20	1	1	4	Highly Implemented
Aggregate Median (AM)						**4**	**Highly Implemented**

Respondents' perceived extent of EBEIS-LIS implementation in terms of methods of implementation

The second parameter regarding the respondents' perceived extent of EBEIS-LIS implementation refers to methods of implementation to which the result is shown in Table -3.2 below.

All the ten (10) indicators on the methods of EBEIS-LIS implementation are perceived to be "highly implemented" (AM = 4). Looking closely, the top indicators under this evaluation include "hierarchical implementation where the guidelines through regimented chain of command" (n = 48), "piecemeal implementation where the guidelines of the EBEIS-LIS are implemented" (n = 47), and "written documentation of the implementing rules and regulations" (n = 45). While "provision of technical assistance by trained personnel to teachers to ensure online updating of EBEIS-LIS" got the lowest number of responses (n = 39).

The results adhere to the findings of Hendriks (2012), indicating that the availability of comprehensible guidelines may make the implementation of an information system more successful. Moreover, it supports Coglianese and Lazer's (2003) conclusion that "management-based regulation requires a far more complex intertwining of the public and private sectors which constitutes good management" (p.692). Likewise, Yuen, Law, and Yong (2003) mentioned that the use of information systems could boost schools' efficiency by making data processing easier; efficient in meeting information needs; and boosting competitiveness by improving holistic strategy, while Drake et al. (2001) regarded evidence-based practices of an organization as a result of well-established guidelines and procedures.

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This implies that the availability of clear implementing rules and regulations regarding how to maneuver the learner information system and the manual troubleshooting of issues provides effective indicators of EBEIS-LIS implementation in the San Julian district.

Table 3.2 Respondents' perceived extent of EBEIS-LIS implementation in terms of methods of implementation

Indicators of methods of implementation	5	4	3	2	1	Median	Interpretation
Top-Down Approach where the directive comes from the DepEd Central Office down to the local schools	26	43	13	4	1	4	Highly Implemented
Phase implementation where several phases happen during the whole duration of the program.	21	44	17	4	1	4	Highly Implemented
Piecemeal implementation where the guidelines of the EBEIS-LIS are implemented	20	47	18	1	1	4	Highly Implemented
Implementation after education and information campaign are made among the recipients.	28	41	16	1	1	4	Highly Implemented
Written documentation of the implementing rules and regulations	18	45	19	4	1	4	Highly Implemented
Hierarchical implementation where the guidelines through regimented chain of command	16	48	20	2	1	4	Highly Implemented
Monitoring on efficient and timely submission of deliverables	30	41	15	1	0	4	Highly Implemented
Provision of Technical Assistance by trained personnel to teachers to ensure online updating of EBEIS-LIS	33	39	13	2	0	4	Highly Implemented
Media networking where social media are tapped for potential troubleshooting of problems	23	44	18	1	1	4	Highly Implemented
Holistic implementation of monitoring and evaluation procedures	28	42	15	1	1	4	Highly Implemented
Aggregate Median (AM)						**4**	**Highly Implemented**

Respondents' perceived extent of EBEIS-LIS implementation in terms of materials for implementation

The third parameter regarding the respondents' perceived extent of EBEIS-LIS implementation revolves around materials for implementation to which the result is shown in Table- 3.3 below.

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All the ten (10) indicators on materials for EBEIS-LIS implementation are perceived to be "highly implemented" (AM = 4). After examining the actual data as shown in the table, the top indicators under this evaluation include "observation checklist on how teachers fare in using EBEIS-LIS and reports submission turnouts" (n = 42), "venues, conference areas, and other locations where technical working group of school EBEIS-LIS coordinators can convene about updates" (n = 41), and "software copying of EBEIS-LIS for individual teachers with laptop and home computers" (n = 40). While "DepEd Memoranda and other office orders for information dissemination" got the lowest number of responses (n = 36) under this aggregate category.

The results support the contentions of Okyere-Kwakye (2013) that "work environment of teachers is one of the key propensities for quality teaching" (p.130). Likewise, Bibi and Khan (2019) opined that the physical infrastructure needs to be taken as a serious issue because it precisely affects the teachers as well as students. A different result was reported by Yusuf, Maina, and Dare (2013), revealing that "most teachers were not competent in the use of these facilities as the management of these facilities requires training and re-training" (p.21).

This implies that the venues for conferences, software and computer facilities, and DepEd orders ready for dissemination are highly needed materials for the full implementation of EBEIS-LIS among public elementary schools of the San Julian district. Finally, the government should provide more ICT facilities to augment technological capacity in every elementary school.

Table 3.3 **Respondents' perceived extent of EBEIS-LIS implementation in terms of materials for implementation**

Indicators of materials for implementation	5	4	3	2	1	Median	Interpretation
Trainings/seminar modules, manuals, pamphlets and other printouts	36	37	11	3	0	4	Highly Implemented
EBEIS- LIS toolkits, including kits on how to operate computers, laptops, netbooks, and other installable digital tools	33	38	13	2	1	4	Highly Implemented
Radio, television, print and other media with instructional materials	28	39	15	4	1	4	Highly Implemented
Social media sites such as Facebook, YouTube and others with tutorial or do-it-yourself (DIY)	29	38	18	1	1	4	Highly Implemented
Bulletin boards for paper announcements	28	37	17	4	1	4	Highly Implemented
Venues, conference areas, and other locations where Technical Working Group of School EBEIS-LIS coordinators can convene about updates	26	41	18	1	1	4	Highly Implemented

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Table 3.3	Respondents' perceived extent of EBEIS-LIS implementation in terms of materials for implementation—cont'd						
DepEd Memoranda and other office orders for information dissemination	35	36	14	1	1	4	Highly Implemented
Practice guides for teachers to have hands-on experience	34	37	14	1	1	4	Highly Implemented
Software copying of LIS and EBEIS for individual teachers with laptop and home computers	30	40	15	1	1	4	Highly Implemented
Observation checklist on how teachers fare in using EBEIS-LIS and reports submission turnouts.	26	42	17	1	1	4	Highly Implemented
Aggregate Median						**4**	**Highly Implemented**

Test of respondents' profile as significant variates of their perceived extent of EBEIS-LIS implementation in terms of manpower requirements

The third objective focuses on testing the respondents' profile as significant variates of *their perceived extent of EBEIS-LIS implementation* in terms of the three parameters, namely (1) manpower requirement, (2) methods of implementation, and (3) materials for implementation via Spearman rho and Point-biserial correlation tests.

Among the six (6) profile variates, sex (r_{pb} = -.32), civil status (r_{pb} = .42), and teaching experience (rho = -.23) have shown moderate/weak correlation. Civil status has shown a direct correlation, while sex and teaching experience have shown inverse correlations as indicated by their negative results. However, only civil status (p = .03) and teaching experience (p = .03) bear computed p-values that are lower than the 0.05 level of significance. Hence, there is ample evidence to reject the null hypotheses and declare that civil status and teaching experience significantly vary on the respondents' *perceived extent of EBEIS-LIS implementation in terms of manpower requirement. The results share the same findings of* Halford et al. (2001), who predicted differential effects of a behavioral relationship education program on high-risk and low-risk couples. In contrast, the results from the multivariate analysis of variance on the influence of marital status on teachers' self-efficacy conducted by Odanga, Aloka & Raburu (2015) revealed that marital status had no statistically significant influence on teachers' self-efficacy. Also, Edet, Bullem, and Okeme (2015) found educational attainment as a significant factor associated with teachers' utilization of development information, which opposes the findings in this study.

The results imply that variations in civil status and teaching experience affect their perceived extent of manpower requirement in the implementation of the EBEIS-LIS. Hence, the DepEd should consider providing manpower requirements such as the tools and ample human resources to schools, especially among those with less teaching experience and new in the field of information system management.

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Table 4.1 Test of respondents' profile as significant variates of their perceived extent of EBEIS-LIS implementation in terms of manpower requirements

Profile indicators	Manpower requirements		Decision
	Result	Interpretation	
Age	rho = .00	Negligible	Fail to Reject
	p = .86	Not significant	
Sex	r_{pb} = -.32	Moderate	Fail to reject H_0
	p = .31	Not significant	
Civil status	r_{pb} = .42	Moderate	Reject H_0
	p = .03	Significant	
Educational attainment	rho = -.02	Negligible	Fail to reject H_0
	p = .91	Not significant	
Teaching experience	rho = -.23	Weak	Reject H_0
	p = .03	Significant	
Training level on EBEIS-LIS	rho = .11	Negligible	Fail to reject H_0
	p = .27	Not significant	

α = .05

Test of *respondents' profile as significant variates of their perceived extent of EBEIS-LIS implementation in terms of methods of implementation*

As shown in Table- 4.2, only sex (r_{pb} = -.33), civil status (r_{pb} = .43), and teaching experience (rho = -.24) among the six (6) profile variates have shown moderate/weak correlation to the respondents' perceived methods of implementing EBEIS-LIS. Civil status had shown a direct correlation, while sex and teaching experience have shown inverse correlations as indicated by their negative results. However, only civil status (*p* = .03) and teaching experience (*p* = .03) bear computed p-values that are lower than the 0.05 level of significance. Hence, there is ample evidence to reject the null hypotheses and declare that civil status and teaching experience as significant variates on the respondents' *perceived extent of EBEIS-LIS implementation in terms of methods of implementation. The result is similar to the findings of Kloppenborg, Tesch and Chinta (2010) about experience and competence as significant predictors in the success of programs' implementation.*

The result implies the need to provide clear instructions and troubleshooting guide to teachers with less experience and even those who are not much familiar with the facilities of the DepEd's EBEIS-LIS. Proper information dissemination should also be provided for them to be guided properly.

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Table 4.2 Test of respondents' profile as significant variates of their perceived extent of EBEIS-LIS implementation in terms of methods of implementation

Profile indicators	Methods of implementation		Decision
	Result	Interpretation	
Age	rho = .00	Negligible	Fail to Reject
	p = .83	Not significant	
Sex	r_{pb} = -.33	Moderate	Fail to reject H_0
	p = .29	Not significant	
Civil status	r_{pb} = .43	Moderate	Fail to reject H_0
	p = .03	Not significant	
Educational attainment	rho = -.03	Negligible	Fail to reject H_0
	p = .86	Not significant	
Teaching experience	rho = -.24	Weak	Reject H_0
	p = .03	Significant	
Training level on EBEIS-LIS	rho = .12	Negligible	Fail to reject H_0
	p = .25	Not significant	

α = .05

Test of respondents' profile as significant variates of their perceived extent of EBEIS-LIS implementation in terms of materials for implementation

Among the six (6) profile variates, sex (rpb = -.32), civil status (rpb = .42), and teaching experience (rho = -.24) have shown moderate/weak correlations. Civil status has shown a direct correlation, while sex and teaching experience have shown inverse correlations as indicated by their negative results. However, only civil status (p = .03) and teaching experience (p = .03) bear computed p-values that are lower than the 0.05 level of significance. It is declared that civil status and teaching experience as significant variates on the respondents' *perceived extent of EBEIS-LIS implementation in terms of materials for implementation. The result shares the same view of Okello-Obura and Kigongon-Bukenya (2008), who emphasized the need for proper* financial budgeting for important educational tools such as the use of Learner Management System (LIS) to survive the closure in the global reorganization. In relation to the actual findings, Shrestha (2008) said that the "proper guidance and lack of professional person along with the inadequate collection in the material as well as insufficient networking computers have been the main drawbacks on students exploring the resources" (p.5).

The result implies the need to provide ample materials such as laptops and provisions for working internet connectivity to ensure good management and safekeeping of learners' information in the provided online database.

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Table 4.3 Test of respondents' profile as significant variates of their perceived extent of EBEIS-LIS implementation in terms of materials for implementation

Profile indicators	Materials for implementation		Decision
	Result	Interpretation	
Age	rho = .00	Negligible	Fail to Reject
	p = .83	Not significant	
Sex	r_{pb} = -.32	Moderate	Fail to reject H_0
	p = .31	Not significant	
Civil status	r_{pb} = .42	Moderate	Fail to reject H_0
	p = .03	Not significant	
Educational attainment	rho = -.01	Negligible	Fail to reject H_0
	p = .95	Not significant	
Teaching experience	rho = -.24	Weak	Reject H_0
	p = .03	Significant	
Training level on EBEIS-LIS	rho = .11	Negligible	Fail to reject H_0
	p = .27	Not significant	

α = .05

Overall, the findings revolved around teaching experience as a significant profile variate affecting the effective implementation of the Department of Education's present information system. Thus, it implies the need to provide proper capacity building to them so they can maneuver the system properly and submit reports on time.

Conclusion and Recommendations

Based on the findings of the study, the following conclusions are offered. Most of the respondents are young adult, married female teachers who have earned units leading to a Master's degree and veterans in the field of teaching. They have attended district-based training in implementing the Department of Education's Enhanced Basic Education Information System. The respondents perceived high extent of Enhanced Basic Education Information System – Learner Information System implementation in terms of manpower requirement, methods of implementation, and materials for implementation. This shows effective data management and submission of needed reports online among the respondents. Finally, teaching experience significantly variated the respondents' perceived extent of the enhanced basic education system – Learner Information System implementation. The results magnified an inverse characteristic of their variation, showing the need to mass train novice and beginning teachers on the proper use of the information system.

From the conclusions, the following are recommended:-- to propose an extensive training program appropriate to teachers' teaching experience especially in handling their respective school's information system, to

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conduct an in-depth exploration via a comparative or regression framework, the impact of the profile variates to their perceived extent of EBEIS-LIS implementation, and that future researchers shall focus their studies on other factors that could affect the perceived extent of EBEIS-LIS implementation.

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