Educational Governance in Myanmar Towards Leveling – up to Global IR 4.0 Standards

Seng Yaw
https://orcid.org/0009-0003-8588-0587
seng.yaw@pcu.edu.ph
Philippine Christian University
1648 Taft Avenue, Malate, Manila, 1004 Metro Manila

Abstract

This study aims to evaluate the current state of education in Myanmar and its alignment with the requirements of Global Industrial Revolution 4.0 (IR 4.0) education. Through historical, descriptive, and comparative research designs, and employing methodologies such as questionnaires, interviews, and surveys, this research assesses the technical skills, teaching competencies, facility standards, and communication skills within Myanmar's education system. Additionally, it examines the teaching curriculum, technology standards, and technological curriculum to gauge the effectiveness of education governance. Findings from 108 educational functionaries indicate that Myanmar's education system is perceived as limited in its adoption of IR 4.0 principles and governance. Consequently, a proposed framework comprising constructive criticism, personalized education, industry readiness, and investment in information and technology infrastructure aims to elevate Myanmar's education governance to meet Global IR 4.0 standards.

Keywords: Global IR 4.0 Education, Educational Governance, technical skills, technology infrastructure

Introduction

In Southeast Asia, the country of Myanmar is the second largest country full of fertile lands and huge mineral resources, and it is one of the lowest in the density of the population in ASEAN. The current population of Myanmar is 55.4 Million (https://www.worldometers.info/world-population/myanmar-population/). However, it is only estimating percentage, there are some areas where the government could not reach to take the Census, for instance, the areas where ethnic armed groups control areas. Myanmar is divided into seven states (local tone pyine) and seven divisions (local tone: yin), seven states include Mon State, Kayin State, Kayah State, Shan State, Chin State and Kachin State and seven divisions consist of Ayeyarwady Division, Bago Division, Magway Division, Mandalay Division, Sagaing Division, Tanintharyi Division, and Yangon Division. The state names represent the particular ethnic group of that state. Since Myanmar is a multi-ethnic country, officially, it has recognized over 135 ethnic groups.

In contemporary, while the world's education systems, economy, and Information Technology have been surprisingly developing till they are unthinkable, the country of Myanmar is addressing many challenges such as drug abuses, lack of medical knowledge and health problems, growing conflicts and civil wars gradually, raising of money inflation and sanction, growing disparity between the rich and the poor citizens, growing the Internal Displaced People, and human trafficking in the country, especially

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along the border's areas. Therefore, the educational standards lagged more and more behind when compared to neighboring countries of Myanmar.

The root causes of all the problems that the people in Myanmar are addressing are due to educational anachronism. Youth have been losing their future under the systematically destroyed educational system. Therefore, establishing and implementing an educational system that reaches international standards is extremely essential for Myanmar. That is to say, the educational system that levels up to the Global IR 4.0 standards is vital for Myanmar.

To become a developed country of Myanmar, economy, industry, foreign trade, political stability, health care, education, racial equality, gender equality, and low poverty levels are extremely important. Among them, education is ultimately important for the development of Myanmar. In other words, the education system leveling – up to Global IR 4.0 standard is the only way that can be able to become a developing Myanmar.

Therefore, the study title is "Educational Governance in Myanmar Towards Leveling – up to Global IR 4.0 Standards" and four chapters will be included in the study. The first chapter consists of the background of the study, theoretical framework, conceptual framework, scope and limitation of the study, significance of the study, statement of the problem, hypothesis, definition of terms, literature review and studies, and synthesis of the study. In the second chapter of the methodology, method of research to be used, research design to be used, respondents of the study, sampling procedure, instrumentation and technique, validation of the questionnaire, ethical consideration, data gathering procedure, and statistical treatment of data/data analysis will be included. In chapter three, the presentation, analysis, and interpretation of data will be included and the fourth chapter will consist of a summary of findings, conclusions, and recommendations.

Myanmar was famed for educational achievements till the 1960s. However, the country lost its achievements in education after 1960. Before the military coups, 90 percent of the country's population was literate. However, due to the coup d'etats in 1962 and 1988, the illiterate percentage of the country has been rising and the educational system was affected adversely. To curb student protests and uprisings, the military coup targeted the academic spaces and handled them with a system that resulted in educational setbacks and an increased number of illiterates. The educational system of the Military coup is as one of the Burmese educators expressed, "the more people are uneducated, the more you can keep them down," (Christina Fink, 2009, p. 189). From 1962 to 2015, for more than 50 years, the educational standard of Myanmar had reached the lowest benchmark under the military government. Many students could not go to school, and some children could attend class but some had to quit school for various reasons. Education has been ignored under the military government (Thein Lwin, 2013, p. 39). The quality of the education has declined.

UNICEF noted that 50 percent of the primary school students quit school but the government claims that 90 percent of the primary schools are successful. Only a small percentage of the students could continue in middle and high school (David I. Steinberg, 2013, P. 97).

From 2016 to 2012, the Democracy Government (led by the National League for Democracy), implemented a years- National Education Strategic Plan 2016-2021 for get major transformation of education but it did not achieve its goals within five years. One of the reasons why the five-year NESP failed was that there was no accountability although "the issue of accountability is central to the governance of complex education systems, especially in terms of setting priorities and steering in multilevel systems." Evaluation, performance measurement, and management of accountability roles are important factors in the context of accountability (Burns and Koster, n.d. , p. 24).

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The Democracy Government's Five-year NESP was discontinued on February 1, 2021, the third time a military coup de'etat has happened again, in Myanmar. As a result, the two governments, the Military Government and the National Unity Government (date of formed on 16 April 2021), officially emerged in Myanmar. Therefore, the two Ministry of Education are officially operated by the two governments in Myanmar, and the educational government system is devastated today in Myanmar. The educators who serve under the Military Government are called Non-CDM (who do not participate Civil Disobedience Movement) and the educators who serve under the National Unity Government (NUG) are called CDM (who participate Civil Disobedience Movement).

Today, the educational standards of Myanmar lag far behind ever if compared with neighboring countries such as China, India, and Thailand. Myanmar has very few resources and a lack of finances, unqualified teachers, and aging materials.

Objectives of the Study

This study determined the educational governance of Myanmar as to the compliance and leveling up towards Global IR 4.0 standards. In accordance, it aimed to

1. Determine the extent of Myanmar Education in terms of Education 4.0

    1.1. Technical Skills
    1.2. Facility
    1.3. Teaching Technological Competency
    1.4. Communication skill

2. Analyze the extent is educational governance in terms of:
    2.1 Teaching Curriculum
    2.2 Technology Standard
    3.3 Technological Curriculum

3. Examine the leveling up to education governance and the gap to Global IR 4.0 standards

Methodology

Methods of Research to be Used. The study used descriptive, historical, comparative, and survey research methods as research design. Additionally, methods such as determining respondents, sampling procedure, instrumentation and technique, ethical considerations, data gathering procedure, and statistical treatment of data/data analysis were appropriately applied in this study.

Research Design to be used. In this study, descriptive, historical, and comparative designs were applied. The descriptive method of research described the benchmark of education, conditions, and environment. Historical research provided the former experiences and situations of Myanmar's education. Without knowing the background history of education, it would have been impossible to level up the standards of education for the future. The comparative design compared the educational environment of the past, the present, and the future.

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Respondents of the Study. **"**Respondent is someone from whom data are collected" through giving a test or survey, conducting an interview, or making observations. A respondent is an evidence who is participated by the researcher to collect data. In this study, the respondents are, the educators and the Ministry of Educational officials who serve under the Military Government and the respondents or educators who serve under the National Unity Government in Myanmar. The respondents are, therefore, government officials and educators from all levels of the Universities, Colleges, State High Schools, State Middle Schools, and State Primary Schools will be included.

Sampling Procedure. Until 2022 (CDM and non-CDM), there were approximately 236.17 thousand primary school teachers and 115.71 thousand middle school teachers, with about 42 thousand high school teachers in Myanmar in 2019 (Leander von Kameke, 2022). However, on 1 February 2021, a military coup occurred in Myanmar, leading to the participation of at least 90 percent of university educators, students, and officials from the Ministry of Education in the Civil Disobedience Movement (CDM) (Zeyar Hein Htet, 2023). Some educators and officials opted to continue serving in the Ministry of Education. To select samples from among these educators and educational officials, the researcher randomly chose from all levels of the educational functionaries, including the Minister of Education and the Deputy Minister of Education.

Instrumentation and Technique. The study utilized a questionnaire to elicit data for analysis. The main instrument is to solicit information from educators who serve in different colleges. It was prepared and designed to answer the questions covered in the study. To make a clearer understanding of the items that are included in the questionnaire, the researcher.
supplemented them with unstructured interviews. Besides, with the full support of the adviser, some items were selected for the extent of the leveling up of Myanmar as to educational Global IR 4.0 standards.
The survey questionnaires comprise three parts: Part 1 Profile of the respondents. Part II: the extent of Myanmar education. and Part III: the extent of educational governance. To level up Myanmar's educational governance as to Global Education IR 4.0, the questionnaire is formulated by focusing on the following:

1. Technical Skills
2. Facility
4. Teaching Technological Competency
5. Communication skill
6. Teaching Curriculum
7. Technology Standard
8. Technological Curriculum

Validation of the Questionnaire. The researcher personally handled the dispatched questionnaires to the respondents- faculty members and, personnel from different Universities. Furthermore, by using unstructured interviews the researcher supplemented the questionnaire to further elicit the essential information from some respondents. Before the questionnaire was distributed to the chosen respondents, the researcher had to make corrections, revisions, and deletions of vague and insignificant items as the final correction of the instrument.

Ethical Consideration. To protect or respect the rights of the respondents, the researcher did not force participation in interviews or answering questionnaires. The respondents' data were collected, but it

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remained confidential. Although samples were randomly selected, knowing the personal data of the respondents was crucial for obtaining effective information. The researcher was aware of the respondents' identities, but this information had to be kept confidential from everyone. Maintaining confidentiality was vital in this study.

Data Gathering Procedure. As mentioned in Appendix A, the researcher requested permission from the Ministry of Education office to distribute a survey questionnaire to different Colleges and Universities of Myanmar.After the instrument was validated, the researcher personally distributed the questionnaire online to the respondents from different Colleges and Universities to elicit true responses to the items. All the data were collated and tabulated by using retrieved forms. Encoding was made to treat the data statistically with the help of technology to ensure precision.   Statistical treatment was used and presented in tabular forms.   The results of the study will be analyzed and interpreted.   Conclusions and recommendations were made based on the findings.

Statistical Treatment of Data/ Data Analysis. The data gathered from the survey questionnaire has to be tallied, analyzed, and interpreted with the following statistical treatment procedures.

To determine the extent of Myanmar education and to determine the extent of educational governance the solution offered weighted mean was applied.

To determine whether a significant extent of difference existed between the two groups of respondents t-test was applied.

Result and Discussions

1.   Profile of the Respondents in terms of selected variables

The following variables were considered by the researcher in describing the profile of the respondent educators and Ministry of Education officials: age; and educational attainment.

1.1.Age

The findings shows the profile of the educator and education official respondents in terms of age. A total of 108 respondents composed of 78 educators and 30 education officials participated in the study. 19 or 17.6 % belong to the age bracket of 42 to 45 years old. There 18 or 16.7% were aged 34 to 37 years old and 46 to 49 years old; 13 or 12% were aged between 30 to 33 years old; 12 or 11% percent were aged 38 to 41 years old; 9 or 8.3% are of ages 50 to 53 years old. The rest are of ages 54 to 57 years old; 26 to 29 years old and 22 to 25 years old.   This shows that the majority of the respondents are in their prime-time age which is 42 to 45 years old.

1.2. Educational Qualification

Reflected in Table 2 is the profile of the two groups of respondents according to educational qualification. Of the total 78 educators, 26 or 24% are Bachelor's degree holder; 33 or 30.6 % are Master's degree; 12 or 11% are Doctoral degree; and 7 or 6.5% are with masteral units. Out of 30 education official respondents, 18 or 16.7% are Master's degree; 10 or 9.3% are Doctoral degree; and 1 or 0.9 % are with doctoral units. Most educators and education officials are Master's degree holders.

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Table 2
Profile of the Teacher Respondents in terms of Educational Qualification

Educational Qualification	Educators		Education Officials		Total	
	Frequency	%	Frequency	%	Frequency	%
Bachelor's Degree	26	24%	0	0	26	24%
Master's units	7	6.5%	1	0.9	8	7.4%
Master's Degree	33	30.6%	18	16.7%	51	47.2%
Doctoral units	0	0.0%	1	0.9%	1	0.9%
Doctoral Degree	12	11.10%	10	9.3%	22	20%
Total	**78**	**72%**	**30**	**28%**	**108**	**100%**

2. Extent of Myanmar education in terms of Education 4.0.

2.1. In terms of Technical Skills

Based on the results of the assessment of the extent of Myanmar Education 4.0 in terms of technical skills.

Data revealed that the two groups of respondents: educators and Education officials assessed the extent of Myanmar Education 4.0 in terms of technical skills as "inextensive." This finding was supported by the overall weighted mean of 2.21.

Supporting the foregoing findings were the response of "inextensive" as recorded by the respondents for each of the following indicators: Teaching the necessary knowledge and skills to attain advancement of technical skills in school with mean 2.20; Teacher's attainment of technical skills at multi points with mean 2.02; Students attainment of technical skills with mean 1.96 and Government endeavors for improvement of technical skills in school with mean 1.96.

The foregoing finding implies that students have limited knowledge on technical skills proficiencies. Many of the Technical and Vocational Education programs require intensive full-time studies that provide pathways to a degree.

In the present information and knowledge society, characterized by globalization, changes in the labor market, and the exponential growth of technologies, students face new and different learning needs with the wide dissemination and accessibility of information, as well as the need to develop skills and competences to understand and interpret information to be able to transform it into knowledge. Technological skills are already essential in today's knowledge society and appear to be crucial to peoples' future life satisfaction, alongside generic skills. It was found that the main skills of the 21st century, critical thinking, problem-solving, communication, collaboration, and technological skills, as well as age and income, have a positive impact on life satisfaction. It seems critical thinking skills are the most essential but technology skills should be promoted in the highest today in life satisfaction (Orose Leelakulthanit 2021).

Idris and Rashid-Rajuddin (2012) state that the gap in the technical skills that existed between "the students of technical and vocational education and the industry has become a major concern by parents,

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business leaders, and educators." Technical teachers and (the government) are responsible for the training and preparation of students for skills acquisition, and it is one of the great challenges in IR 4.0 as well.

2.2. In terms of Facility

The results reflects of the assessment made by the respondents on the extent of Myanmar Education 4.0 in terms of the facility.

The survey shows that the assessment of respondents on the extent of Myanmar Education 4.0 in terms of the facility is "inextensive". This finding was supported by the overall weighted mean of 2.29.

Lending support to this finding was the response of "inextensive" posted by the respondents for each of the following indicators: the endeavor of the government for the standardization of the educational facilities with a mean of 2.40; innovation, maintenance, and rebuilding the school facilities in Myanmar with mean 2.33; in Myanmar, the standard of school facilities are inexpensive if they compare to the international standards with a mean of 2.06; the fundamental requirement of the school facilities (class size) and the ratio of students with a mean of 1.83. and in schools, colleges, and universities, 50% of the facilities and safety are less extensive with a mean of 2.82.

This implies that both Educators and Education leaders should be involved in the evaluation of the school facilities and activities to determine if the institutional goals and objectives are being met ensuring that performance does not deviate from standards.

2.3. Teaching Technological Competency

The results show the assessment made by the respondents on the extent of Myanmar Education 4.0 in terms of teaching technological competency.

In the same manner, the assessment of respondents on the Extent of Myanmar Education 4.0 in terms of teaching technological competency is "inextensive". Supporting this finding was the overall weighted mean of 2.09.

The support to this finding was the response of "inextensive" posted by the respondents for each of the following indicators: The importance of technological competency in the teaching-learning process with a mean of 2.26; Used online tools to enhance teaching learning by teacher educators with a mean of 2.17; Modification of educators' technological competency with mean 2.10; Endeavored teaching technological competency by the government with a mean of 1.85.

The foregoing finding implies that educators and education officials observe the importance of technological competence in the teaching and learning process.

Cox and Marshall (2018) in their work explained that the implementation of new classroom technology from traditional to modern is very much essential because it can help students get acquainted with the use of the digital platform, a major requisite in the digital era.

2.4.   In terms of Communication Skills

The results show the assessment made by the respondents on the extent of Myanmar Education 4.0 in terms of communication skills.

In like manner, respondents' assessments on the extent of Myanmar Education 4.0 in terms of communication skills is "inextensive". Substantiating this finding was the overall weighted mean of 2.32.

Further supporting this finding was the response of respondents for each of the following indicators: Understanding of communication skills in the 4th Industrial Revolution with a mean of 2.40; The adequate

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tools for communications in universities, colleges, and schools with a mean of 2.41; Technological competence and administrative skills of the educators with a mean of 2.40; Effective training for educators technological competence with mean 2.41; and The government's support for communication skills aligns with IR 4.0 with a mean of 1.97.

In the literature, it is stated that the most valuable skills of Education 4.0 are creativity, critical thinking, sensitive communication, and collaboration skills (Salmon, 2019, p.109). Puncreobutr, V. (2016) states that Education 4.0 can be defined with 21st Century skills. In this context, Education 4.0 requires skills like problem-solving, creative thinking, critical thinking, information and media literacy, etc. Therefore, it can be said that these skills are important for all of the education stakeholders.

3. Assessment of Respondents on the Extent of Myanmar Education 4.0

Table 3
Summary on the Assessment of Respondents on the Extent of Myanmar Education 4.0

Variables	Educators		Educ. Officials		SD	Average	
	WM	VI	MW	VI		WM	VI
Technical Skills	2.12	inextensive	2.29	inextensive	0.85	2.21	inextensive
Facility	2.18	inextensive	2.65	inextensive	0.55	2.42	inextensive
Teaching Technological Competency	2.16	inextensive	2.02	inextensive	0.78	2.09	inextensive
Communication Skills	2.23	inextensive	2.40	inextensive	0.67	2.32	inextensive
Overall Weighted Mean	**2.17**	**inextensive**	**2.34**	**inextensive**	**0.71**	**2.26**	**inextensive**

Data in Table 3 revealed that the two groups of respondents: educators and Education officials assessed the extent of Myanmar Education 4.0 in terms of technical skills as "inextensive." This finding was supported by the overall weighted mean of 2.21.

The survey shows that the assessment of respondents on the extent of Myanmar Education 4.0 in terms of the facility is "inextensive". This finding was supported by the overall weighted mean of 2.29.

In the same manner, the assessment of respondents on the Extent of Myanmar Education 4.0 in terms of teaching technological competency is "inextensive". Supporting this finding was the overall weighted mean of 2.09.

In like manner, respondents' assessments on the extent of Myanmar Education 4.0 in terms of communication skills is "inextensive". Substantiating this finding was the overall weighted mean of 2.32.

Overall, the extent of Myanmar Education 4.0 was "inextensive" in terms of technical skills; facility; teaching technological competency, and communication skills as indicated by the overall weighted mean of 2.26.

The results of the data showed that Myanmar Education 4.0 is inextensive or is limited in terms of technology and communication skills.

This was supported by the study of Jasmin Lorch (2008) regarding the weakness of the state-run education system of Myanmar, that most teachers were unqualified due to poor training and outdated teaching methods. Ministry of Education (MOE 2006) itself admits that not all teachers have an academic qualification or have even attended certified courses.

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4. **Extent of Educational Governance**

4.1. In terms of Teaching curriculum

The result shows the assessment made by the respondents on the extent of educational governance in terms of the teaching curriculum.

The assessment of respondents on the extent of educational governance in terms of the teaching curriculum is "inextensive". The findings are supported by the overall weighted mean of 2.36.

Findings are supported by the response of inextensive on each of the following indicators: The extent of the teaching curriculum of Myanmar aligns with education 4.0 with a mean of 2.60; The essential endeavor to level up Myanmar with a mean of 2.45; The benchmark of teaching curriculum in Myanmar with a mean of 2.38; The demand of education IR 4.0 standards in curriculum of Ministry of Education (e. g. E-learning) with mean 2.20; and teaching information technology in the curriculum of all levels (primary to Senior High School) with a mean of 2.19.

The "inextensive" manifestation of the extent of education governance in the teaching curriculum showed that educators showed inextensive and incapable of stretching out their teaching information technology in curriculum to all levels from primary to Senior High School in directing the school works with procedures and objectives without any problems.

In this way, the learning approach will always be based on the new ways of studying and their application in new work environments. Through Education 4.0, the desirable skills of graduates can be improved, making them innovative and creative employees; with the ability to adapt to the use of new technologies (Dann 2019).

4.2. In terms of Technology Standard

The results show the assessment of respondents on the extent of Education governance in terms of technology standards.

Based on the survey data, respondents assessed the extent of education governance in terms of technology standards as "inextensive" with an overall weighted mean of 2.15.

Supporting the foregoing finding was the response of inextensive as recorded by the respondents for each of the following indicators: The technology standard in Myanmar with a mean of 2.21; The extent of acceptance to IR 4.0 by the Ministry of Education in Myanmar with a mean of 2.20; The current society of Myanmar and educational environment is shaping by new emerging technologies with a mean of 2.18; The rate of expenditure by government for development of technology in Myanmar with a mean of 2.08; and Development rate of technology with a mean of 2.07.

Educators and Education officials on the development rate of technology are inextensive as professed by themselves respondents in terms of technology standards.

Hernandez-de-Menendez et al. (2020) have identified key competencies for the fourth industrial revolution, or Industry 4.0 (I.D. 4.0), by analyzing various models that assess the maturity and readiness of companies to shift to I.D. 4.0 frameworks. Through a global-centric assessment, identified competencies were grouped into three broad categories: methodological, social, and personal. However it must be noted that these competencies were identified only for three disciplines (engineering, business, and design); therefore, no insight into desired competencies in other disciplines such as science, humanities, etc. was obtained. The work concludes by recognizing that there remains no universal consensus on the required I.D. 4.0 competencies and there may be other more systemic economic/social

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barriers at play that prevent its successful incorporation (firms may choose not to shift toward I.D. 4.0, fearing higher economic expenditure; and employees may prefer not to adapt to newer, ever-changing industry demands).

4.3. Technological Curriculum

The Table shows the results of the assessment of respondents on the extent of Education governance in terms of technological curriculum.

Data revealed that the two groups of respondents assessed the extent of education governance in the technological curriculum as "inextensive" with an overall weighted mean of 2.06.

Lending support to this finding was the response of "inextensive" posted by the respondents for each of the following indicators: Adequate guides/teachers to teach technological knowledge in school with mean 2.22; There are goals and vision for
technological enhancement in the education of Myanmar with a mean of 2.22; Using different kinds of instructional materials, teaching methods, teaching, and learning tools with a mean of 2.02; and Providing the requirements technological tools for schools by the government with a mean of 1.78.

Innovation in education has become one of the main topics in the political agendas of many countries around the world. Several reasons have been asserted to establish the added value of innovation in the educational sector: educational innovations can improve learning outcomes and the quality of education; innovation helps to enhance equity (access) and equality (in learning outcomes); and innovation stimulates and improves the efficient provision of education as a public service. Moreover, the need to introduce the changes in education that are necessary to adapt to societal needs has been asserted (OECD, 2019).

5. Assessment of the respondents on the extent of education governance

Summed up in Table 4 are the results of the assessment of the respondents on the extent of education governance.

Table 4
Summary on the Assessment of Respondents on the Extent of Education Governance

Variables	Educators		Educ. Officials		SD	Average	
	WM	VI	MW	VI		WM	VI
The Teaching Curriculum	2.27	inextensive	2.45	inextensive	0.74	2.36	inextensive
Technology Standard	1.99	inextensive	2.3	inextensive	0.69	2.15	inextensive
Technological Curriculum	1.99	inextensive	2.12	inextensive	0.63	2.06	inextensive
Overall Weighted Mean	**2.08**	**inextensive**	**2.29**	**inextensive**	**0.69**	**2.19**	**inextensive**

The assessment of respondents on the extent of educational governance in terms of the teaching curriculum is "inextensive". The findings are supported by the overall weighted mean of 2.36.

Based on the survey data, respondents assessed the extent of education governance in terms of technology standards as "inextensive" with an overall weighted mean of 2.15.

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Data revealed that the two groups of respondents assessed the extent of education governance in the technological curriculum as "inextensive" with an overall weighted mean of 2.06.

Overall, the extent of education governance in Myanmar was "inextensive" in terms of teaching curriculum; technology standard; and technological curriculum as indicated by the overall weighted mean of 2.19.

Education governance has an impact largely on the success of students and teachers by defining and regulating the relationships both within schools and between
schools and outside agencies (https://cepa.stanford.edu/topic-areas/education-governance). It consists of allocation the of roles and responsibilities, determinations, designs, and education policies and programs.

6. Significant Extent of Myanmar Education 4.0

To determine whether a significant extent of difference existed between the two groups of respondents on their assessment of the extent of Myanmar Education 4.0 in terms of technical skills; facility; teaching technological competency; and communication skills; t – a T-test was applied. Results of the application of the test statistics are presented, discussed, and analyzed.

Table 5
Significant Extent of Myanmar Education 4.0

Variables	Computed t - test score	P - value	Tabular t - value	Decision	Remarks
Technical Skills	0.641	0.5396	2.306	Accept Ho	No significant
Facility	2.097	0.0693	2.306	Accept Ho	No significant
Teaching Technological Competency	0.718	0.4933	2.306	Accept Ho	No significant
Communication Skills	1.092	0.3066	2.306	Accept Ho	No significant

There were no significant differences in the assessment of Educators and Ministry of Education Official respondents on the extent of Myanmar Education 4.0. on the variables: technical skills; facility; teaching technological competency; and communication skills. This was inferred by the following computed t – values**:** technical skills = 0.641; facility = 2.097; teaching technological competency = 0.718; and communication skills = 1.092; which was lower than the critical/tabular t-values of 2.306 at 0.05 level of significance. Thus, the hypothesis of no significant extent of difference was accepted.

7. Significant Extent of Education Governance

Table 6
Significant Extent of Myanmar Education Governance

Variables	Computed t - test score	P - value	Tabular t - value	Decision	Remarks
The Teaching Curriculum	1.445	0.1865	2.306	Accept Ho	No significant
Technological Standard	2.894	0.0201	2.306	Reject Ho	significant
Technological Curriculum	0.969	0.3611	2.306	Accept Ho	No Significant

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To determine whether a significant extent of difference existed between the two groups of respondents on their assessment of the extent of Education Governance in terms of teaching curriculum; technology standard; and technological curriculum; a T-test was applied. Results of the application of the test statistics are presented, discussed, and analyzed.

No significant differences were found with reference to the assessment made by the respondents on the extent of education governance in Myanmar. This finding was inferred from the obtained computed t-values on the variables**:** The Teaching Curriculum = 1.445; and Technological Curriculum = 0.969 which were lower than the critical/tabular t-value of 2.306 at 0.05 level of significance. Thus, the hypothesis of no significant extent of difference was accepted.

On the other hand, a significant difference was found in the assessment of the two groups of respondents on the variable technological standard with computed t-value = 2.894 which was higher than the critical /tabular t-value of 2.306 at 0.05 level of significance. The hypothesis of no significant extent of difference was rejected.

8. Proposed leveling up to Education Governance to Global IR 4.0 standards.

Key Result Area	Description	Strategies
Constructive Criticism	The digitalization and virtualization of education present both individuals and communities with energizing, exciting, and possibly significant challenges. Similar to how they have been in every industry, artificial intelligence and machine learning will be significant forces for development and innovation in the educational sector. Using clever and insightful educational techniques and resources, people need to be able to develop more extensive experience, information, and talents as well as unleash their creative potential. Although there have been EdTech products with AI-powered capabilities for some time, the market has been slow to adopt them.	The school must be now open to migrating from the traditional use of classrooms as areas to acquire knowledge and skills of the students to flipped and virtual ones as this is the trend in the school and the industry. The schools should purchase technological tools that will help the students and the teachers to learn and to teach while adapting to the current industrial revolution.
Personalized Education	The fourth industrial revolution is linked to the learning method known as "Education 4.0," which aims to change education in the future through automation and cutting-edge technology. This technological revolution includes robotics, artificial intelligence, and smart technology. They all have an impact on how we live each day. If schools want to continue turning out successful graduates, they must educate their students for a world where cyber-physical systems are pervasive throughout all businesses. This means integrating technology into the curriculum, completely changing the way that people study, and using technology to improve students' lives.	As education demands personalized education, schools must adapt to the changes that are happening in the industries as well. The use of personalized learning and outcomes-based education can ensure personalized education. Projects and outputs that involve the use of technologies must always be incorporated into the delivery of the teaching and learning process.
Industry Ready Student	The fourth industrial revolution is linked to the learning method known as	The schools must revisit and look at the needs of the industries and contextualize the

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	"Education 4.0," which aims to change education in the future through automation and cutting-edge technology. This technological revolution includes robotics, artificial intelligence, and smart technology. They all have an impact on how we live each day. If schools want to continue turning out successful graduates, they must educate their students for a world where cyber-physical systems are pervasive throughout all businesses. This means integrating technology into the curriculum, completely changing the way that people study, and using technology to improve students' life.	curriculum based on the industry needs. The skills and competencies of the students must be aligned to the emerging industry needs as well as their competencies, this way the schools will ensure that the skills of the students are all responsive to the world outside the schools.
Information and Technology Infrastructure	AI may be used by teachers in the classroom to improve the guidance they give to their pupils and to make studying more fascinating and engaging. When AI and machine learning are employed in the classroom, learning becomes universally accessible for all students, since it helps them to understand where they are doing wrong and how they may improve. It can assist pupils in overcoming obstacles to learning posed by geography. To educate incoming graduates for the workforce, universities must integrate technological advancements into their operations and teaching. The fourth industrial revolution is supported by the teaching and learning approach known as "education 4.0."	All these things connected to technological changes will not be materialized and be realized without the physical infrastructure. Therefore, it is important that the schools are committed in purchasing and acquiring technological infrastructures that will aid the teachers in teaching the students the desired skills and competencies necessary to make the students responsive to the demand of the current industrial revolution.

Living in a globalized world demands a true to all framework that can be used in any part of the world. Given the different parameters and things in developing a global standard for IR 4.0, the researcher presents a proposed framework. This framework is composed of five (5) components. These components are constructive criticism, personalized education, industry-ready students, equal access to education, and the presence of information and technology infrastructure.

Conclusions

On account of the foregoing significant findings, the following conclusions were derived.

1. The majority of the respondents are 42 to 45 years old. Most of the educators and education officials are master's degree holders.
2. Overall, the extent of Myanmar Education 4.0 was "inextensive" in terms of technical skills; facilities; teaching technological competency, and communication skills as indicated by the overall weighted mean of 2.26.

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3. The extent of education governance in Myanmar was "inextensive" in terms of teaching curriculum; technology standard; and technological curriculum as indicated by the overall weighted mean of 2.19 as the overall assessment of respondents.
4. There were no significant differences in the assessment of the Educator and Ministry
5. of Education Official respondents on the extent of Myanmar Education 4.0. on the variables: technical skills; facilities; teaching technological competency; and communication skills.
6. No significant differences were found with reference to the assessment made by the respondents on the extent of education governance in Myanmar 4.0. and a significant difference was found in the assessment of the two groups of respondents in terms of technological standards.
7. Proposed leveling up to Education Governance to Global IR 4.0 standards.

Recommendations

Based on the significant findings and conclusions of this research, the following recommendations are offered.

1. Educators and education officials who have already earned some units in graduate studies should be provided with grants in aid and other forms of incentives to complete graduate education. They should attend training and seminars to update their technological skills and curriculum in preparation for IR 4.0.
2. The policymakers and authorities of Myanmar should set clear policies and funding arrangements supporting Education Governance 4.0 research and development. Stronger collaboration between universities and industry will improve the quality of university graduates, and the government should facilitate research activities and funding of the institutions through the industry.
3. More professional training programs for academicians, laboratory demonstrators, research managers and administrators from both the public and private sectors should be offered by the Ministry of Education. Clear policies should be set and funding arrangements be made available for training and professional development.
4. The universities, colleges, and schools should revise the curriculum and programs to be strongly linked to Industrial Revolution 4.0.
5. Proposed leveling up to Education Governance to Global IR 4.0 standards must be adopted and implemented.

The impact of the Industrial Revolution 4.0 on education, particularly in Education 4.0, requires digital transformations on a par with the technological era, to meet the needs of the information society at the pace of scientific and technological transformations and innovations, framed in a new educational model. To achieve this, it is necessary to change the behavior and social customs of each culture. The co-responsibility of the teacher in the construction of this new model requires efforts to adapt to this dynamic, the didactics, his training and professionalization, the continuous acquisition of knowledge, and all with the use of technological tools inside and outside the classroom as a transversal axis.

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