TERA Conference Proceedings 2023

Email: convener@eurasiaresearch.info
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Presidential Note

On behalf of the Teaching & Education Research Association – TERA and myself as President of this esteemed association, I want to welcome you! I am confident that your experience will be academically stimulating, as well as provide you with the opportunity to broaden your professional network as you meet, engage, and get to know colleagues from around the world. TERA's mission is to provide participants with new research; research that can be applied in various settings and commitment to always be on the cutting edge of teaching and education research. This all translates to our professional expertise for all of us as part of TERA community. Let's broaden the TERA network by encouraging our colleagues to become part of this innovative and forward-thinking organization.

Please feel free to reach out to me at any time.

Best regards,

Lynne M. Celli, Ph.D.

President, Teaching & Education Research Association (TERA)

Dean of Graduate and Professional Studies

Lasell University, Newton, MA, USA

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Particulars

Teaching and Education Research Association (TERA) is an international community of Researchers, Practitioners, Students and Educationists for the development and spread of ideas in the field of teaching and education.

TERA is promoted by Eurasia Research. TERA aims to bring together worldwide researchers and professionals, encourage intellectual development and create opportunities for networking and collaboration. These objectives are achieved through Academic Networking, Meetings, Conferences, Workshops, Projects, Research Publications, Academic Awards and Scholarships.

The driving force behind this association is its diverse members and advisory board, who provide inspiration, ideas, efforts and drive collaborations. Scholars, Researchers, Professionals are invited to become a member of TERA and join this ever-growing network, working for benefit of society and research with the spirit of sharing and mutual growth.

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Preface

Teaching and Education Research Association (TERA) is a community of passionate researchers, practitioners and educationists for the development and spread of ideas in the field of teaching and learning. TERA aims to bring together worldwide researchers and professionals, encourage intellectual development and provide opportunities for networking and collaboration. These objectives are achieved through academic networking, meetings, conferences, workshops, projects, research publications, academic awards and scholarships. The driving force behind this association is its diverse members and advisory board, who provide inspiring ideas and research contributions. Scholars, Researchers, and Professionals are invited to freely join TERA and become a part of this ever-growing network, working for benefit of society and research with the spirit of sharing and mutual growth.

For this conference around 70 Participants from around 10 different countries submitted their entries for review and presentation.

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Editor: Dr. Anupam Krishna

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All accepted original research papers in the English Language will be published in selected journals as per the publication policy, as available on the conference website. Once you receive the Invitation/ Acceptance letter that means your full paper is also accepted for publication in an International Journal, if you follow the communicated editorial instructions/ guidelines.

The journal publication will be peer-reviewed, checked for plagiarism, indexed, archived, open access, referenced by CrossRef and will carry ISSN number and DOI.

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3-7 Keywords
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You may submit your full original paper for publication in the conference journal, when it is complete, till the conference date. The last date of submission is the conference day itself. While submitting the full paper, please provide the following in the email:

Full paper in MS Word format. (Ideally, a research paper should be 2500-3000 words).
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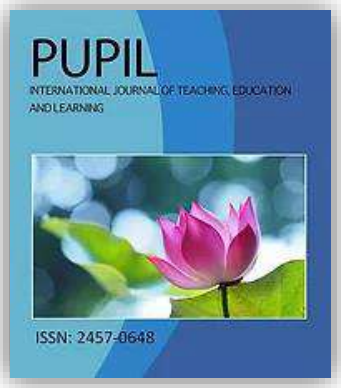

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Some special thanks go to our outstanding Key-Note speakers, not only for their inspiring and highly interesting presentations but also for their input and contributions in the discussions and Q&A sessions during the conference:

KEYNOTE SPEAKERS 2023

Topic: Transforming Education with the Futuristic Chat GPT

Patama Satawedin is currently an assistant professor and Director, the Master of Communication Arts in Digital Marketing Communications, the School of Communication Arts, Bangkok University, and Bangkok, Thailand. She received her doctoral and master's degrees in media and communication from the University of Leicester, United Kingdom. Likewise, she obtained her bachelor's degree in public relations (first-class honors) from the Faculty of Communication Arts, Chulalongkorn University, Bangkok, Thailand. She has teaching experience of over 10 years. Her research interests are health literacy, health communication, crisis communication, crisis management, marketing public relations, and communication studies.

Patama Satawedin
Assistant Professor, Bangkok University, Thailand

Topic: Conceptualisation of Digital Teacher

Dr. Deepak L. Waikar has been involved in education, training, research & management fields for more than three decades. He has authored/co-authored book chapters, research articles and policy papers on power, energy, management, sustainable development leadership and education-related topics. He has served on various committees in professional bodies such as Chairman of the Institute of Electrical & Electronics Engineers (IEEE), Power & Energy Society (PES) Chapter, Singapore and Vice-Chair of IEEE Education Society Chapter Singapore. He is a recipient of IEEE-PES Outstanding Power Engineers' Award2003 and SP Green Buddy Award 2004. Dr Waikar has been a member of the Board of Examiners of Singapore Certified Energy Manager's programme. He has delivered invited keynote, plenary & panel session presentations on electric power, sustainable & clean energy, education, management, sustainable development & leadership related topics at the international conferences, seminars and forums in North & South America, Europe, Australia, New Zealand and Asia. Dr. Waikar has conducted several students and faculty development programmes on various topics such as Sustainable & Clean Energy, Designing & Managing Innovative student & faculty Research & Development projects, Strategies for Infusing Blended Learning, Rethinking Teaching & Learning, Trainopreneurship and Transforming Tertiary Education. He has been offering advisory & consultancy services through EduEnergy, Singapore, and Tacstra Solutions, Singapore. He has been associated with the premier institutions & academies in India & Singapore as well as with British & Australian Universities offering engineering courses in Singapore. He is a Senior Member of IEEE USA and a Life Member of the Institution of Engineers, India with PhD from the National University of Singapore, M.S. from the University of Saskatchewan, Canada, M.Tech from Banaras Hindu University, India & Adv. PD Cert.in University Teaching from the University of Newcastle, Australia. He obtained PG-DBM & B.E. from Nagpur University, and Government Engineering College Aurangabad in India, respectively. His research interests include Sustainable Energy Development, Rethinking Teaching, Learning & Academic Leadership, Re-inventing & Transforming Tertiary Education, SMART Model for Talent & Leadership Development, Innovative Project Design & Management, Smart & Micro Grid. His hobbies include cricket, chess and poetry.

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Managing Partner, Edu Energy Consultants LLP, Singapore
Chief Training Adviser, Tacstra Solutions Pvt. Ltd, Singapore
Associate Faculty, Overseas Universities in Singapore
Vice Chair, IEEE Education Society, Singapore

Topic: Teaching Skills and Entrepreneurship: Analysis and Contributions

Ana Verde is a professor and researcher at the International University of La Rioja: UNIR and King Juan Carlos University. International Ph.D. "cum laude" in Education, Degree in Humanities, Degree in Pedagogy, and Degree in Music specializing in Guitar from the Royal Conservatory of Music of Madrid. Master in Cultural Communication. She collaborates with several National and International Universities. Her research interests are focused on active pedagogies, educational robotics, technology and resources in education, teaching innovation, and methodological bases in training.

Dr. Ana Verde Trabada
King Juan Carlos University, URJC · Faculty of Legal and Social Sciences, Doctor of Education, Spain

Topic: Critical Pedagogy in Public Schools in Chile. A Multimodal Ethnographic Informed Study of Rural and Urban Public Schools, Teachers' Pedagogy and the Links between Pedagogical Practices and Students' Critical Thinking

Paulina Moya Santiagos is a Doctoral Candidate in Education at the UCL Centre for Applied Linguistics at the UCL Institute of Education. She is an EL Teacher and she holds a TESOL MA from the UCL Institute of Education. In Chile, she was a public-school teacher for thirteen years. Also, she has been a university lecturer for fifteen years working at prestigious private and public universities in Chile and in the UK teaching EAP, educational policy, Hispanic languages culture, second language learning, methodology, and General Linguistics among others. Additionally, she is an associate postgraduate lecturer at Andres Bello University where she leads the Methodology and Creativity II module for the MA in TEFL. Currently, she works as a Postgraduate Teaching Assistant for the Culture, Communication and Media Department at UCL. She also works as a Spanish Tutor at the University of Warwick in the Hispanic Studies Department. Her doctoral research is a multimodal ethnographic informed study which aims to explore and elucidate what makes some Chilean public-school students highly politicized and so committed to social struggles and whether there is a link between this commitment and the pedagogy applied by their teachers.

Paulina Moya Santiagos
PhD (C) In Education Department of Culture, Communication and Media Institute of Education, University College London

PRESENTERS

Teaching the First Stories of Mukhtar Auezov in High School

Ainur Azatbakyt
Higher School of Humanities, Sarsen Amanzholov East Kazakhstan University, Ust-Kamenogorsk, Kazakhstan

Abstract: The article deals with the study of the stories of the talented writer M. Auezov, known not only in our original literature, but in all human literature and culture. The ways of teaching the artistic and ideological features of M. Auezov's first stories at the university are considered. High school offers methods of teaching students through the analysis of the artistic and ideological features of the writer's stories. Along with the literary side, M. Auezov speaks about the importance of fundamental research in the field of literary criticism, and pedagogical work in the field of teaching, psychological and philosophical ideas. In high school in the first stories of the writer the types of work with students in solving human problems are considered. The first stories of the writer are considered as a means of teaching art and worldview, raising questions, skills of character development in the university. The author shows ways to engage students in cognitive work, research, conducting thematic-compositional analysis of the conversation, a comprehensive analysis of the characters, mastering the text, literary analysis in the teaching of students in high school. He shows the educational side of teaching students the stories of M. Auezov in higher education, leading students to spiritual purity, improving reading skills. He emphasizes the importance of the writer's stories in the educational process in the modern educational system. The speech goes about the new research of the writer's work and the new perception of the writer's work. In conclusion, the author guides future specialists of Kazakh literature to assess the vitality and value of fiction, including the heritage of M. Auezov, which is our national value.
Keywords: Higher School, Education, Teaching Stories, Text Analysis, Methods and Techniques

1. Introduction: M. Auezov is a modern writer, a brilliant teacher, a scientist, a unique talent in Kazakh literature. The writer's works have been translated into several languages and have traveled all over the world. Professor Sh.Ibraev said about him: "The artistic heritage of the great writer, scientist, public figure M. Auezov is an achievement not only of our original literature, but also of the entire human culture. His creative career is extensive and rich. Novelist, playwright, scientist, screenwriter, translator – this is an incomplete list of the talents of the great writer. His epic about Abai, his short stories and short stories, written with great skill, have forever entered the fund of Kazakh literature of the twentieth century," he quotes highly [1, p. 3]. As time goes on, researchers of the writer's noble heritage find their search and teaching the heritage of the writer to the

younger generation is a difficult task. That is the problem of creating a program for teaching M. Auezov's work as a whole and proposing an effective methodology for its implementation requires deep research from methodological scientists and teachers. And in the field of education and upbringing, M. Auezov's writing talent, as well as his teaching work, pedagogical ideas are of great importance. Therefore, in the field of modern education, the purpose of the study is to consider the teaching of the writer's heritage from a new angle and introduce new methods and techniques. The issue of teaching Auezov in higher school is currently being considered in a new way. Over time, we began to study the history of the past and teach in new ways. Today, the younger generation enters the legacy of M. Auezov from the very beginning of his studies at school, and then replenishes the spiritual food in higher educational institutions. In the field of higher education, Auezov's educational world is moving into a deeper and more scientific direction. The lecture and practical classes have a great importance for leading students to aesthetic pleasure, morality, spiritual purity. And most importantly, we strive to educate readers who glorify our spiritual values. The teaching of the first stories of M. Auezov to students has its own characteristics. The narration of the writer's stories tells not only about the content, but most importantly about his main problems, the ideological and aesthetic ideal of the writer and his success on this path. The plot, the integrity of the composition, the artistry of the language and the ways of creating characters are analyzed.

2. Research Materials and Methods: In the course of the research work, new methods of teaching the artistic originality of M. Auezov's stories (Fila table, "POPS" formula, "Four sentences" method, "Reader's voice") were considered, as well as during the discussion of the writer's stories, annotated analysis, plot-compositional analysis, comprehensive analysis of characters, mastering the text, types of literary analysis, image analysis, problem analysis, comprehensive analysis, etc. In addition, methods of processing, comparing, systematizing, and summarizing information have found widespread use.

3. The Level of Research: M. Auezov is a talented writer who brought the prose genre to the world level, a talented writer who showed his writing skills with the first works written in the early twenties. In the first stories "Kokserek", "Zhetim", "Korgansyzdyn kuni," Karash-Karash okigasy", "Kyr suretteri", "Kyr angimeleri", "Uilenu", "Karaly Sulu", he raised the problem inherent in humanity. Conflicts of spiritual dilemmas in a person, all modernism features are considered artistic features in Auezov's stories. For this reason, even at the origins of artistic prose, he truthfully described the fate of defenseless souls. It is known to the public today that at the time of writing the first stories and stories of M. Auezov, his artistic skills were appreciated as a writer of the European level. "With the first story "Korgansyzdyn kuni" that was written in 1921, Mukhtar rose to the rank of European prose in its true meaning," the academician writer S. Mukanov rightly assessed [2, pp. 25-26]. "The writer's story "Korgansyzdyn kuni", published at the age of twenty-four, was a significant work that raised the childish and stereotypical way of writing prose works on Kazakh soil to a new level and brought the honor of our native literature to the European level" [3, p. 39]. It is the writer's skill that the problem in the environment of society grows into a problem common to all mankind. And these works of the writer can be considered works that truly conveyed the fate of a person, influenced the feelings of his reader. "It is necessary to consider from different angles the unique skill of the genius writer, his contribution to our artistic development. The creative experience of M. Auezov is an indelible example and an inexhaustible teaching for all our writers. It is especially emphasized that the writer's innovation in the transfer of human character, the picture of nature with a deep realism, his activity in the formation of our literary language," says R. Berdibay [4, pp. 6-7.]. In his first stories, M. Auezov raised the problem of the defenseless "Korgansyzdyn kuni", "Zhetim", "Okygan azamat", etc. The first stories of the writer will be valuable for the fact that they are combined with high-profile works in world literature and raise a problem inherent not only in one nation, but also in all mankind. The first prose work of the writer, the story "Korgansyzdyn kuni", tells about a terrible truth from the life of the Kazakh village, a terrible horror of the human soul. In this story, the writer depicts the bestiality of some, tyrants, to defenseless souls. All these events are skillfully conveyed by the writer to the reader with the gloomiest excitement. For example,

"What kind of dishonesty, or mischief, would it be? – No answer to any " [6, pp. 107-253.]. This passage is taken from the time when Gaziza was subjected to evil. The writer describes Gaziza, who was in a state of sadness and anger, as follows: "Anger, honor, which did not go beyond in his life, danced and hummed all freely in one head" [6, pp. 107-253.]. It is known that the main object of the writer's stories are the cognitions of honor and shame. In high school, when teaching M. Auezov's prose works, it is advisable to delve into the secrets of words and thoughts in a work of art, fully mastering the content of a work of art and identifying the character of a character in it. The main attention is paid to the reader's perception, intuition, feeling of a literary text, their own reasoning. Because the problem of "interpretation" in the modern educational paradigm creates a great environment for the growth of students ' subjective views, complex intellectual thoughts, and individual culture. And in order to achieve the intended goal, analytical work is organized on the part of the teacher. Analysis is the core of each lesson. Methodologist-scientist T. Akchulakov: "A student who has not heard the melody of a work of art written with the vibration of the writer's soul, his heart, his heart, cannot get nourishment from literature. Only a child who grieves and rejoices with the hero who reads a work of art will feel the pleasure of literature with all his soul" [7, p. 35]. That is why the teaching of Kazakh literature at the Higher School leads students to get an aesthetic impression of the work of art, to influence the feelings of morality, reason, spiritual purity, and to reveal their cognitive abilities. This is the main goal of the lesson. Therefore, the analysis of a work of art is a complex process based on the nature of reader perception. When analyzing the story "Korgansyzdyn kuni" according to the methodology of the methodologist teacher K. Bitibaeva, we conside. [8, p.109]

Table 1: *Analysis of the story "Korgansyzdyn kuni"*

The construction of the story, the main event	**The fate of the characters**	**The artistic method and manner of the writer**
1. Passengers. Storm.	Akan and Kaltai are looking for a place to land.	Narrative, illustration, portraiture.
2. Passengers in a nursing home.	13-year-old Gaziza, her blind mother, old grandmother. The only son is dead.	Portraiture, narrative.
3. The sadness of an old woman.	No begging from relatives. Daughter-in-law water is dark, granddaughter is young. She is an orphan, a widow, she cries, talking about her defenseless state.	Narrative, lyrical digression.
	The pitiful state of defenseless Gaziza.	Narrative, description.

4. Livestock (bestiality) in the hay barn. 5. Deliverance from suffering. The opening of the storm.	Death of Gaziza.	Description, narration.

You Can Assign Individual Tasks:

1. Write portraits, landscapes and descriptions on handouts based on the story "Korgansyzdyn kuni".
2. Landscape, portraiture and writing down proverbs and sayings in the story "Okygan azamat" on handouts.
3. Collection of data on the history of writing the stories "Korgansyzdyn kuni", "Kokserek" according to the book "Bala Mukhtar" by M. Auezov [8, p.109]. Taking into account the fact that in high school students are familiar with the stories of the writer from the very beginning of school, it is necessary to mobilize students for cognitive work, research work, conducting a plot-compositional analysis of the story, a comprehensive analysis of its characters, mastering the text, literary analysis. Tasks in the direction of scientific research are given to students in advance, it is effective to organize research work for in-depth study of the topic or for finding, comparing consonance in the literature of other nationalities.

4. Research Results and Discussion: One of the first works of M. Auezov is the story "Okygan azamat". In this story, the life of the inhabitants of the city is realistically described. The heavy sides of the Kazakh life, ugly scenes are depicted. The main character of the work, Teacher Maksut, is unable to achieve his dream and falls ill. Here, too, there is the image of a defenseless old woman. The story says: "A weak, sad mother who has no desire, except for her only child – Maksut, her chest is filled with grief, her eyes are filled with poisonous tears, she looks at Meirkhan, as if asking for energy-help. " [9, pp. 6-108.]. The writer gives the name of the story in quotation marks as "Okygan azamat". "In this story, the writer talks about what the Kazakh literate youth, who turned out to be materialists and lawyers. Zhumagul, who was being married to the wife of his deceased comrade, finds the "law" and forcibly receives property in the hands of his comrade's old mother, shows that the knowledge he received was spent on the path of impurity, piety," says scientist R. Berdibay. The analysis of the story in order to show its artistic and ideological originality in teaching, to show the writer's skill in conveying the theme and content, composition, psychological state of the characters, stimulates the cognitive, creative abilities of students. The ability of the writer to show the artistic originality of the story is to embody the image of the hero, it is appropriate to open the way to exploration of the actions and inner feelings of each hero. Pedagogical scientist B. Smanov: "On the surface, it is clear that any analysis preserves integrity and presents problematic issues. The same happens when considering the image of the character and the formation of his character. It is impossible to analyze the image without problems. That's why the ways of analyzing a work of art are conventionally called as a whole, problematic, image analysis, but regardless of the aspect of the problem, studying the image of the character should be the main goal," he emphasizes. [10, p. 6]. In high school, in the process of artistic and ideological analysis of a literary work, in the analysis of the character of a literary character, it is better to pay special attention to the compositional plot analysis of the work, artistic originality, and personality of the hero. Questions that lead students to cognitive thinking:

1. Prove the importance of portraits in revealing the souls of characters in M. Auezov's stories.
2. What is your attitude to the writer's decision to decide the fate of the characters?
3. Who are the defenseless in the early stories of M. Auezov and do you agree with the writer's decision to decide their fate?

The questions of the cognitive task lead students to express their conclusions and decisions, as if they were thinking. The most important thing is that in the presentation of concrete and evidence, the text is monitored.

By addressing the text, we can develop the student's scientific competence. Addressing the text requires vigilance. Addressing the text requires thoroughness. This is the importance of this method. Currently, the popularization of the writer's legacy continues in higher Schools, general education schools, and other areas of knowledge, taking a place in programs and textbooks, becoming one of the tools of teaching in the education of the generation. And most importantly, the writer's legacy is a means of educating humanity and virtue, morality, honesty, fighting, spiritual purity. Man is made up of soul and body. The power of the soul is the spirit, and the flesh is lust. Sometimes the goals of the soul and body are not united but can be accompanied by mutual confrontation. M. Auezov's stories revolved around such dilemmas through the modern style. That is why "M. Auezov's stories are works of great cognitive value that instill in student's observation, intelligence, vigilance and teach a deeper knowledge of the relationship between man and nature, its laws, educate humanity and sensitivity," says methodologist S. Tlesheva [11, p.148]. In demonstrating the artistic originality of M. Auezov's story "Kokserek", students conducted new teaching methods and techniques:

1. FILA Table:

Purpose: *To Lead To the Ability to Solve Problems*

Proof	Forecast	Goal	Plan

2. Formula" POPS":

The first sentence: "I think...»
Second sentence: "I can prove it with these facts, examples"
Last sentence: "In this regard, I have come to the following final decision"

3. Method "Four sentences":

1. Opinion
2. Proof
3. For example
4. Conclusion

4. In the "Reader's voice" method, students, comparing their search, received the basis for demonstrating their communicative competence.

Table 2: *Comparing with World Works*

M. Auezov	Harmony with world literature	My impression		
		Kazakh	English	Russian
Zhetim Kokserek Korgansyzdyn kuni	Honore de Balzac's day of the defenseless. Father Gorio. Guy de Maupasson "Pyshka" etc.	Жазушының әңгімелері жүрегімді тербеп, сезім қылдарына әсер етті. Адам тағдыры туралы	The writer's stories touched my heart. The thought of human destiny fascinated me ...	Рассказы писателя тронули мое сердце. Мысль очеловеческой судьбе завораживала меня...

		ой мені баурап алды...		

In this task, students are given the opportunity to write their opinions, thoughts, feelings, and what language they want to write. In this method, feedback is provided with students and there is an opportunity to create a reflex. Writing skills are used to convey what thoughts and impressions the work gave them, and search work is carried out in the process of comparison with world literature. Purpose: to find and compare the harmony of the work he studied with world works. It is with the help of this method that we can recognize the field of the student's cognitive abilities. This method is especially widely used in teaching foreign literature. Given that M. Auezov himself occupies a place in the plurality of world classic writers, comparative analysis helps to understand the ideas of the writer, to reveal the connections between artists with completely different views. Individual ideological folds in the stories of M. Auezov are angry and burning music, like a flute of the era. Now we find stories in which the oddities and joys of life are intertwined, in sync with world literature.

5. Conclusion: In conclusion, M. Auezov is the pride of the nation, his name will forever remain in the history of national literature and culture. His prose works, written in the 20s and 30s, became a harbinger of innovation in our national literature. He revived and cultivated our diverse national spiritual goods and brought them to us in a new form. The life of the characters played in the writer's works, their portraits and characters, internal psychology, and the ability to describe natural phenomena in accordance with human attention demonstrate the writer's great talent. Now in the system of higher education it is important to focus the learning process on national values, on the basis of which it is a means of Education. "It is necessary to strengthen the educational component of the educational process. They are the norms of patriotism, morality and common sense, interethnic harmony and tolerance, the development of both body and soul, adherence to the law," he said, noting that it is important to promote and modernize our national values, which are the basis for the upbringing of generations, and use them as a means of Education. The new generation, the arrival of new generations is the rule, and the legacy of M. Auezov will be valuable in the upbringing of generations, no matter how many centuries have passed. As the spiritual requirements of each period change, it is natural that the forms of immersion in the creative workshop of the writer also change. Therefore, the main problem in the modern educational paradigm of the "methodology of teaching literature" is the analysis of the creativity of people, the understanding of its artistic specifics. The measure of the artistry of any work of art should be measured by the vitality, content of the work, the originality that it gives to the reader, universal values. So, the manifestation of the writer's high taste, culture and skillful artistry will remain a matter of time. Therefore, we are sure that the legacy of M. Auezov will still have a lot to give, and as time goes by, it will find its seekers.

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21st Century Leadership Skills of Academic Heads towards High-Performance Organization Framework

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Abstract: This study was conducted to determine the 21st Century leadership skills of Academic Heads in a Local University of the City of Manila, Philippines as a basis for the proposal of a High-Performance Organization (HPO) Framework. It employed qualitative research and utilized the descriptive phenomenological design. Data were gathered from the participant Academic Heads through survey-interview using semi-structured interview questions formulated by the researcher that was validated by a group of experts in the field of education and research. Data gathered were analyzed using thematic analysis that included the extraction of themes on the description of the Academic Heads' 21st Century leadership skills and the challenges and opportunities of their 21st Century leadership skills that led to making generalizations in relation to how these leadership skills were described or perceived. The study also determined how the challenges and opportunities of these 21st Century's leadership skills were experienced by the participant Academic Heads that contributed to the development of the proposed High-Performance Organization (HPO) Framework. The results revealed that the participating Academic Heads show creativity in dealing with situations; are receptive to new ideas to increase their knowledge; show determination in achieving goals; are able to identify problem causes and find effective solutions to these problems; exhibit effective communication; able to delegate their people effectively to different roles in the organization; constantly engage in collaboration for the success of the organizations' goal; provide encouragement, motivation and inspiration to their people; and closely supervise and monitor the performance of their people and the organization. The results also revealed that the Academic Heads encountered challenges in their attempt to change the negative attitude of their subordinates; promote cooperation with some members of their organization; understand multiple perspectives from multiple people; strengthen the competencies of their students, particularly in board examination; and dealing with several admin-related challenges. Further results revealed that it is an opportunity for the Academic Heads to

accomplish their leadership roles. They were able to respond to several situations because of their good leadership skills. They find opportunities to understand the thoughts and feelings of other people, particularly their subordinates. Having a clear and compelling vision is an excellent opportunity for their leadership skills. Their leadership qualities provided them with opportunities to be recognized. It was recommended that educational institutions should consider the implications of this study in developing a program or operating procedures to minimize the problems and challenges encountered by their Academic Heads. They should consider adopting and implementing the proposed High-Performance Organization (HPO) Framework from this study or use it as a model to develop their own framework that will lead them toward a high-performing educational institution. School Administrators should develop plans or programs to address the challenges encountered by their academic heads. They should re-examine existing operating procedures and revisit their administrative policies and guidelines. Academic Heads should strengthen their leadership qualities, particularly their 21st Century leadership skills necessary in creating and maintaining a high-performance organization. They should examine if their current leadership skills are effective for modern-day leadership and develop leadership skills best suited for the 21st century. They should increase awareness of the common leadership challenges in the 21st century. They should always be ready to respond to these challenges and know how to deal appropriately with different challenges. Faculty members should be aware of the challenging role of their Academic Heads. They should help their academic heads and collaborate with them for the attainment of organizational goals and objectives. They should perform their functions as an active member of the organization and recognize their importance in holistic organizational development. They also need to make self-assessments of their behavior and attitude and make the necessary changes for personal development. Students should acknowledge the effort of their respective Colleges for their holistic development. They should do their part in improving their academic performance to increase their competence in preparation for licensure examinations and employment. Future researchers should conduct similar studies to validate the results of this study. They can also conduct further studies on topics related to 21st-century leadership skills of academic heads and use this paper as their resource material.
Keywords: 21st Century, Leadership Skills, Academic Heads, High-Performance Organization (HPO) Framework

1. Introduction: Leadership has become increasingly significant in education. In schools, leaders have a key role to play in setting direction, creating a positive school mindset, supporting and enhancing teacher's performance and commitment, and equipping students' competencies needed to foster improvement, promote success, and attain high performance for schools especially nowadays that our education system experiences many challenges brought about by changes and complexities in our society. As we move on to the new millennium, changes occur rapidly, and our world is becoming more complex. Nowadays, educational leaders face countless amounts of economic, political, social, and technological pressures to deal with in the everyday realities of the educational system. To this effect, leadership practices employed yesterday may no longer be appropriate today and leadership skills possessed yesterday by educational leaders may no longer be enough today. Educational leaders in the 21st-century must parallel their individual leadership and enhance their leadership skills to address the expectations and demands of the organization. The paradigm shift in the new Era and school leaders navigating the unprecedented challenges in their leadership made it hard for them to ensure consistently good and sufficient leadership skills to attain and sustain the high performance of their organization. School leaders live and work in a rapidly changing environment. According to Quinto (2022), today's world is different, the risk is high, and the challenges and issues leaders face are changing at a rapid speed. All this is certainly true in the 21st century. Multiple expectations are heightened especially in terms of traits and competencies of the school leaders and academic heads, as well as the commitment shown by their teachers and the enthusiasm of the students to learn. School success and excellence are influenced by leadership, which has an impact on teachers' commitment level and students' enthusiasm to learn. It creates a learning environment that empowers, facilitates, and supports teachers and students in achieving their academic objectives necessary to improve

performance. Educational leadership has changed drastically in the 21st century. Twentieth-century leadership skills may no longer be sufficient for the 21st-century leadership. As mentioned in the study of Villar et al. (2021), the principal of tomorrow's school must be a school leader with the necessary expertise, capacities, and dedication to handle expanded responsibilities and lead the accountability parade. The prospects of institutional change in teaching and learning are slim without effective leadership. In all their roles and duties, good principals retained a sense of balance to ensure that they were doing what they felt was best for all their constituents (Meador, 2017). Similarly, Moss-Gransberry (2018) stated that as our world becomes increasingly complex, the traditional leadership style of "command and control" is fast being replaced with a more facilitative style of leadership. This means that leaders nowadays manage contrasting perspectives to reduce workplace conflict and promote more productive professional relationships between employees. Looking through the description of how school leaders perform their duties and responsibilities made the researcher eager to determine if the Academic Heads' leadership skills are sufficient to face the challenges of their leadership in this new millennium. His eagerness was also coupled with his observations that some school leaders are not well-equipped, and some Colleges are not performing enough and are struggling with the changes in new educational processes brought by the modern world. The researcher is wondering if these were influenced by the leadership skills of the academic heads or if other factors led to it. Added to his eagerness was the verbalization of some academic heads that these changes have affected them so much that it reduced their enthusiasm to perform excellently. Moreover, the majority of the academic heads of Colleges in the University where the researcher conducted the study were just recently designated and were new in the position of College Dean. Through this study, the researcher wanted to determine the 21st-century leadership skills of these newly designated academic heads and assess if these leadership skills able to attain and sustain the high performance of their respective Colleges. Its results will be used to propose a high-performance organization (HPO) framework.

2. Method: This study employed qualitative research and utilized the descriptive phenomenological design to describe the 21st-century leadership skills as well as the challenges and opportunities that were experienced by the participant Academic Heads of a local university in the City of Manila, Philippines. Data were gathered from the participant Academic Heads through survey interviews using semi-structured interview questions formulated by the researcher. Data gathered were analyzed using thematic analysis that included the extraction of themes on the description of the Academic Heads' 21st-century leadership skills that led to making generalizations in relation to how these leadership skills were described or perceived. The study also determined how the challenges and opportunities of these 21st-century leadership skills were experienced by the participant Academic Heads. Participants of the study were selected through purposive sampling, a non-probability sampling technique, as they satisfy the criteria set by the researcher. Ethical and legal aspects were considered during the data collection.

3. Results: 3.1. 21st-century leadership skills of Academic Heads

Table 1: *Theme 1 – Creativity in Dealing Situation*

Participant's Response	Code	Theme
P1: "If I have to describe who I am as a leader, I can tell you that I am not just thinking within the box, I think out of the box, because the volatility and uncertainty of today's situation, especially in the government. The lack of funding and resources are only a few things you need to solve.	Think creatively to deal with uncertain situations	Creativity in dealing with situations
P4: With regard to creativity & innovativeness, especially in solving problems, I tend to become extraordinary.	Remarkable creativity & innovativeness	
P5: Creativity and innovation are employed when circumstances	Employing creative ways	

prevent me from acting or using conventional methods in addressing concerns & issues in the college. In other words, I employ unconventional ways of tackling issues & concerns.		

Table 1 presents the responses of Participants 1, 4, and 5 where the theme of **Creativity in dealing with situations emerged**. Participant 1 (P1) claimed that she thinks creatively in dealing with the unpredictability and uncertainty of the situation. Participant 4 (P4) regarded that he is remarkable in creativity and innovativeness. Participant 5 (P5) is capable of employing creative ways of dealing with situations. Creativity is an important 21st-century leadership skill because it can be a significant tool for creating new ideas to increase efficiency in dealing with situations and devise effective solutions to complex problems. While a leader may have natural creativity skills in certain forms, it is a skill that can be learned and developed naturally. According to Agrawal (2021), creativity can be considered as a set of personal traits required by leaders for their team members to succeed in today's ever-changing world. These qualities include being able to think outside the box and solve problems creatively, which will sustain good global leadership roles in future years. Similarly, in the article published by Indeed Editorial Team (2020), creativity is the ability to think about a task or problem in a new or different way, or the ability to use imagination to generate new ideas. Creativity enables you to solve complex problems or find interesting ways to approach tasks. If you are creative, you look at things from a unique perspective. You can find patterns and make connections to find opportunities (Indeed Editorial Team, 2020). Creativity is a key component of innovation and is critical for performance. It is important for a forward-thinking and futuristic leader that wanted to create a high-performing organization. These findings agree with the statement of Driscoll, Maxine (2018) when she discussed the mindset of a 21st-century leader. She said that the way you think can change your life and your school. It might sound like a platitude, but it's not just "woo". A positive mindset makes you confident and encourages you to take risks when needed and to think outside the box. In addition to a positive growth mindset, you should also cultivate a global perspective and avoid the temptation to think small. Approaching everything with a view to sustainability, well-being, and the big picture, you'll help create a culture that encourages students to do the same. Leading and managing change in schools is much less overwhelming with these big touchstones remaining constant.

Table 2: *Theme 2 – Receptive of New Ideas to Increase Knowledge*

Participant's Response	Code	Theme
P1: When you are in a leadership position, you have to be open-minded from the very beginning. You have to be open-minded always.	Receptive to new ideas	Receptive to new ideas and to increase knowledge
P4: About having an open mindset, keeping an open mindset lets my knowledge flow which eventually becomes wisdom. I learn from my mentors. My mentors helped me to gain new knowledge. When I have the knowledge, anything will be possible to achieve.	a High degree of understanding and Acquire knowledge from my mentor	
P5: I establish an open mindset to be able to learn from other people of different generations & cultures. I employ this skill and most of the time I consult with my subordinate most especially with the senior faculty members of the college. I often listen to their wisdom and ideas.	Receptive of new ideas and knowledge Learn from others	
P6: I conduct regular consultations with members of my core team & representatives of our student organization. I initiate brainstorming with them on the pros & cons of situations. I make a consultation with the top management for specific concerns urgent or not. I benchmark with other departments & institutions regarding policies, guidelines, rules & regulations. I consult with the members of my team for needs, problems, & issues concerning the faculty, students, and staffs.	Make dialogues with people Seek ideas and opinions Discuss matters with superiors Observe from other organizations Discuss with the team	

Table 2 presents the responses of Participants 1, 4, 5, and 6 that generated the theme **Receptive of new ideas to increase knowledge**. Being receptive to new ideas will increase the knowledge of one person. As a modern-day leader, it is important to be receptive to all new ideas and suggestions as no one ever knows when or where the next great idea will come from. The people around us may have lots of best ideas waiting to be extracted from their minds. Participant 1 (P1), she pointed out that she is receptive to new ideas and information from the very beginning once became a leader. Participant 4's (P4) open mindset led him to have a high degree of understanding. He acknowledged that he acquired knowledge from his mentors which gave him the inspiration that led him to think positively. Participant 5 (P5) is receptive to new ideas and knowledge from experts and more experienced people around him. He also learns from the ideas of other people. Participant 6 (P6) constantly makes dialogue with her people. She seeks ideas and opinions from her team. She discusses important matters with her superiors. She formulates operating principles based on observations from other organizations. She discusses with her team important matters and concerns in her organization. Being receptive to new ideas will enable a leader to seek diverse opinions. These findings are supported by Kiddy et. al. (2020), According to them the novel and rapidly changing context, the leader who used to be the expert may no longer be the person with the most expertise. Recognizing this and seeking out others with diverse opinions enables leaders to learn and challenge their perspectives. An important reason for doing this is to challenge confirmation bias, the tendency to overplay information that confirms your existing beliefs and undervalue those conflicts with your views.

Table 3: *Theme 3 – Determination in Achieving Goals*

Participant's Response	Code	Theme
P3: Having a clear & compelling vision keeps me focused and does not easily gives up when facing difficult times. P4: In terms of perseverance, when people are sleeping, I am working. When things get tough I embrace the moment because I believe that God is just testing my capacity. As my dedication to work, I am laser-focused and nothing can stop me. P5: As a leader, I make a clear set of goals to achieve. A leader without clear sets of goals will only exhaust himself & his resources without accomplishing anything. A clear & compelling vision is a leader's & organization's roadmap to where they want to go.	Focus on goal Surpass challenges Guide in achieving goals Maximizing for achievement Show determination Overcome difficulties Commitment in achieving goals	Determination in achieving goals

Table 3 presents the responses of Participants 3, 4, and 5 that emerged into the theme **Determination in achieving the goal**. Participant 3's (P3) clear and compelling vision maintained her focus on her goal and was able to surpass all the challenges that come along her way. Participant 4 (P4) shows determination in his work and holds on to his faith to overcome difficulties. He shows commitment & adherence to achieving his goals. Participant 5's (P5) clear and compelling vision serves as his guide in achieving organizational goals. He pointed out that he sets a clear goal to maximize organizational capacity and resources. Having clear goals, a leader becomes aware of precisely what he wants to achieve and how to achieve it. Adding commitment and determination to the goals allows a leader to find that he is willing to take continuous and consistent action toward making dreams a reality, despite any obstacles in his path, including difficult times.

Table 4: *Theme 4 – Ability to Identify Problem Cause and Find Effective Solution*

Participant's Response	Code	Theme
P4: In decision & problem solving, I seek appropriate information that is necessary to make a good decision. I demonstrate an understanding & proper knowledge of the problem. I have the ability to learn from my mistakes. When I fail at anything, I go back to where I started and try to identify the problem. From there I will have a clearer path where I should go.	Identify pertinent data for best decision Analyze problems and Identify root cause Come up with appropriate strategy and solution	Ability to identify problem cause and find effective solution

P5: Decisiveness & problem-solving are handmaidens to adaptability & flexibility. As a leader, I must be able to decide on things, especially on the fly. Some situations will prevent me from prolonging my decision or will not provide a luxury to seek advice from other leaders. I must be able to find solutions to problems and decide immediately.	Solve emerging issue Act fast in solving problems	
P6: I assess the presence of a problem & its root cause. Then I make plans, set objectives & targets, identify interventions, evaluate outcomes if objectives are met or not. If not, I revisit and identify constraints & factors that affected the implementation and apply other option until resolved.	Identify the source of problems Make appropriate action plan Evaluate effectiveness of the action plan	

Table 4 presents the responses of Participants 4, 5, and 6 that led into emergence of the theme **Ability to identify problem cause and find effective solution**. Participant 4 (P4) identifies pertinent data to come up with best decisions and analyze problems thoroughly to find solutions. He can learn lessons from his mistakes. He importantly identifies the root cause of every failure to be able to come up for an appropriate strategy to succeed with his goals. Participant 5 (P5) described his ability to solve emerging issue even without assistance from his colleagues. He acts fast in solving problems. Participant 6 (P6) identifies from where problems arise and makes appropriate plan of action to address these problems. She assesses the effectiveness of the implemented action plan and devise a new and better plan if the implemented action plan is found ineffective. Good leaders are those who are able to find solutions to difficult problems in an ever-changing environment. Leaders with talent for problem-solving have the ability to analyze, diagnose and deal with problems effectively. Whether the problem is simple or complex, expert problem solvers have a natural inclination to discover and find effective ways of solving problems.

Table 5: *Theme 5 – Effective Communication*

Participant's Response	Code	Theme
P3: I seldom suppress emotions. I freely express my feelings through more conventionally accepted ways. It is only through effective communication that my relationship with my team are built and kept. It is also way where I can share my opinions, beliefs & directions.	Expresses emotions Show feelings Let other know viewpoints and vision	Effective communication
P5: To ensure effective communication, I establish proper and open channels of communication among members of the organization. I make sure that the directives and instructions from the administrators are immediately communicated and disseminated to the program chairs, coordinators, faculty members & administrative staff of the College. Memoranda are explained and any concerns are communicated immediately.	Fast dissemination of information	

Table 5 presents the responses of Participants 3 and 5 that led to the theme of **Effective communication**. Effective communication skills help leaders in managing teams, and relationships with colleagues, and lead a high-performing organization. Participant 3 (P3) expresses her emotions and shows her feelings in accordance with the norms. She maintains a good relationship with other people thru effective communication. She acknowledged that effective communication allows her to let others know of her viewpoints and vision. Participant 5 (P5) prioritized the execution of proper protocols for fast dissemination of information: Effective communication is important to leaders who effectively relay information about the organization's culture, core values, mission, and vital messages to build trust and encouragement to their people. It helps prevent miscommunications within the organization and ensures that all members are kept up to date with relevant information. The result of the study is supported by the statement of Gilbert Amelio, president, and CEO of National Semiconductor Corporation, according to him developing excellent communication skills is absolutely

essential to effective leadership. The leader must be able to share knowledge and ideas to transmit a sense of urgency and enthusiasm to others. If a leader cannot get a message across clearly and motivate others to act on it, then having a message doesn't even matter (Bell, 2021). Wooll (2022) stated that in a fast-paced changing environment, it can be tough to keep everyone up to date with what's going on in the organization, or even in the team. Schedule quick, regular one-on-one meetings to check if everyone receives and understands key information. It is important to keep communication frequent and open so that everyone is on the same page.

Table 6: *Theme 6 – Delegate People Effectively*

Participant's Response	Code	Theme
P1: You know leadership is something that is a relationship between the leader and the one being led. So, I cannot say that I am a very good leader if my followers cannot respond to my leadership.	Lead people to follow	Delegate people effectively
P5: A good leader must also be a good delegator in order to not be overburdened by too much responsibility. As a leader, I must be able to share and delegate some of it.	Learn how to delegate people	
P6: I delegate and mobilize my team members to a specific task.	Assign people	

Table 6 presents the responses of Participants 1, 5, and 6 that generated the theme **Delegate people effectively**. As a leader, delegating people is important because a leader should not do everything by himself. Delegating people in leadership empowers the leader's subordinates to exercise autonomy by providing them with the big picture and entrusting them to deliver agreed-upon results. It allows the leader to lessen his job without compromising the quality of delivery of the organization. Participant 1 (P1) described her leadership as a relationship between her and her follower. She pointed out that a good leader leads his people to follow. Participant 5 (P5) pointed out that he delegates some of his functions to his people and shares with them his responsibilities. Participant 6 (P6) assigns her people to perform particular duties. Skinner (2022) stated that managing the daily, weekly, and monthly workload is a challenge for team members and leaders alike, but in various different ways. Teams have their KPIs and know what tasks they need to complete in order to achieve goals. Team leaders and managers have added tasks around team goals, team KPIs, other issues, and other team projects that round out their to-do lists. The difference is that leaders have people to delegate to on their team that can complete the task. The challenge for any leadership style is finding the right person for the job, and it doesn't always have to be you. He also mentioned that being able to delegate effectively will get you the results you need and empower and develop your teams along the way. Being a great leader involves leveraging all of the strengths of your team in order to complete specific tasks. He added that delegation is essential for successful leaders and their staff members (Skinner, 2022). Similarly, Wooll (2022) regarded that it's important to delegate, both to demonstrate trust in your team and also to free up your time to concentrate on the most important things. When a leader delegates to one of their team members, that person has the opportunity to function in a leadership role. They get hands-on practice in leadership and get to improve their skills. If a leader is always the leader, they aren't delegating. If they aren't delegating, they are missing a critical opportunity to train their team members (Reh, F. J., 2019).

Table 7: *Theme 7 – Promote Constant Collaboration*

Participant's Response	Code	Theme
P1: I check on the working environment and have to let everybody participate as much as possible because in that way I am able to gauge how much they can contribute to the vision of the organization both we are serving. You cannot deliver service properly if you cannot collaborate. No man is an island and we have to recognize that.	Make people collaborate Allow them to participate Seek help from other people	Promote constant collaboration
P2: In an ideal case, I'd like to have the goal in place for every single		

employee regardless of how simple their job is. Once I have the goal in place, I can set milestones or daily schedules for everyone. P6: In problem-solving, I initiate teamwork with members of the core group composed of program heads & coordinators. I coordinate & collaborate with other departments as a support system. I benchmark with other institutions for best practices. I make a consultation with top management on sensitive cases or situations that may need guidance. I make plans together with my team on programs & projects. I collaborate with top management regarding institutional plans, programs, & activities.	Collaboration Contribute Perform daily role for the College Seek help from team members Seek assistance from other groups Mimic best practices from other organizations Allow people to participate	

Table 7 presents the responses of Participants 1, 2, and 6 that led to the theme **Promote constant collaboration**. Leadership requires the ability to build and maintain a strong and collaborative team 0f individuals working toward the same goal (Indeed Editorial Team, 2018, updated in 2022). Collaboration allows the leader to seek out different opinions and ideas among organization members in order to create the best strategies to achieve goals and solve problems. Participant 1 (P1) assesses the organizational environment and makes her people collaborate and allow them to participate to be able to measure their potential capacity to contribute to the vision of the organization. She collaborates with other people specifically in terms of finding needed resources. She pointed out that she cannot provide what is expected from her if she does not seek help. Participant 2 (P2) has his objectives properly established with the collaboration of his people regardless of how much they contribute. He establishes organizational goals to set guides on how his people will perform their daily roles. Participant 6 (P6) seeks help from his team members to solve problems. She seeks assistance from other groups and superiors and considers mimicking best practices from other organizations. She identifies the leadership potentials of her people and allows them to participate in planning. Collaborative team leadership according to Samur (2019) is a management practice that aims to bring managers, executives, and staff out of silos to work together. In collaborative workplaces, information is shared organically, and everyone takes responsibility for the whole. That's in contrast to traditional top-down organizational models where a small group of executives controls the flow of information. He stated that through collaboration, employees are more engaged, feel trusted, and are more likely to take ownership of their work. He added that through collaborative leadership, managers and executives can create an inclusive environment that energizes teams, releases creativity, and cultivates a work culture that is both productive and joyful (Samur, 2019).

Table 8: *Theme 8 – Provide Encouragement, Motivation & Inspiration*

Participant's Response	Code	Theme
P1: I encourage my people to participate as much as possible because in that way I am able to let them feel their importance in the institution. I understand their limitations and I have to give input to them. It is a way of developing them. Being their leader, my great role is to serve as a catalyst between them and the vision of that of the organization. And I often tell them it's not bad to be exclusive, but sometimes you have to consider the fact that all of you are united in one goal to grow. P2: I can lead my people on their way to continuously attain their goals by checking their progress daily, making sure they know what they are supposed to do, delegating work, counseling them, and so on. It is also important to me to lead people in a way they can see the bigger picture. P4: I empower others by expressing appreciation for their efforts and offering nice feedback for their good performances. P5: Inspiration and motivation skills, honestly, a leader must be a beacon of light for the members, especially in the midst of an extraordinary situation presented by the new normal. Having these	Know their potential capacity Provide support Understand people's limitations Encourage people to achieve Provide pieces of advice to people to learn and improve Encourage people for improvement Give pieces of advice to attain goal Encourage people by appreciation and recognition Inspire and motivate to perform	Provide encouragement, motivation, and inspiration

qualities, I am able to push the members in actualizing and realizing their potential in order for them to become invaluable assets in achieving the goals of the organization.		

Table 8 presents the responses of Participants 1, 2, 4 and 5 that generated the theme **Provide encouragement, motivation & inspiration**. One of the responsibilities of a leader is to make other people, particularly his subordinates, do the best that they can for the benefit of the organization. To achieve this, the leader must be able to inspire and motivate his people. Motivation is a goal-oriented quality of a leader that helps his people achieve their objectives. It encourages every member of the organization to excel in whatever they do. Participant 1 (P1) allows her people to participate to be able to know their potential capacity to contribute to the vision of the organization. She understands the limitations of her people and provides support for their development. She pointed out that her great role is to encourage her people to achieve the vision of his organization. She provides pieces of advice to her people to build their relationships to let them learn and improve themselves. Participant 2 (P2) encourages his people to their self-improvement and for the improvement of their services. He gives advice to his people to attain their individual goals. Participant 4 (P4) encourages his people by appreciating their efforts & giving recognition for their performances. Participant 5 (P5) inspires & motivates his people to perform beyond expectations. He emphasized that highly motivated people will be able to show their full capacity which would be beneficial to the organization. Leaders need to encourage and inspire their team members. Being able to help your team maintain high morale and hope in difficult times will help them prosper. A leader's own actions and personal stories can inspire others to work smarter, take better care of themselves, sees their collective goal in a new light and so much more (Agrawal, P., 2021). As a leader, your team looks up to you to provide inspiration and motivation to complete their work. This can make you feel tough in a challenging work environment or if you are not feeling motivated yourself. Wooll (2022) regarded that as a key part of your role as a leader in talent and employee development. It is important to search out the potential in your team members and encourage their growth. You will need to understand their hopes for the future and find ways to help challenge and stretch them. To inspire others, help your colleagues to focus on the value their work creates. Share the vision for the team and make sure each of them can connect to how their piece of work makes a difference (Wooll, M., 2022).

Table 9: *Theme 9 – Close Supervision and Monitoring*

Participant's Response	Code	Theme
P3: I oversee the entire operations of the College, monitor the performance of our students, and monitor performances of the faculty members.	Supervises the college Keeps track of performance	Close supervision and monitoring
P4: I perform class observation in various learning programs. I regularly monitor the status, concerns & issues of our students.	Supervises learning Keeps track of student matters	
P6: I evaluate the performance of my team, counsel students & faculties with concerns, coordinate with parents & guardians regarding the performance of the students, recommend and endorses faculty & staff for the continuance of their service, and recommend deserving faculty for awards & promotion.	Assess performance Informs parent of performances Recommend deserving employees	

Table 9 presents the responses of Participants 3 and 6 that generated the theme **Close supervision and monitoring**. Participant 3 (P3) supervises the College's functions and activities. She keeps track of the performances of the organization and its members. Participant 4 (P4) supervises the learning process and keeps track of matters concerning the students. Participant 6 (P6) assesses the performance of her team. She gives advice relative to the concerns of students and faculty members. She informs the parents or guardians of the

performances of their children. She recommends deserving employees for awards, rehiring, and promotions. This finding agrees with the statement of Lion (2019), according to him supervising is the act of directing, monitoring, or overseeing a task or project to ensure it is done properly. She also added that supervision is the management of resources and people in accordance with the established vision.

3.2. Challenges of the 21st Century Leadership Skills of the Participant Academic Heads

Table 10: *Theme 1 – Changing Subordinates' Attitude*

Participant's Response	Code	Themes
P1: It is difficult to break a culture already engraved in a system. That to me is the greatest challenge, because sometimes what you consider unethical becomes normal. It is a challenge how to wake them up and tell them "that is not the proper way". To me, it is the greatest challenge.	Changing a culture Change the accustomed ways or practices	Changing subordinates' attitudes
P2: Specific challenges related to my leadership skills include how to instill a sense of rightness in my people and how to give pieces of advice to change their bad attitudes without offending them.	How to encourage people to become righteous	
P5: I experienced some challenges in the lack of empathy of some members in our College.	Lack of concern of some people	

Table 10 presents the responses of Participants 1, 2, and 5 where the theme of Changing subordinates' attitudes emerged. Participant 1's (P1) greatest challenge encountered in her leadership is the difficulty in changing culture from what is already inculcated in the organization. She found it very challenging to encourage people to change their accustomed. Participant 2 (P2) experienced difficulty in encouraging his people to instill righteousness. He finds it challenging to advise his people to change their negative attitudes. Participant 5 (P5) experienced challenges regarding the lack of concern of some of his people. It is common for an organization to have few members who are known for their negative attitude towards their jobs. Unfortunately, this negative attitude exhibited by a couple of members may have a negative impact on the entire workforce and even on the performance of the organization. Any member of an organization with a negative attitude will become inadequate in their role and will perform unsatisfactorily while those with a positive attitude are more productive and useful to the organization.

Table 11: *Theme 2 – Promote Cooperation*

Participant's Response	Code	Themes
P1: Most of my faculty members are not inclusive, they are exclusive, meaning, they prefer to be alone and do things on their own. So, I need to break that and encourage them to become inclusive.	A challenge in the exclusiveness of people	Promote cooperation
P2: It is a challenge for me how to encourage collaboration in a big team composed of diverse people and how to establish teamwork among them.	Challenge to make people participate	
P5: Resistance from some members of the organization not necessarily from the college but also from auxiliary offices and most especially from those who are more seasoned members of the school is another great challenge for me.	Uncooperativeness of staffs and employees	
P6: I encountered challenges in dealing with some faculty members. Because I am new in this institution, there are those who will exert their seniority and would outwardly show resistance to cooperate. Also, in soliciting cooperation from the faculty members in different activities.	Soliciting of cooperation Challenge in seeking participation	

Table 11 presents the responses of Participants 1, 2, 5, and 6 that generated the theme **Promote cooperation**. Participant 1 (P1) encountered challenges in developing an inclusive attitude of her faculty members. They are not open to each other. It is a challenge for her to change the said attitude. It is challenging for Participant 2's (P2) part to make his people participate. Participant 5 (P5) experienced challenges in the uncooperativeness of some College & auxiliary service staff particularly the older ones. Participant 6 (P6) experienced challenges in soliciting cooperation from senior faculty members at the University than her. She also experienced challenges in seeking participation from her people in several events. The lack of cooperation from members can greatly affect the productivity and performance of an organization. Cooperative relationship among members of the organization makes the organization more productive and effective in their roles and when one person is uncooperative, the entire process in an organization slows down. Wooll (2022) regarded that managing a team is a common challenge in leadership. She said that when you become a leader, you are either new to the team or you have been promoted from within it. Both of these things can be tricky. You will have to build trust with new colleagues or manage a new dynamic with old ones. In collaboration at work and with your new team, take the time to set expectations with each other. Agree on how you are going to work together, and how you prefer to communicate. If you have been promoted above your peers, do not just ignore that. Talk to them about how that feels and work through any frustrations they might have (Wooll, 2022).

Table 12: *Theme 3 – Understanding Multiple Perspectives*

Participant's Response	Code	Themes
P1: You know, a lot of things is a very challenging aspect of leadership because you have to study the people around you. P4: I have experienced challenges in understanding everyone's opinion and point of view. I have to understand where each individual came from.	A challenge in understanding multiple people A challenge in understanding other's viewpoint	Understanding multiple perspective

Table 12 presents the responses of Participants 1 and 4 that led to the theme **Understanding multiple perspectives**. Participant 1 (P1) encountered a great challenge in her role as a leader specifically in understanding people's diversity. Participant 4 (P4) experienced challenges in understanding other people's viewpoints. He found it challenging to know the diversity of his people. Understanding the individual perspectives of other people helps us to understand different beliefs, experiences, and viewpoints. It gives a leader a better understanding and a high level of empathy for his people. It promotes proper judgment, eliminates biases, and reduces conflicts. According to Wooll (2022), handling different perspectives is one of the most common leadership challenges. She regarded that workplace conflict can be extremely detrimental when handled poorly, causing stress to almost half of the employees. There will be times as a leader when you have to manage conflict between team members or between yourself and an employee. Conflict can feel uncomfortable, but you need to solve it before it upsets the team. Given the diversity of employees within the workplace, it's unsurprisingly that friction arises from individuals' differing experiences, ideas, and perspectives. The challenge for leaders is creating for those ideas to be shared and ensuring that conflicting ideas are channeled into a productive discussion that allows for growth and shared understanding.

Table 13: *Theme 4 – Strengthening Students' Competencies*

Participant's Response	Code	Themes
P1: Because of the pandemic, students had the feeling that they were entitled. They think they are entitled to pass their subjects even if they show low performance in classes. This pandemic has in a way adversely affected their competence. Although it's beyond my control, I need to think of ways to improve their competencies.	A challenge in students' attitude & performance	Strengthening students' competencies

P6: There's a big challenge in improving the board exam performance of our graduate students.	Challenge in producing competent graduates	

Table 13 presents the responses of Participants 1, and 6 that led to the theme **Strengthening students' competencies**. Participant 1 (P1) encountered challenges in the students' feeling of entitlement brought about by the pandemic. Another challenge is the effect of the pandemic on the competencies of the students and admits that she hardly can do anything about it. But she pointed out that she needs to develop better approaches to strengthen students' competencies. Participant 6 (P6) experienced challenges in producing board exam-competent graduates. The leadership skills of Academic Heads can have effects on students' learning. Driscoll, Maxine (2018) regarded that 21st-century school leaders enthusiastically face the challenging task of preparing young minds for the future, and they think strategically about the goals and systems that will support this task. According to Belfiore and Lash (2018), higher education leaders are asking important questions about the challenges facing students emerging from secondary and postsecondary education in a world of unprecedented, high-velocity change: What can schools and higher education institutions do to ensure that graduates enter their "wayfinding decade" with the competencies, learning orientation, and agility they'll need to be successful in the 21st century?; For that matter, what are those competencies, and how are researchers, social scientists, employers, and educators defining them today? Gill, Jasween (2022) stated that education experts across the world have realized that students need to do more than just memorize facts and regurgitate those facts in order to be successful in an increasingly competitive global economy. The world is changing rapidly, and students need to learn to adapt just as quickly as these changes occur. They need to be confident in their own skills and able to learn efficiently. She also added that the students who are studying in the classroom today are the leaders who are going to be running our ever-changing world tomorrow.

Table 14: *Theme 5 – Dealing with Admin-related Challenges*

Participant's Response	Code	Themes
P1: There are certain policies of the school that sometimes are obstacles and prevent me from doing things I think are necessary.	School policies are not appropriate	Dealing with admin-related challenges
P4: I also encountered challenges in limited resources and lack enough financial support from the administration.	Lack of funding support	
P5: Volume of tasks and deadlines to meet. Lack of appreciation from superiors as well as proper motivation and inspiration.	Challenges in many tasks and lack of recognition & encouragement from administration	
P6: Preparation for the approval of face-to-face classes, and preparation for the ALCU-COA. The delivery system in blended learning such as online synchronous classes & implementation of face-to-face classes.	Challenges in preparations	

Table 14 presents the responses of Participants 1, 4, 5, and 6 where the theme **Dealing with admin-related challenges emerged**. Academic heads are often expected by the administration to fix and solve anything that goes awry in their respective Colleges. Not only are leaders expected to be problem solvers, but they often bear the brunt of the blame for whatever goes wrong in their organization even if they are not the cause of the problem. Participant 1 (P1) believed that some school policies prevent her from performing her duty diligently. Participant 4 (P4) encountered challenges with limited resources and a lack of support funding. Participant 5 (P5) experienced challenges in completing tasks on prescribed due dates and in lack of recognition & encouragement from the administration. Participant 6 (P6) experienced challenges in preparing protocols for on-site classes. She also experienced challenges in preparation for the university accreditation &

implementation of different teaching-learning modalities.

3.3. Opportunities of the 21st Century Leadership Skills of the Participant Academic Heads

Table 15: *Theme 1 – Able to Accomplish Leadership Roles Effectively*

Participant's Response	Code	Theme
P1: You know I feel good when I am able to solve problems. I'm really essentially a problem solver. I am not a complainer. When there's something wrong, I just have to do something about it. They put me in this position, so I have to do my job. I do what is expected from me. P2: I had the opportunity to show a new perspective of leadership which is more relevant to today's changing nature of work and provide a framework for effective leadership. P4: I am able to share my talents and experiences. I was able to practice patience. I am able to exercise time management, and I am able to deal with different people with different personalities. I am also able to improve all my aspects of being a leader. P5: Rare opportunity to employ a servant leadership brand in the college and organization. Not saddling many responsibilities towards subordinates but maintaining a high standard in the delivery of quality education and services to stakeholders. P6: Able to serve regardless of compensation. Coordinating with some institutions like Manila Doctors Hospital for employment of our graduates.	Able to solve problems Fulfill expectations Improve leadership skills Becoming more effective Share skills & expertise Handle people Improvement of leadership Opportunity in serving Unique leadership ability High standard of delivery & service Offering service Helping alumni	Able to accomplish leadership roles effectively

Table 15 presents the responses of Participants 1, 2, 4, 5, and 6 that generated the theme **Able to accomplish leadership roles effectively**. One of the opportunities that Participant 1 (P1) experienced in her leadership skills is being able to solve problems. She described herself as a problem solver. She regarded that she was designated in the position as a leader therefore she has to fulfill what is expected of her as a leader. Participant 2 (P2) recognized opportunities on improving his leadership skills of becoming more effective in this new millennium. Participant 4 (P4) recognized the opportunity in sharing his skills & expertise. He was able to exercise tolerance, use time effectively & handle the diversity of people. He found an opportunity to improve his leadership skills and practices. Participant 5 (P5) experienced an opportunity in serving his organization with his unique leadership ability. He experienced the opportunity of unburdening his people without compromising the high standard of delivery & service to the people. Participant 6 (P6) found an opportunity in offering her service because of passion. She also found opportunity in helping their alumni to be employed in hospitals. Accomplishment is a standard that needs to be met by a leader. It includes maintaining a high level of excellence in performing leadership roles and activities. It requires skills and competency building, with an understanding that what is needed to accomplish today is vital for the organization's future achievements. Accomplishment is not just a matter of getting things done. It includes creating a vision, sharing it widely, building strategies to support it, developing the team to help it become successful, and seeing it to the end. All of this is done in a supportive and goal-oriented manner.

Table 16: *Theme 2 –Able to Respond to Situation*

Participant's Response	Code	Theme
P1: Because of the bureaucratic red tape when you're in the	Do something for a result	Able to respond to

government, the limited resources & other challenging situations if you just sit down & complain, you won't achieve anything. Given this opportunity for leadership skills, there are lots of challenges I can respond to. P2: As a leader, aligning myself with the environment I'm working with serves key pillar in my effective leadership. With so many changes & disruptions taking place, I can still align my function as a leader. A strong sense of self is my core in developing authentic leadership skills. Although it is becoming increasingly difficult to align myself with an ever-changing environment, having an open mindset together with the ability to reinvent myself and enables me to adapt to new circumstances rapidly. P5: Showing resiliency amidst the many deadlines and hyperactivity. P6: Able to learn several techniques & strategies. Using several types of leadership skills to different people & different situations.	Respond to several challenges Opportunity to adapt to changes Able to perform role Able to adapt in increasing complexity Opportunity to adapt Opportunity in adapting new techniques	situation

Table 16 presents the responses of Participants 1, 2, and 6 that led to the theme **Able to respond to a situation**. Being in the government, Participant 1 (P1) recognized the opportunity in terms of finding resources. She pointed out that you have to do something to achieve favorable results. She also recognized the opportunities in responding to several challenges. Participant 2 (P2) stated that it is an opportunity for him to be able to adapt to changes and despite of disturbance caused by changes, he was still able to perform his role as a leader. He recognized the opportunities in his inherent open mindset and adaptability which enabled him to adapt to the increasing complexities of leadership in this new millennium. Participant 6 (P6) found an opportunity to adapt to many challenging tasks. She experienced opportunities in adapting to new techniques and strategies in employing her leadership skills with various people and several circumstances. Nichols et. al. (2020) mentioned that the situation is changing by the day even by the hour. The best leaders quickly process available information, rapidly determine what matters most, and make decisions with conviction. They also said that strong leaders get ahead of changing circumstances. They seek input and information from diverse sources, are not afraid to admit what they do not know and bring in outside expertise when needed. They added that the best leaders take personal ownership in crisis, even though many challenges and factors lie outside their control. They align team focus, establish new metrics to monitor performance, and create a culture of accountability.

Table 17: *Theme 3 – Understanding Thoughts and Feelings*

Participant's Response	Code	Theme
P1: Open-mindedness enables me to understand the organizational culture and it allows me to be able to demonstrate empathy. I learned to listen to others' thoughts & feelings which helped me how to lead my people properly. P5: Showcasing empathy to members of the organization and subordinates gave me the opportunity to have a good relationship with my people.	Understanding the culture Understand & share feelings of other people Learn to listen to Show concern Understand the feelings	Understanding thoughts & feelings

Table 17 presents the responses of Participants 1 and 5 that generated the theme **Understand thoughts and feelings**. Participant 1 (P1) acknowledged the opportunity in understanding the culture of the organization. It helped her to understand and share the feelings of other people in the organization. With this, she learned to listen to be able to direct her people. Participant 5 (P5) found an opportunity in showing his concern & understanding the feelings of his people. According to Landry (2019), your ability to recognize others' emotions and the dynamics in play within your organization is described as social awareness. She regarded those leaders who excel in social awareness practice empathy. They strive to understand their colleagues' feelings and

perspectives, which enables them to communicate and collaborate more effectively with their peers. She added that by communicating with empathy, you support your team, all while improving your individual performance.

Table 18: *Theme 4 – Create Clear and Compelling Vision*

Participant's Response	Code	Theme
P1: To me, the little things that I am able to solve problems are my little successes & opportunities as a leader. What is my mission why I am in this position? I don't settle for anything else, I just execute my mission and focus on the school's vision. If you are not aligned with the vision, you won't able to execute your mission and make it clear what the school wants.	Opportunity in solving problem Focus on performing role Opportunity of having vision aligned with the school	Create clear & compelling vision
P4: I am also able to provide a clear line of sight between the vision of the College and the day-to-day responsibilities of the faculty members.	Opportunity in translating his vision to his people	

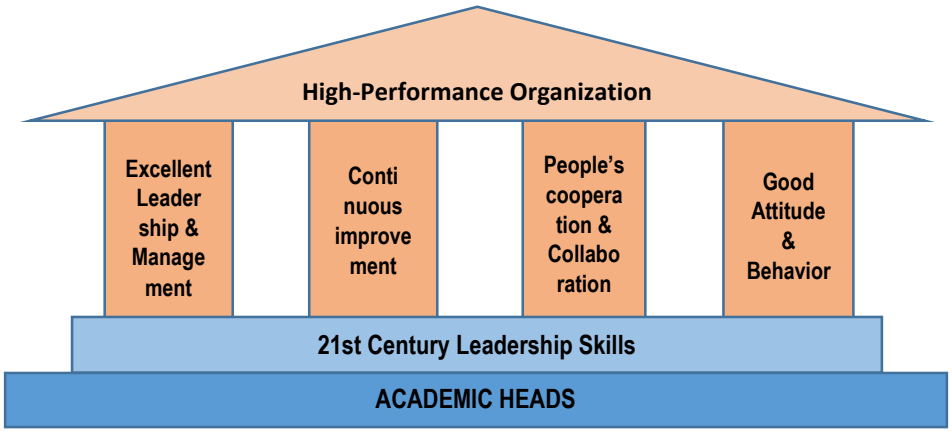
Table 18 presents the responses of Participants 1 and 4 that led to the theme **Create a clear and compelling vision**. Participant 1 (P1) recognized the opportunity in solving problems. She pointed out that you have to focus on performing the leadership role that is expected of you. She also recognized the opportunity of having a vision aligned with that of the school. She considered that personal preference should meet the school's objectives. Participant 4 (P4) experienced an opportunity in making his people perform their roles for the achievement of the organizational goal. Vision is a strong mental picture of what you would like to see you, or your organization accomplish. It is a critically important piece of any leadership plan. It is something you must create and share with your team over time (Lalonde, J., 2020). A leader must be able to understand clearly what the organization will look like or do once the vision is achieved. As a leader of an organization, you should cultivate a global perspective and avoid thinking small. Approach everything with a view to sustainability, well-being, and the bigger picture, and help create a vision that encourages your people to think the same.

Table 19: *Theme 5 – Opportunity to be Recognized*

Participant's Response	Code	Theme
P2: My unique skills & passion for leading were highly recognized by most people in the organization, They appreciated the impact of my unique skills in achieving our goals.	Opportunity to be recognized by unique leadership quality	Opportunity to be recognized
P3: Because I possess certain leadership qualities, people around me notice me and put me into a leadership position as the Dean of the College of Arts & Sciences. I have been chosen as an officer of an organization. They entrusted me to lead several projects & committees.	Being recognized for her leadership abilities Entrusted with challenging roles	

Table 19 presents the responses of Participants 2 and 3 that led to the theme **Opportunity to be recognized**. Participant 2 (P2) experienced the opportunity for being recognized for his unique leadership capabilities that provided a significant effect on the success of the organization. It is an opportunity for Participant 3 (P3) to be recognized for her leadership abilities. Her leadership skills led her to be designated as the Dean of the College and were entrusted with several challenging roles. Good leaders exhibit inherent qualities that attract a high caliber of people and inspire them to perform in a culture of inspired excellence. According to Vasukumar, N. (2017), leaders are the men and women who inspire you, transform potential into reality, manage, motivate, energize, and influence people, create an iconic vision of the future, and bring success and prosperity. Great leaders create great employees and together they create success for a business or an organization.

3.4. Proposed High-Performance Organization (HPO) Framework



Pillars	Description
Excellent Leadership & Management	Cascading executive performance targets and action plan down across organization levels through performance indicators, targets, and measurements
Continuous improvement	Regular assessment of leadership capacity and continually improve leadership skills through leadership training and workshops
People's cooperation & Collaboration	Make people cooperate in the organizational process and collaborate effectively with other members of the organization for the achievement of the organizational goal
Good attitude & Behavior	Apply positive leadership traits that can become contagious to others and can encourage the most truthful and fair outcome for the organization team
21st century leadership skills	**Description**
Creativity in dealing with the situation	Be creative and think out of the box to address a certain issue. Must be educated through formal degree, empowered by training, and always ready to innovate from learning to create solutions that are most appropriate or most responsive to the given case.
Receptive to new ideas to increase knowledge	Must be open to new ideas. Must be encouraging new options and opinions coming from peers and members within the organization.
Determination in achieving goals	Must be able to determine which goals are most important and become decisive to pursue them.
Ability to identify problem cause and find effective solution	Must be able to assess, diagnose and evaluate problems and the best course of action to address such. Must explore all possible venues to get or deliver the solution.
Effective communication	Must have the ability to deliver the right message, in the right time, to the right person, and in the right manner.
Delegate people effectively	Must have comprehensive knowledge of each member of the organization directly within the span of authority. This is needed in order to be able to delegate and assign tasks according to the skills and specialization of each member.
Promote constant collaboration	Must promote teamwork and ensure that members in the organization are empowered to participate in the attainment of goals, not merely a passive machine-like staff. Instead, establish cooperation with each member by maximizing their specialized skills and making them feel how dependable they are in the organization.
Provide encouragement, motivation and inspiration	Must have a good grasp of how affective domains influences performance in each member of the organization. Must utilize motivation and encouragement to reinforce the affective nature of each member directly influencing their performance in the organization.
Close supervision and monitoring	Must be keen in examining the indicators of the goal achievements. Regularly assess and evaluate whether the goals and objectives are being achieved. Must be part of the system at work to realize the attainment of these goals and objectives. Must have a good grasp of the situation by supervising and monitoring performance in the grassroots level.

Figure 3: *High-Performance Organization (HPO) Framework*

Description of the Proposed High-Performance Organization Framework: The goal of the institution is to become a High-Performance Organization (HPO). This is supported by the four pillars namely, Excellent Leadership and Management, Continuous Improvement, People Cooperation and Collaboration, and Good Attitude and Behavior. These pillars are grounded in 21st-century leadership skills. The goal of becoming a High-Performance Organization (HPO) is a state of efficacy and efficiency in the attainment of institutional vision, mission, goals, and objectives guided by the institution's philosophy and values. The framework constructed is specifically adapted to the salient needs of the institution studied in order to expedite the efforts and resources to dress the most pressing concerns of the same institution. The first pillar of this High-Performance (HPO) Framework is Excellent Leadership and Management. This implies that there is a need to cascade the executive

performance target and action plan down across organization levels through performance indicators, targets, and measurements. The second pillar is Continuous Improvement which means that there should be regular assessment of leadership capacity and continual improve leadership skills through training and workshops. The third pillar is People Cooperation and Collaboration. This is meant for the people within the organization to cooperate in the organizational process and collaborate effectively with other members of the organization for the achievement of the organizational goal. The fourth pillar is Good Attitude and Behavior. This applies to positive leadership traits that can become contagious to others and can encourage the most truthful and fair outcome for the organization team. The core ground on which the four pillars stands is the 21st Century Leadership skills. It includes creativity in dealing with the situation; receptive to new ideas to increase knowledge; determination in achieving goals; ability to identify problem causes and find an effective solution; effective communication; delegating people effectively; promoting constant collaboration; providing encouragement, motivation, and inspiration; and close supervision and monitoring. In this study, these leadership skills are deemed vital to support a High-Performance Organization. The High-Performance Organization (HPO) Framework generated from this study, has laid out the institutionally salient 21st century leadership skills and the four pillars to achieve a High-Performance Organization. It is hoped that there will be a practical application of this framework in the institution where the study is conducted and to other related institutions as well.

4. Conclusion: The academic heads have shown to possess several 21st century leadership skills. They show creativity in dealing situation; they are receptive to new ideas to increase their knowledge; they show determination in achieving goals; they are able to identify problem causes and find effective solutions to these problems; they exhibit effective communication; they delegate their people effectively to different roles in the organization; they constantly engage in collaboration for the success of the organization; they provide encouragement, motivation, and inspiration to their people; and they closely supervise and monitor the performance of their people and the organization. The findings of the study revealed that academic heads as 21st-century leaders encountered several challenges. They encountered challenges in attempting to change the attitude of their subordinates that affect job satisfaction and organizational commitment; they find challenges in promoting cooperation with some people in their organization; they encountered some challenges in understanding multiple perspectives from multiple people; they experienced some challenges in strengthening competencies of their students, particularly in the board exams; and they experienced challenges in dealing with several admin-related challenges. In the practice of their 21st-century leadership skills, the academic heads encountered several opportunities. It is an opportunity for them to be able to accomplish their leadership roles; they were able to respond to several situations because of their good leadership skills; they find an opportunity to understand the thoughts and feelings of other people, particularly their subordinates; having a clear and compelling vision is an excellent opportunity of their leadership skills; and their leadership skills provided the opportunity to be recognized.

5. Recommendation: It was recommended that educational institutions should consider the implications of this study in developing a program or operating procedure to minimize problems and challenges encountered by their Academic Heads. They should consider adopting and implementing the proposed High-Performance Organization (HPO) Framework from this study or use it as a model to develop their own framework that will lead them toward high-performing educational institutions. School Administration should develop plans or programs to address the challenges encountered by their academic heads. They should re-examine existing operating procedures and revisit their administrative policies and guidelines. Academic Heads should strengthen their leadership qualities, particularly their 21st-century leadership skills necessary in creating and maintaining high-performance organizations. They should examine if their current leadership skills are effective for modern-day leadership and develop leadership skills best suited for the 21st century. They should increase

their awareness of the common challenges of their 21st-century leadership. They should always be ready to respond to these challenges and should know how to deal appropriately with different challenges. Faculty members should be aware of the challenging roles of their Academic Heads. They should help their academic heads and collaborate with them for the attainment of organizational goals and objectives. They should perform their functions as an active member of the organization and recognize their importance in holistic organizational development. They also need to make self-assessments of their behaviors and attitudes and make the necessary change for personal development. Students should acknowledge the efforts of their respective Colleges in providing the necessary skills and knowledge. In return, they should do their part in improving their academic performance to increase their competence in preparation for licensure examination and employment. Lastly, future researchers should conduct a similar study to validate the results from this study. They can also conduct further studies on topics related to 21st-century leadership skills of academic heads and use this paper as their resource material.

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Design and Implementation of an Arabic Braille Self-Learning Website

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Abstract: Blind and visually impaired people have long used assistive technologies, such as braille, to aid them in their day-to-day lives. Given the importance of communication for these individuals, the ability to self-learn braille through a specifically designed educational system is crucial for unlocking the ability to communicate while saving time and money. This paper focuses on the "learn-by-my-hand" system used to teach braille in an Arabic context through an e-dashboard on a self-guided website. The system, which also aids sighted people, is based on content from the Saudi education ministry, allowing users to use braille to complete school courses. It is thought to be the first system of its kind designed to be deployed in schools.

Keywords: Arabic Braille, Assistive Technology, Braille, Self-Learning

1. Introduction: Since its development by Louis Braille in 1824, braille has been a critical tool in enabling blind and visually impaired people to read and write. The system, which works through raised dots representing different characters, was first designed in French but has since been expanded to capture languages across the globe. Each braille cell contains six dots organized, as shown in Figure 1.

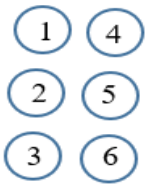
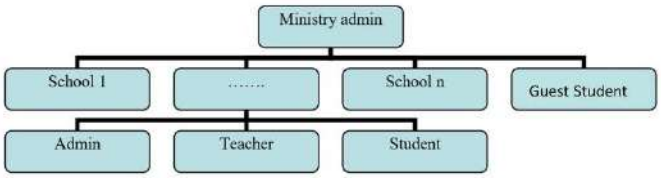


Figure 1: *Braille Cell*

Approximately 285 million people worldwide are blind or visually impaired. Based on figures by the International Council for Education of People with Visual Impairment (ICEVI), around 90% are in financial poverty. Furthermore, more than half of visually impaired children are not currently engaged in formal education. Blind and visually impaired individuals rely on assistive technology to aid them in their day-to-day lives and to help them learn braille, which is essential for allowing them to learn and communicate. However, despite this, many such individuals fail to learn braille because they struggle to find appropriate resources to assist them and the time involved. While many online self-learning systems exist to help sighted people learn how to read and write, equivalent platforms for blind and visually impaired individuals are fewer in number. This is particularly true in non-English languages, as well as in developing countries (Tang, 2013). While such systems are welcome, evidence suggests these platforms have clear limitations. According to Kim (Kim, 2018), complexities and inefficiencies related to feature usability, as well as failures to overcome system errors, account for 71% of the problems users face in using assistive technologies. Furthermore, many self-guided platforms designed to teach braille are expensive, impractical, and ineffective. Several systems for self-learning braille are available. These include computer-free programs utilizing standalone devices that provide verbal feedback, as well as apps that can be used either online or via a smartphone. However, very few of these systems support multiple languages. After assessing various systems aimed at individuals who are blind, visually impaired, or sighted, the researchers found clear divergences in terms of ease of use and enjoyment levels. Even though some programs do offer learning in multiple languages, systems that support either Arabic or English, or both, were evaluated in the research. Platforms in English outnumbered those in Arabic. Research uncovered that there are currently no online self-guided braille systems in Arabic, nor any apps designed for official school courses. In light of these findings, this paper aims to correct this issue by creating a website that works across multiple platforms to allow users to learn Arabic Braille independently. The system is designed to enable students to learn the first class from the official course of a Saudi Arabian elementary school. The content will therefore be based on the official curriculum provided by the book of the ministry of education. The system's interface is also designed to be suitable for sighted individuals of any age, increasing its applicability. In addition to its educational purposes, the website aims to support both students and their families to learn braille without additional assistance. Furthermore, by enabling self-guided learning, the system will reduce the burden on braille teachers in formal education contexts. The website will be structured through a dashboard design that enables additional courses from the "لغتي my language" book (Textbook, 2021) to be added later. To begin with, however, only the first level in elementary school is included. The remaining sections of the study are as follows: section two provides a literature review, section three introduces the Learn-by-my-hand system, an analysis of the system is outlined in section four, and finally, a conclusion and discussion regarding future research opportunities are detailed in section five.

2. Literature Review: Current self-guided systems for learning braille, including online, smartphone-based, and standalone platforms, have been studied in depth by Alsalman et al. (AlSalman, Al-Hadhrami, & AlSalman, 2022) to improve various programs. Generally, developers of web-based systems aim to produce platforms that can operate across specific computer designs and operating systems. Examples of such English-based programs include eKodBraille (Lee, Mohamed, & Altamimi, 2015) and the e-learning program for braille (Takaoka, Ohta, Sugano, Oda, Maeda, Hanaoka, & Matsuura, 2011). These two systems are both aimed at sighted users. (AlSaleh & Al-Salman, 2012) created AlWafa, a software program designed to teach braille to individuals who are both sighted and blind. Other systems, like Blind Aid (Khidri, Memon, & Jameel, 2014), offer a low-cost option for self-guided learning by translating inputted documents or words typed on a braille keyboard by verbalizing or displaying the content. Another system, OntoBraille@RID, supports blind people in their efforts to independently learn braille in either English or Chinese (Tang, 2013). This platform offers both practice sections and formal exams. Standalone self-guided learning platforms include the Spoken Dialogue System (Araki, Shibahara & Mizukami, 2011), Braille Writing Tutor (BWT) device) Dias, Dias, Belousov, Rahman, Sanghvi, Fanaswala, & Menon, 2009), E-Braille (Wagh, Prajapati, Shinde, Salunke, Chaskar, Telavane, & Yadav, 2012), a one-cell braille tutor (Aizawa & Watanabe, 2014), and Braille Tutor (Joshi & Samasgikar, 2016). With the exception of BWT, with teaches Indian, all of these platforms help users to learn English. Braille Instructor (Al-Watban, & Al-Salman, 2019), learn braille with Nouf (Montasser, 2020), BrailleEasy (Qatar Computing Research Institute, 2015) (Šepić, Ghanem, & Vogel, 2015), and touch Braille (R. & A., 2017), are all examples of smartphone apps designed for IOS-based devices. The first three of these systems teach braille in Arabic, while the latter two teach English. Braille Instructor is explicitly aimed at blind and visually impaired individuals. BrailleEasy supports both sighted and visually impaired people, while learning Braille with Nouf and Touch braille are oriented exclusively to sighted people. Aprende Braille (Mario Ugedo, 2020), Learn Braille: Beginner guide (USEFUL APPS, 2018), Learn Braille (Mario Ugedo, 2020), Braille helper (Kumar, 2021), and. Braille Tutors (Brailliac, 2018) are all examples of Anrdoid-based systems designed in English for sighted individuals, although Braille helper also supports visually impaired people. In addition to English, Braille tutor and Aprende Braille also support Swedish and Spanish, respectively. Applications that support both Android and IOS devices include Braille Academy (Learn and train, 2020), Taptilo+ (smart, 2020), and Taptilo U (smart, 2018). Several previous studies have sought to design a braille cell that can be implemented in self-guided learning systems for braille (Jawasreh, Ashaari, & Dahnil, 2020)(Wagh, Prajapati, Shinde, Salunke, Chaskar, Telavane & Yadav, 2016)(Avhad, Jadhav, Arbune & Khainar, 2016)(Wicaksono & Kurniawan, 2019)(Kavalgeri, Chakraborthy, Naz & Chaitanya, 2019)(EM, Nithin & BASKARAN, 2021)(Abirami, Dharsana, Ragav & Chaitanya, 2018). Rather than developing learning resources, each of these studies targeted electronic cells. Consequently, only digital numbers and letters were programmed.

3. Learn-by-my-hand System design and implementation: While several self-learning braille apps lack the sophistication to support educational standards, there is a lack of research into these systems' educational impact. The current platforms' simplicity means they fail to take into account teacher-student communication, focusing instead on limited processes designed to teach numbers, letters, and basic sentence construction. This study seeks to add this additional link, allowing both teachers and students to engage in learning by setting and completing examinations. The system will also allow students to go back over previous concepts independently. At the same time, parents of blind children will be able to gain insight into the areas in which their children are strongest and weakest. Based on existing research, this will be the first example of such a system for teaching braille in Arabic. Three forms of control are described on the Learn-by-my-Hand system online page. The first



of these is ministry administrator control, which involves the administrator in question overseeing school courses and staff on a national level. The second type of control is school administrator control, through which the administrator in question oversees students and teachers. The final type, teacher control, allows teachers to guide their students and the lessons and exercises they study, as well as to monitor their progress. Students comprise both school pupils and external students who seek to engage in education without formally enrolling. This distinction is important because, unlike normal pupils, students who aren't registered cannot go back over previous lessons as their results are not recorded in the learning database. All school courses are offered in braille on the platform, enabling blind and visually impaired students to engage in the educational process fully. The hierarchy of user control regarding the system is outlined in Figure 2.

a. The system Content: Supporting blind and visually impaired children to engage in level 1 of Saudi Arabian elementary school without outside support is the main goal of the proposed system. The platform uses " لغتي my language's" [26] official teaching materials. This comprises three units: braille recognition; the alphabet, words, sentences, and diacritics; and more advanced lessons based on previous learning. The first unit is designed around a book and Perkins brailler but also allows students to seek support from Orbit Reader [20], ElBraille [14], smart Beetle, and other braille typing devices to improve the system's practicality. Examples of braille typing devices are displayed in Figure 3. The proposed system follows the official book's processes in terms of structure and content.

Figure 3: *Braille Typing Devices*

Slight alterations have been made to the lesson plans to increase their suitability regarding devices used to type in braille. In addition, four extra units were included to increase the learn-by-my-hand approach's functionality. These were designed around Saudi Arabia's officially certified Arabic braille teaching book [34], "مظن باتك devorpmI مطور الـ Arabic braille system book." Punctuation in Arabic braille is outlined in unit four. Mathematical symbols and numbers are taught in unit five. Unit six focuses on abbreviations, while unit seven aims to improve students' ability to sense braille through numerous exercises. Teachers also have the freedom to introduce additional content or exams to aid the learning process, while parents can contact the school through the system if required. A map of the student website is shown in Figure 4, highlighting the use of multiple units with their respective lessons and subject matters. The seven units comprise over 50 lessons covering 300 subjects, with at least 550 individual exercises.

Figure 4: *Student Website Map*

b. Interface: While the platform is designed for anyone to use, the system needs to be simple enough for blind and visually impaired individuals to navigate the content successfully. This means limiting the number of images and including voiceover technology to verbalize the written content. A survey of 18 blind or visually impaired individuals, as well as their teachers and relatives, was deployed to ascertain the necessary design features. Developers of existing systems and individuals who are engaged with braille learning systems also participated in this process. Of the respondents, 83.3% were fluent in braille reading and writing. The rest had varying

proficiency levels, but not to the same standard as their peers. Various questions concerning how to successfully design an online platform interface were included in the survey, with the following suggestions made: •The platform should support screen reading •Files need to be presented in Word format for screen-reader access •No adverts should be featured •Descriptions need to be provided for all menus, buttons, and images •Ease and simplicity should be prioritized •The system should enable blind individuals to process all the content without requiring external support. Each of these recommendations factored into the design of the resulting online platform.

Figure 5: *Main Screen Models.*

Figure 6: *The Ministry Administrator Interface*

Multiple interfaces were designed, each taking the above factors into account. Six braille teachers were then blind tested to determine which was the most successful option, with each design rated according to how the content was presented. The four main screen interfaces are displayed in Figure 5(a-d). Option b was preferred by all of the participants as the best option, which was therefore chosen. The ministry administrator, school administrator, teacher, student, computer-based, and student smartphone-based interfaces are shown in Figures 6-10. It should be noted that the administrator's interface was not designed for use by visually impaired individuals.

Figure 7: *School Administrator Control Panel*

Figure 8: *Teacher Page*

Figure 9: *Student computer-based Learn-by-my-hand system*

Figure 10: *Smartphone-Based Learn-By-My-Hand System Interface.*

The system allows students with varying levels of sight to access the content successfully. For blind people, the option of using a screen reader allows them to have all the content verbalized. Smartphones, computer screens, keyboards, and braille typing devices can all be used to record inputs and outputs. At the same time, sighted individuals can provide their answers without requiring additional equipment. It should be noted, however, that

this approach may be disadvantageous if they attempt to learn braille in real-world environments that necessitate using figure touch techniques. Not relying on a smartphone or keyboard is a key benefit of using a braille typing device, which will help to improve a student's reading ability. بيديي أتعلم برايل (KSU, 2020) provides access to the student page.

4. Conclusion: In conclusion, the learn-by-my-hand platform provides a means to self-learn braille in Arabic without additional support or guidance. Through the use of a survey involving 18 people who are either blind or visually impaired themselves or who play an active role in supporting such individuals, a dashboard-based system was designed that enables blind and visually impaired students to access and complete all level 1 school lessons. Based on these findings, future research should seek the responses of the elementary school children for whom the platform was designed to assess its success. For further insight into the platform's ease of use and navigability, such research should also compare the responses of sighted and visually impaired individuals across different age groups.

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Market-Based Management (MBM) Approach to Success in Higher Education: Lessons from a Mid-Sized Business Institute

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Abstract: This research examines a mid-sized business institute, SZABIST-Dubai as a case study to recommend Market Based Management that is lean and agile enough to identify local market opportunities, understand it's unique requirements and initiate processes to capture these opportunities before they are lost to competition. This paper identifies the survival and profitability challenges faced by SZABIST and discusses a unidirectional centralised decision-making model that is adapted currently at the institute and proposes Market Based Management (MBM) as a tool to evolve into a knowledge-based learning organization that is more responsive to regional and local challenges. The most significant contribution of this paper towards this objective is the founding of Task Teams that transform tacit learning into explicit knowledge through the process of socialisation.
Keywords: Educational Strategies, Market-Based Management (MBM), Task Teams, Learning Organisation

Background and Introduction: The United Arab Emirates (UAE) is widely regarded as a pioneer in the region on various social, economic, and developmental fronts. Fifty years after its unification in 1971, the UAE is an extraordinary example in growth and human development. The UAE has continued to invest significantly in the education system to develop human capacity and ensure that it can compete sustainably as a knowledge-driven economy. (Ashour, 2016). The UAE has established a diversified system of higher education in a very short period of time. With 95% females and 80% of all males who are enrolled in the final year of secondary school applying for admission to a higher education institution locally or abroad, the prospects of higher education are very promising (Wilkins, 2010). There are several National and Private Universities that offer degrees in Science, Technology, Business and Aviation and aspiring students are offered a range of choices to better their prospects

in a highly competitive and culturally diverse UAE job market. Dubai especially has taken initiative in providing more streamlined education under the guidance of Ministry of Education by establishing Free Zone areas dedicated to human resource development. Dubai Knowledge Village (DKV) established in 2003 is a unique hub that partners with over 450 businesses, institutes and Universities. Dubai International Academic City (DIAC) is another such establishment that currently has 21 of UAEs 37 International Branch Campuses (IBCs) from 11 different nationalities. In this regard, it is needless to surmise that Dubai Higher Education scene is full of highly competitive universities that are operating here with unique cultural sympathies and understanding. SZABIST (pronounced ZAB-ist) Dubai campus was opened in 2003 to provide high standard education at an affordable fee structure to the Pakistani Community. However, in Pakistan it has been operating since 1995 and is considered one of the leading universities. SZABIST-Dubai currently offers BBA, BS in Media Sciences, BS in Computing, MBA, MS, and Executive MBA (a weekend-programme designed for working students). All of its programmes are approved by university quality assurance International Board of Knowledge and Human Development Authority, amidst a robust increase in the number of enrolled students in UAE universities, SZABIST's growth has remained largely constant. Its student body consists of 98% Pakistani students and one of the attractive features it offers is a low fee structures for its accredited degree programmes and full-spectrum education facilities. Over the past years SZABIST has mobilised its communication strategy using both advertising and its cogent alumi in UAE and abroad to make these features a source of gaining competitive advantage. SZABIST has an attractive programme portfolio but with previously limited communication about it, potential students often chose SZABIST for their higher education due to its lower prices and flexibility in payment plans only. Herriot-Watts University, on the other hand, has been operational for only 10 years but has gained a reputable status of providing superior programme portfolio and excellent market opportunities to its students. Their student base currently stands at 3,700 students. As a result, SZABIST has seen some student loss to Herriot-Watts among other universities.

University	Student Enrolment
Herriot-Watt	3,7009 (2017)
University of Wollongong	3,700 (2017)
BITS-Pilani	1,400 (2019)
MAHE-Manipal	1,500 (2019)

Table 1: *Comparison of Student Enrolment across top universities in UAE. (Source: University websites)*

Higher Education Parameters in UAE	Year 2019-2020
Teaching Staff in Higher Education	7,907
Number of Enrolment in Higher Education (In All Programmes)	295,626
Number of graduates in Higher Education (In All Programmes)	16,665

Table 2: *Review of Higher Education Parameters in UAE. (Source: Ministry of Education MOE open data)*

Several institutes find it hard to differentiate themselves in a crowded marketplace and competing on price is not something that many of them would previously have thought they would end up doing. Institutes and

students alike are concerned about the quality of education that are provided in these establishments and institutes must constantly improve their programmes and administrative offerings (Wilkins, 2010).

Modern Challenges in Higher Education in UAE: The biggest challenges for national and private universities operating in UAE have been survival and profitability (Madichie & Kolo, 2013). These denominators are measured in terms of three key factors, student enrolment, the quantity of financial resources/commitment and the quality of faculty and staff. Moreover, many students now opt to go abroad for higher education and often at the home campuses of the universities operating in UAE. This leads to a competitive ground that is not limited to UAE only but offers global challenges to the UAE education sector. With the global challenges, comes the challenge of maintenance of better quality. Universities in UAE must promise and deliver a quality learning experience for the students to retain them in their branch campuses in UAE. SZABIST, despite its attractive programme portfolio, has faced the attrition in student enrolment over the years. Its quality of programmes, and delivery methods as well as administrative decision making have not responded to the market challenges and a major source of this is the fact that much of branch campus decisions are still centralised in Pakistan. There is very little authority with the staff at Dubai to make quick and innovative changes in their programmes to deal with the market threats. Central decision- making has led to Dubai campus losing its competitive advantage of lower fees and flexible payment plans as other universities with higher student enrolment are now able to offer lower fees also and at a better quality of faculty and staff. In other words, globalisation and intense local competition have resulted in an oversupply in higher education sector and differentiation to attract student body is becoming very hard. Competing on price does not have longevity in this market anymore and institutes must find differentiation in their programme portfolio, delivery methods, and student support functions. This paper attempts to suggest how SZABIST can be transformed into a knowledge- based organisation, which recognises these challenges and can develop points of differentiation to attract students.

Market-based Management Model and Rational Model of Management: A brief Comparison: Rational Model of Management is a unidirectional model that assumes that innovation proceeds along a strategic planning process involving information gathering, analysis, evaluation and action. (Rura-Polley, 2001). Rational Model typically assumes an asymptomatic environment with no time-constraints for extensive information gathering, a good approximation of all viable alternatives and a possibility of a scientific evaluation of these alternatives. In theory this model presents stable solutions in stable environments but in management practice it proves limited applicability due to instability of business environment and urgency of market reactivity. Market based Management is an exceptional management tool developed and executed by Koch Industries, Inc. Its principal tenet states that organisations can draw incredible benefits by using the tacit knowledge of workers to the benefit of the business (Cowen & Ellig, 1995). Market based Management requires a culture centred on specific characteristics which set the standards for evaluating policies, practices and conduct, establishing norms of behaviour, and building the shared values that guide individual actions. (Whatley, 2013). The five dimensions of MBM are: Vision, Virtue and Talents, Knowledge Processes, Decision Rights and Incentives.

Dispersion of Knowledge in Higher Education: Knowledge from the market mechanisms can be gained from various sources in higher education sector. Market and student interactions are a key source of gaining information about changing customer needs, market threats and challenges existing in the marketplace and an institutes ability to manage knowledge is critical to academic innovation (Husseini & Elbeltagi, 2013). In the context of educational quality, these innovations can be process and product innovations alike and, once in place, become a source of competitive advantage. However, the knowledge from the market mechanisms exists in dispersed form and cannot be concentrated or integrated in the hands of a few, central individuals (Becker, 2001). SZABIST-Dubai is faced with many regional and local challenges so far to understand the dispersed nature of market knowledge and with its centralised decision-making it has lost crucial response time against

competitive threats. The remoteness of its central command as well as the inaccessibility of the key decision makers from the inception stages of Dubai campus set a culture of dependence and stagnation of ideas. Faculty and staff did not feel encouraged to share their market knowledge with the main campus and as a result precious response time was lost to other universities that quickly came up with innovative programme and delivery offerings for the students. To counter this, SZABIST attempted to assimilate knowledge through staff meetings but in the absence of direction and incentive systems to share local information, these meetings were no more than directives from the main campus.

Rational Model of Management at SZABIST: In a very short time after 2003, SZABIST faced unfortunate staff and faculty departures, much of which can be attributed to the feeling of redundancy, lack of knowledge orientation and feelings of disinterest from main campus. The managers grew accustomed to operating in a particular hierarchical structure with its given set of roles, leadership styles, control systems and culture (Parker & Stacey, 2007). Managers went about solving ordinary management problems within this shared paradigm through previous experiences and learning and sharing of local knowledge and innovative ideas was disregarded. The resulting Rational Model of Management made SZABIST seek "return to normal" outcomes and establish equilibrium during disruptive, competitive threats and the linear thinking platform of rules, rationality and predictability of outcomes left no room for alternate thought patterns of intuition, creativity, and lateral thinking (Vance et al., 2007). SZABIST did not have any clear mission or objective statements developed for Dubai Campus in terms of quality of education and quantity of students it must attract and when its well-behaved universe faced instability from competition providing innovative solutions for quality of education to students, its Rational Management collapsed. SZABIST must think creatively and develop full perspective of student concerns by interacting with them to understand their needs and issues and then encouraging the front-line staff and faculty to share knowledge within the organisation to make sustainable changes in the decision-making that will lead to competitive advantage in UAE market. Following the influential works of Koch Industries Inc. SZABIST can relate to the rapidly changing landscape of UAE Higher Education by modifying its rational expectations of presumed stable variables. As previous comparisons of total student enrolment and university enrolments as share of the total clearly indicate that market infiltration is growing with more volatility presented in the form of intense competition. Proceeding sections of this paper would analyse the practical relevance of MBM model for SZABIST and make important recommendations for forward-looking components of its approach.

Market-Based Management at SZABIST: The Market-Based Management framework seeks to improve organisational performance by identifying several key factors that contribute to business success (Ellig, 1996).

Mission: MBM framework emphasises that an effective mission must be based in economic analysis of comparative advantage. The mission/objective statements of SZABIST- Dubai need to be specific enough to guide employee behaviour by including market segment, quantity of student, and education quality targets. Values and Culture: Faculty and staff at SZABIST- Dubai must be encouraged to be knowledge-based entrepreneurs with values such as intellectual honesty, trust, openness, humility and freedom to fail and thereby learn.

Roles and Responsibilities: Responsibility and decision-making authority must be clearly defined and be placed in the hands of the individuals with the best knowledge to make relevant decisions.

Compensation and Motivation: SZABIST-Dubai needs to provide extrinsic incentives that are clearly linked to results that people are expected to attain and can actually affect, and individuals must be given opportunities to take on responsibilities that best fit their interests and abilities.

Internal markets: SZABIST has enough human resource to effectively seek their cooperation in areas of training, advertising and marketing, course development, delivery method innovations and the generation and assimilation of local knowledge.

Generation and Use of Knowledge: Above all, SZABIST Dubai must commit to share business and operating knowledge in ways that promote organisational learning with the main campus and develop innovative solutions.

Task Teams as a Tool for MBM at SZABIST Dubai: To propagate free flow of ideas by making employees feel that they can communicate without fear of punishment or discouragement, SZABIST-Dubai can develop task teams for various functions that work independently to make recommendations and come up with innovative solutions. The task teams must have the characteristics of real teams, as opposed to teams in name only, namely team boundaries, stability of membership, task interdependence as well as team learning and emotional support (Buljac, Van Wijngaarden & Van Woerkom, 2013). These last two characteristics can be the predictors of team effectiveness and decision-making value. Three task teams are recommended here as follows but more can be included if they fulfil the real team criteria:

SWOT team: Established to identify threats and opportunities by interacting with external markets through conferences, seminars etc.

Internal Relations Team: Established to identify the needs of students, staff and faculty and make viable recommendations in conjunction with SWOT team learnings. Together these two teams would be able share their knowledge and make recommendations in areas like new programmes and courses that can help gain competitive advantage and also new delivery methods that can improve overall teaching and learning experience at SZABIST.

Research Centre: Established to develop implementation strategies for the recommendations of the previous two teams by looking at internal competencies and resource allocations. It is imperative to note here, that these teams can only be effective if the conflicts are managed and regulated and their impact on team performance is minimised. Although task boundaries must be clearly defined, there might still be instances where task conflict can develop and, though they have a potential to improve teams' decision- making (Jiang, Zhang & Tjosvold, 2013), they must be managed by upper management. Task conflicts can occur, for example between SWOT and Internal Relations teams where they both are suggesting ways of improving new student registrations, for instance. SWOT team might try to push for new programme offerings while Internal Relations team might suggest changes in delivery methods. The teams would work most effectively together if relationship conflicts were eliminated between the members and where members feel that their opinions are respected and sought by their own as well as other teams throughout SZABIST.

Competitive Advantage for SZABIST-Dubai: As discussed earlier also that price differentiation in not a long-term strategic advantage in the higher education sector in UAE. SZABIST has traditionally competed based on its lower fee structure and flexible payment plans but in the absence of other key differentiation strategies, this cannot have the longevity and effectiveness anymore. To make any recommendations for gaining a sustainable competitive advantage, we would look at the value delivery chain at SZABIST and reintroduce it and stress the fact that SZABIST must look at its functions as related in the form of a chain and not independent functions that do not require inputs and knowledge from and of the previous stage. Porter (1985) developed value chain with five primary activities and four supporting activities but in order to apply it to higher education some changes need to be incorporated as some components of Porter's chain (e.g., inbound and outbound logistics) cannot

be directly applied to higher education (Makkar, Gabriel & Tripathi, 2008).

Figure 1: *Presents the Redefined Value Chain for SZABIST Dubai*

Support Activities	*Infrastructure and Student Services*				
	Research and Library Services				
	HRM, Faculty and Staff Developments				
Primary Activities	Course Development & Programme Design	Course Content Delivery (Classroom & non-classroom Delivery)	Records & Distribution (Books, Lecture notes etc.)	Marketing & Sales (New student registrations)	Student Support

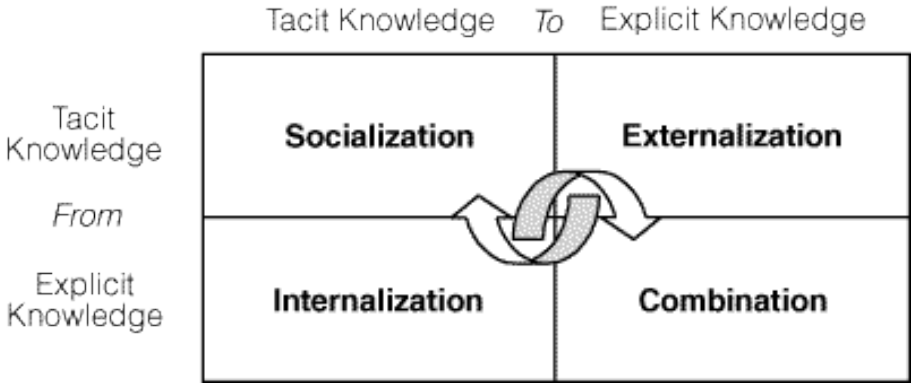
Source: Makkar, Gabriel & Tripathi (2008)

According to this value chain the support activities must form a package of services for the students, which must aid in the learning experience they have at SZABIST. The Primary activities need to undergo a constant change as well to keep abreast with the changes in the customer needs and competitive threats. Porter's Generic Strategies for competitive advantage (1985) can be useful tools to develop strategies for SZABIST and with the value chain in mind; SZABIST can create a significant differentiation by offering its students one-on-one learning experience and personalised solutions. With its small student base, this is possible, which in other universities where the class sizes range in 100s it would not be practical. SZABIST can innovate the classroom interactions to include not just lectures but simulations, discussions and debates where every student can participate and present their point of view. Faculty can give detailed, individual feedback because of small class size and this can greatly improve the quality of course delivery and content. Students can this way enjoy the benefits of high-quality products and personal relationships and a specialised custom-fit solution that is typical for Niche Marketing. Without expanding its campus to include bigger classroom size and quantity, small size of the campus can provide better interactions and cost advantage at process level and better resource utilisation. In short, SZABIST can gain competitive advantage if it develops a knowledge-based organisation that thrives on interactions between students, markets and organisation and its small size can be a resource for this in a market where institutes are building bigger campuses to cater to bigger student bases. The task teams suggested earlier, could also more effectively interact with faculty and students to understand their needs and to communicate their innovative solutions under this new management style.

SZABIST as a Learning Organisation: To sustain the above-mentioned competitive advantage, SZABIST must incorporate a paradigm shift in the way its management and decision-makers have viewed the organisation. SZABIST needs to be a learning organisation that constantly stays in touch with the external and internal market, gains knowledge from it at individual and group level, and then this knowledge is assimilated and utilised in task teams, which have the authority to recommend and decide on the changes that must be made to sustain the competitive advantage. This cycle of knowledge assimilation and dissemination is represented in Figure 2. According to this cycle, the tacit information is captured from the external environment through interactions with external agents (students, competitors, education ministry etc.) and internal organisational members through physical proximity or interactions in task teams and then disseminated to the entire organisation in a socialisation process (Ramirez, Morales & Rojas, 2011). This paper has recommended this socialisation process to be formally organised in the form of task team cooperation. Rather than transmitting this tacit knowledge to

main campus, task teams would work together to recommend and implement changes at Dubai campus.

Figure 2: *Four Alternatives for the Creation of Knowledge*



Source: Nonaka & Takeuchi (1995)

Conclusion: Market-based management is a comprehensive framework that seeks to promote the discovery, dissemination and integration of knowledge in the firms. It contrasts with both "command-and-control" paradigm and with less systematic, ad hoc approaches that have gradually led managers away from command-and-control (Cowen & Ellig, 1995). SZABIST Dubai has been a typical case study in this regard where during its inception stage it had a centralised command in main campus in Pakistan, which lead to feelings of redundancy and stagnation of ideas in Dubai campus. This resulted in a disastrous faculty and staff departure that rendered SZABIST incapable of coping with the massive competitive threats it was faced with. The ensuing survival mode established an ad hoc management style where remaining staff was more concerned with getting the day-to-day work done and feared punishment and rebuke for any attempt to suggest innovation and knowledge sharing. SZABIST has an advantage of its small size and can effectively use its compactness to interact with students to create long-term and personal relationships. This can prove to be an important source for its competitive advantage especially when it is combined with the development of task teams that must have enough incentives and authority to recommend changes. The constant changes can occur through task teams in the entire value chain from infrastructure utilisation and faculty developments to course content changes, to delivery innovations that allow for more student-faculty interaction and dialogue and finally by the inclusion of student inputs in the decision-making process. Above all, decentralisation to task teams is a paradigm shift that can only be effective once SZABIST changes its framework and be a learning organisation that recognises the importance of knowledge of market mechanisms and has socialisation processes that promote the discovery, dissemination and utilisation of this knowledge.

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Effect of Metacognitive Intervention Strategies in Enhancing Resilience Among Pre-Service Teachers

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Abstract: The arena of metacognition has been studied in various disciplines including education, psychology, positive psychology, and neuroscience, however, research studies have yet to address the role of metacognition

in enhancing resilience. Thus, the present study explored how metacognitive intervention strategies enhance resilience among pre-service teachers. The understanding of resilience may act as a catalyst for pre-service teachers to overcome difficulties during and after their training period. An experimental method with a single group design was employed in this study and the sample was 20 pre-service teachers undertaking the Bachelor of Education course at Alagappa University College of Education, Alagappa University, Karaikudi, Sivagangai district, Tamil Nadu, India. The convenience sampling technique was utilized for this study. A metacognitive awareness questionnaire constructed and validated by the researcher and research supervisor with a Cronbach's alpha reliability of the present sample is 0.72 and a Resilience Appraisal Scale (RAS) developed by Johnson et al., 2010 with Cronbach's alpha reliability of the present sample is 0.75 were used for data collection. Results revealed that metacognitive intervention strategies influence the resilience of pre-service teachers and considerable improvement present in resilience among pre-service teachers after the experimentation period. Future research needs to focus on various dimensions of resilience for extensive knowledge and survey research would encourage measuring these constructs in the larger sample.
Keywords: Metacognition, Resilience, Pre-Service Teachers, Intervention Strategies

Introduction: Metacognition and resilience are the major constructs focused on educational research. The line of research studies revealed that metacognitive awareness is highly related to motivation, the effectiveness of teaching, and the academic achievement of pre-service teachers, and resilience acts as the precursor for mental health.

Metacognition: Metacognition is the process of knowing about knowledge and thinking about thinking. (Mcinerney,2013). Metacognition refers to cognition about cognition or knowing and learning (Hofer & Sinatra,2010). Human metacognition entails identifying, interpreting, and communicating small signs suggesting whether current thinking and behavior are correct. (Heyes et al., 2020). There are several ways to categorize metacognition, including metacognitive experience, metacognitive regulation, and metacognitive knowledge. (Flavell, 1979). Metacognition is positively related to self-regulation of learning (Efklides,2009). The learner can monitor, manage, and control their thought processes with the use of their metacognitive ability (Patterson,2011). To maximize learning, student teachers must cultivate self-assurance, self-efficacy, reflective thinking, and diverse thinking. Early in human life, core metacognition occurs, enabling a person to automatically evaluate and manage their cognition (Goupil&Kouider,2019). The effectiveness of their written assignment tasks is influenced by the student teachers' metacognitive abilities (Ali et al.,2020). The metacognition of B.Ed students' academic achievement is highly correlated (Kavitha & Uma, 2020). Students engage in metacognition through thinking-aloud techniques (Siddiqui et al.,2020). B.Ed students' metacognition does not differ based on their gender (Kaur et al.,2018). The nature of the school has a considerable impact on the metacognition of the teachers (Periasamy,2021). For male and female student teachers, metacognitive awareness is strongly related to teaching and teaching competence (Sahoo et al.,2021). Effective intrapersonal decision-making in a variety of circumstances is facilitated by metacognition and also assisting the individual in recognizing our mistakes, metacognition maintains the seamless operation of continuous thinking and behavior (Rabbitt,1966). Metacognition governs the formation of executive functions (Bryce et al.,2015; Spiess et at.,2016). Metacognition helps to find out the inattention and metacognitive monitoring pivotal for effective working memory (Adam & Vogel,2017). Nelson and Narens' (1990) Model of Metacognition comprises two levels such as the object level and the Metalevel. The object level represents the thinking level of the individual. Cognitive strategies enable the learner to achieve specific goals at the object level. Thinking about thinking takes place during the meta-level. Knowledge of cognition and regulation of cognition are the two major classifications of metacognition. Metacognitive awareness or metacognitive knowledge represents individuals' knowledge about themselves. Metacognitive knowledge considers individuals' cognition with their varied cognitive tasks, goals, actions, and experiences (Flavell, 1979). Knowledge of cognition includes three different

kinds of metacognitive awareness: declarative, procedural, and conditional knowledge. Declarative Knowledge refers to knowing about things, procedural Knowledge refers to knowing how to do things, and conditional Knowledge refers to knowing the why and when aspects of cognition. Metacognitive regulation is the regulation of cognition and learning experience through a set of activities that help people control their thinking and learning. The regulation of cognition plays an important role in regulating students' skills concerning their thinking and learning processes: planning, monitoring, controlling, and evaluating. Planning refers to the suitable selection of strategies and the exact allocation of resources that affect task performance. Controlling Taking action in response to monitoring assessments. Evaluating refers to appraising the final product of a task and the efficiency with which the task was performed. Metacognitive activities enable students to become more aware of their skills as readers, writers, test-takers, etc. Knowing one's strengths and weaknesses assists the individual to monitor their learning techniques and resources and appraises their preparation for certain work (Bransford et al.,2000).

Resilience: Resilience is the capacity to cope with stressful circumstances and continue to function well in challenging sociocultural contexts (Johnson et al.,2014). Although many different elements might affect resilience, interventions that focus on contextual factors and incorporate resilience programs at the school level seem to be the most crucial for creating supportive settings where teachers and their children can flourish (Kangas-Dick & O'Shaughnessy,2020). Resilience acts as a prime factor for mental health and success (Neenan,2018). The association between purposeful work and teachers' resilience was significantly mediated by work engagement and job crafting. A growth of teachers' resilience can assist them in maintaining their passion for worthwhile yet demanding work (Van Wingerden, J., &Poell, R. F. (2019). Resilience, or the capacity to overcome difficulties, is thought to be increased and developed as a result of overcoming difficult situations in the past (Masten, 2001). The retention and resilience of teachers are affected by various factors. Teachers' efficacy beliefs and attributions are considered major factors for work (Gibbs & Miller, 2014). Resilience is considered a crucial non-cognitive feature of novice teachers (Klassen et al.,2018). In Australia, resilience is regarded as a major non-cognitive ability for the recruitment of teacher education students (Australian Institute of Teaching and School Leadership [AITSL],2015). The self-efficacy of pre-service teachers is strongly related to resilience (Yada,2021). Research studies revealed that teachers' resilience is a significant aspect related to their commitment, motivation, and retention in the profession of teaching (Brunetti,2006; Johnson et al.,2014). According to American Psychological Association (APA), resilience includes the process and outcome of effectively adapting to challenging life experiences. Emerging research studies revealed that resilience skills include problem-solving, goal setting, emotion regulation, and stress management, effective communication, building a social support network, practicing self-care, developing meaning and purpose in life, adopting a positive outlook, improving self-awareness, adopting effective coping strategies. (Duckworth,2016); Pemberton, 2015; Southwick & Charney,2018).

Need and significance of the study: Resilience is a contemporary behavioral study rising to precedence. Teaching-learning is an emotional aspiration. Pre-service teachers need to face various emotion-evoking situations at the time of their teaching-learning process internally as well as externally. Growing research in the field of positive psychology revealed that resilience needs to adapt to various hard situations and to improve commitment, motivation, and effectiveness in teaching among pre-service teachers. Metacognitive strategies are teachable Schraw, G. (1998), so the researcher might expect that metacognitive intervention strategy for pre-service teachers is teachable as well which in turn enhances resilience. Keeping this in mind this study intends to investigate how metacognitive intervention strategies enhance the resilience among pre-service teachers.

The Objectives of the Study: The objectives of the study were:

- To implement metacognitive intervention strategies among pre-service teachers
- To assess whether there exists any significant difference in pre- and post-assessment of resilience among pre-service teachers
- To assess the effectiveness of metacognitive intervention strategies in enhancing the resilience of pre-service teachers
- To find out the gain ratio of resilience and metacognitive intervention strategies among pre-service teachers.

Hypotheses of the Study: There will be no significant difference in pre and post-assessment scores of resilience among pre-service teachers. There is a significant increase in the gain ratio of pre- and post-assessment scores of resilience and metacognitive intervention strategies among pre-service teachers. There is a significant influence of metacognitive intervention strategies on resilience among pre-service teachers.

Variables of the Study:

- Dependent variable - resilience
- Independent variable- metacognitive intervention strategies

Methodology of the Study: The present study employed an experimental method, a single group design (Pre-assessment - Post-assessment) and the sample was 20 pre-service teachers undertaking the Bachelor of Education course at Alagappa University College of Education, Karaikudi. Sivagangai district, Tamil Nadu. The convenience sampling technique was utilized for this study. Metacognitive Intervention Strategies employed in the present study are based on previous research studies which include activities focused on planning, monitoring, and evaluation. Planning refers to the suitable choice of strategies and assignment of resources for difficult situations, monitoring involves individuals understanding and keeping track of their activities during difficult situations, Monitoring represents individuals' awareness of comprehension and performance of the task (Schraw &Moshman, 1995) and evaluation represents appraising the end of the task. The duration of the experiment was conducted 8 weeks during college working days. Resilience Appraisal Scale (RAS) developed by Johnson et al., 2010 measures the ability of the individual to cope with emotions, solve problems, and gain social support. Resilience Appraisal Scale (RAS) by Johnson et al., 2010 with Cronbach's alpha reliability of the present sample is 0.75 and a metacognitive awareness questionnaire constructed and validated by the researcher and research supervisor with a Cronbach's alpha reliability of the present sample is 0.72 were used for data collection. Statistical techniques used for this study were mean, standard deviation, t-test, effect size, and gain ratio.

Delimitation of the Study: The study is confined only to pre-service teachers who pursue physical science as their major subject and were selected from Alagappa University College of Education, Karaikudi, Sivagangai district, Tamil Nadu.

Findings: Hypothesis 1: There will be no significant difference between pre-and post-assessment scores of resilience among pre-service teachers.

Table1*: Pre- and Post-Assessment Scores of Resilience among Pre-Service Teachers*

Assessment	N	Mean	SD	Calculated 't' value	Level of significance
Pre-assessment	20	36.8	4.11	2.28	Significant
Post- Assessment	20	51.05	1.57		

*Significant at 5% level

The scores indicate that pre-service teachers obtained higher mean scores in the post-assessment compared to the pre-assessment score. The mean score obtained from the pre- and post-assessment were 36.8 and 51.05 respectively resulting in a mean difference of 14.25. The results also indicate that the total score for pre-service teachers' post-assessment was significantly improved. Hence the results indicate that pre-service teachers exhibited higher levels of improvement after treatment. From the above table, the calculated 't' Value (2.28) is greater than the table value (1.96) at the 0.05 level of significance. Hence it is inferred that there is a significant difference exists between pre- and post-assessment scores of resilience among pre-service teachers.

Hypothesis 2: There is a significant increase in the gain ratio of pre- and post-assessment scores of resilience and metacognitive intervention strategies among pre-service teachers.

Table 2: *The Gain Ratio of Pre- and Post-Assessment Scores Of Resilience and Metacognitive Intervention Strategies among Pre-Service Teachers*

Assessment	Pre-assessment	Post-assessment	Gain ratio
Resilience	61.33	85.08	23.75
Metacognitive Intervention Strategies	66.04	87.96	21.92

The Gain ratio value revealed that there is a considerable improvement present in metacognitive Strategies (21.92%) and resilience (23.75%) among pre-service teachers.

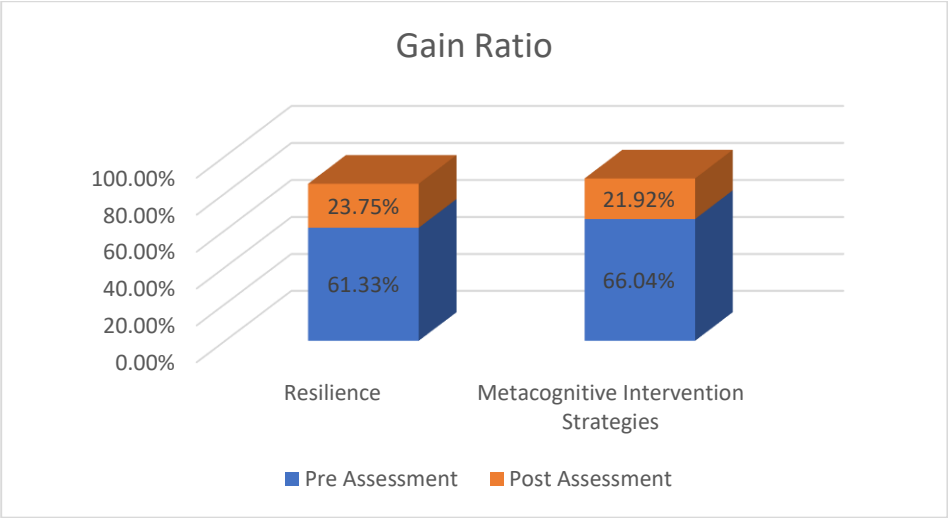

Figure 1: *The Gain Ratio of Resilience and Metacognitive Intervention Strategies among Pre-Service Teachers*

Hypothesis 3: There is a significant influence of metacognitive intervention strategies on resilience among pre-service teachers.

Assessment	Mean	SD	ES(d)
Pre-assessment	20	36.8	**4.57**
Post Assessment	20	51.05	

Table 3: *Effect size (d) between Pre and Post assessment scores of resilience among pre-service teachers*
Assessment Mean SD ES(d)

The above table shows the effect size (d) between pre- and post-assessment scores of resilience among pre-service teachers. The effect size value (d) 4.57 indicates that there is a visible difference between the pre-and post-assessment scores of resilience. It reveals that there is a significant influence of metacognitive intervention strategies occurs on resilience among pre-service teachers.

Discussion: The present research findings indicate that metacognitive intervention strategies enhance resilience among pre-service teachers. The findings highlight metacognitive intervention strategies influence pre-service teachers' resilience. In the present investigation, the researcher has found a few findings which are converted into educational implications that the major contribution to developing resilience among the pre-service teachers, is a considered self-oriented practice in a productive way. Previous research studies revealed that the multifaceted feature of resilience is manifest to initiate resilience, researchers have assessed various constructs such as emotional intelligence, self-efficacy, teacher-pupil interaction, work stress, school environment, and student nature (Ainsworth & Oldfield, 2019). The significance of current research findings lies in unfolding a greater understanding of two constructs such as metacognition and resilience. Present research finding paves the way for novel projects and facilitates research that examines the pre-service teachers' transferable skills like resilience. Future research would be needed to explore the dimensions of resilience for extensive knowledge and survey research would encourage measuring these constructs in the larger sample.

Conclusion: The present study concluded that there exists a significant difference between pre-and post-assessment scores of resilience among pre-service teachers, the significant influence of metacognitive intervention strategies occurs on resilience among pre-service teachers, and considerable improvement present in the resilience of pre-service teachers through metacognitive intervention strategies. It is considered that metacognitive intervention strategies were suitable for pre-service teachers to enrich their cognitive process which facilitates enhancing their resilience.

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Challenges in The Implementation of School-Based Management of Developing Schools: Basis for A Compliance Framework

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Abstract: This study is qualitative research that employed descriptive design. It aimed to determine the challenges encountered by the Level 1(Developing) schools in the District Schools, Division of Bulacan, Philippines in the implementation of School-Based Management (SBM) as a basis for the proposal of a Compliance Framework. Generally, this study describes the level of compliance in the implementation of School-Based Management of participant schools. The study also determined how the schools addressed the challenges encountered that led to the development of a Compliance Framework. In the gathering of data needed in this study, the researchers utilized the School-Based Management (SBM) validation results of each school. Other data were gathered from the School Heads and SBM (School-Based Management) coordinators through survey-interview using semi-structured interview questions formulated by the researchers. Gathered data were organized, tallied, and tabulated for better interpretation and analysis. Based on the findings, it was concluded that the actual performance of schools studied was way below the expected standards of advanced level of School-Based Management and that there is a need for improvement of these schools in the implementation of all the principles of School-Based Management. In particular, this study revealed that participant schools experienced challenges in managing the four dimensions/principles of School-Based Management. The challenges that the schools encountered in terms of Leadership and Governance include guiding the teachers in the proper implementation of School-Based Management, the school head's role in providing guidance to teachers and parents, establishing open communication, implementation of plans, and monitoring of plan execution, engagement of the local community in school improvement planning, initiatives from school district officials. The challenges encountered in terms of Curriculum and Instruction include the adequacy of learning technologies, appropriateness of learning materials for the learners, evidence of learning

outcomes and performance improvement, financial resources to support curriculum instruction, and upskilling and retooling of teachers. The challenges encountered in terms of Accountability and Continuous Improvements include financial and time constraints, compliance with pertinent documents, periodic review of appraisal mechanisms, continuous improvement projects, familiarity with the implementation of the School-Based Management, performance evaluation tools, documentation protocol, and recording of outputs, continuous school progress, and improvement, the commitment of teachers through equitable compensation, and involvement of stakeholders for improvement. The challenges encountered in terms of Management Resources include financial constraints, teachers & students' engagement in school operations, support from the low-income earning family of stakeholder, involvement of the community, limited support from small stakeholders, manpower resources, engagement of the local community in school improvement planning, insufficient school fund, and immediate support from the Local Government Unit. Based on the conclusion, the researchers recommend that schools need to conduct comprehensive training on the management and implementation of the School-Based Management (SBM) system. It is necessary to require School Heads and teachers to attend related training on adequate supervision, curriculum development, and accomplishing monthly and quarterly instructional and supervisory plans. In addition, periodic monitoring of the school's performance is needed to determine if the actual accomplishments of the school fully comply with the School-Based Management standards. Active engagement of the schools to the community is also recommended. Lastly, the implementation of the proposed Compliance Framework generated in this study is highly recommended to intensify the implementation of School-Based Management to improve the level of the school from Level 1 to a higher level.
Keywords: Challenges, School-Based Management, Beginning School, Compliance Framework

1. Introduction: School-Based Management (SBM) is a strategy that focuses on the improvement of every public school's general performance in education by transferring significant decision-making authority from the Central Office to individual schools. Most countries adopt School-Based Management to enhance school systems, improve teaching and learning for better student achievements, empower school officials and train them to be better leaders, promote accountability, and ensure the safety and welfare of all members of school communities (Tacay, 2022). In the Philippines, School-Based Management (SBM) is a DepEd (Department of Education) thrust that decentralizes the decision-making from the Central Office and field offices to individual schools to enable them to better respond to their specific education needs (DepE5, 2015). School-Based Management is anchored in Republic Act No. 9155 also known as the Governance of Basic Education Act of 2001, Schools First Initiative (SFI, 2005), and Basic Education Sector Reform Agenda (BESRA, 2006). RA 9155 which indicates Local units and other stakeholders as partners in education service delivery. Through the involvement of teachers, parents, and other community members in these key decisions, SBM can create more effective learning environments for children (World Bank, 2017). The underlying principle of the said program is that the people directly involved and affected by school operations are the best persons to plan, manage and improve the school (Bernaldez, 2018). School-Based Management (SBM) has four principles being implemented; Leadership and Governance, Curriculum and Instruction, Accountability and Continuous Improvement, and Management Resources. The Leadership and Governance, which pertains to the performance of the school to provide a Development Plan developed collaboratively by the stakeholders of the school and community and the school, is organized by a clear structure and work arrangements that promote shared leadership and governance and define the roles and responsibilities of the stakeholders (Caburnay, 2022). The Curriculum and Instruction involve the teaching and learning process in school, teachers' competencies, and learners' performance (Simon, 2021). The Accountability and Continuous Improvement, which validates the clear, transparent, inclusive, and responsive accountability system is in place, collaboratively developed by community stakeholders, which monitors expected and actual performance, continually addresses the gaps, and ensures a venue for feedback and redress (Caburnay, 2022). Lastly, the Management

of Resources assesses the school resources that are collectively and judiciously mobilized and managed with transparency, effectiveness, and efficiency (Simon, 2021). These principles are shadowed by the primary objectives of SBM, to empower the school heads to lead their teachers and students through reforms that lead to higher learning outcomes; bring resources, including funds down to the control of the school to spur change in line with decentralization; strengthen partnership with communities to invest time, money and effort in making the school a better place to learn; and integrate school management and instructional reformation for school effectiveness (Camacho and Farrales, 2022). DepEd Order No. 83, s. 2012 was implemented to further strengthen the School-Based Management (SBM) practice and re-emphasize the centrality of the learners and the involvement of relevant community basic education service delivery. School-Based Management is being implemented as education involves partnerships, of which the school-community relationship, as the most fundamental, is perhaps the most widely theorized and researched. However, many different kinds of partnerships exist in education settings, and they can occur at different levels within the education system. Partnerships are often expected to address multiple needs simultaneously, such as providing education to those who could not afford it, bringing together a particular set of values, maintaining indigenous languages and cultures, or providing a special focus alongside a general education. In order to have the most positive impact on the academic and wellness outcomes of students, it is imperative that schools and communities work together through a collaborative and comprehensive approach (Reyes, 2021). The implementation of School-Based Management is being evaluated based on the standard criteria set by the Department of Education. The Revised School-Based Management (SBM) Assessment Tool is guided by the four principles of ACCESs (A Child and Community Centered Education System). The indicators of SBM practice were conceptualized from the ideal of an ACCESs school system. The unit of analysis in the school system may be classified as beginning, developing, and advanced (accredited level). The SBM practice is ascertained by the existence of structured mechanisms, processes, and practices in all indicators. A team of practitioners and experts from the district, division, region, and central office validates the self-study/assessment before establishing an SBM practice level. The highest level “advanced” is a candidate for accreditation after a team of external validators confirmed the evidence of practices and procedures that satisfies quality standards (DepEdCAR, 2015). Challenges in the implementation of School-Based Management are a normal occurrence and have to be addressed. Abulencia (2021) pointed out that SBM issues involving public schools include a high dropout rate, quality educational service, high repetition rate, and limited holding capacity of the schools. Full implementation of some schools in the Philippines was obtained evidently by the 100% collaboration of schools and stakeholders in general school operations. Cortez (2022) stated that selected schools in National Capital Region (NCR) slightly implemented the SBM which manifested the insufficient documentation of the implementation and a low percentage of level 3 schools. In this study, the researchers opted to analyze the challenges of Level 1 schools in the implementation of School-Based Management and aimed to propose a compliance framework that may strengthen and improve the schools’ School-Based Management (SBM) implementation.

2. Method: The study was conducted in five (5) Level 1 schools regarding School-Based Management (SBM) compliance in the District Schools, Division of Bulacan, Philippines. This study is qualitative research that utilized the descriptive design. Document analysis was employed to describe the level of compliance in School-Based Management of each school. Document analysis is an approach in which documents are interpreted by the researchers to give voice and meaning to an assessment topic. Analyzing documents incorporates coding content into themes similar to how focus groups or interview transcripts are analyzed (Bowen, 2009). To find out the challenges encountered by the schools in the implementation of School-Based Management (SBM), a survey interview using semi-structured interview questions formulated by the researchers was performed with the school heads and SBM coordinators. The respondents were chosen on the basis of pre-determined criteria set by the researchers: (1) Knowledge of the background of School-Based Management; and (2) Involvement in the implementation of School-Based Management. Data gathered from the school document and interviews

with respondents were organized, tallied, and tabulated for better interpretation and analysis.

3. Results

3.1. The description of the level of compliance in School-Based Management of each school: The compliance level of SBM practice for each principal is rated on the following Numerical Ratio Scale; 0 for no evidence of performance, 1 for evidence indicates beginning structures and mechanisms are in place to demonstrate ACCESs, 2 for evidence indicates planned practices and procedures are fully implemented and aligned to ACCESs, and 3 for evidence indicates practices and procedures satisfy the quality standard. The overall/average rating for SBM practice is interpreted as follows; 1.00 to 1.49 is interpreted as Level 1 or developing, 1.50 to 2.49 is interpreted as Level 2 or maturing, and 2.50 to 3.00 is interpreted as Level 3 or advanced (DepEdCAR, 2015).

Table 1: *Level of compliance in School-Based Management of Schools*

School	Leadership and Governance	Curriculum and Instruction	Accountability and Continuous Improvement	Management Resources	Overall rating	General Status
Balasing Elementary School	1.20	1.46	1.44	1.42	1.38	Level 1 (Developing)
Perez Elementary School	1.10	1.90	1.00	1.80	1.45	Level 1 (Developing)
Camachile Elementary School	1.12	1.22	1.00	1.40	1.19	Level 1 (Developing)
M. Sapa Elementary School	1.40	1.26	1.24	1.42	1.33	Level 1 (Developing)
Silangan Elementary School	1.24	1.28	1.00	1.28	1.20	Level 1 (Developing)
Average:	1.19	1.42	1.17	1.46		

The table (Table 1) shows the level of compliance of participant schools in School-Based Management. All schools are in Level 1 or developing status. The evidence of School-Based Management practice of the schools indicates that beginning structures and mechanisms are in place to demonstrate ACCESs. Usually, small schools are at this level due to limited resources in terms of funds and support from stakeholders. According to Santos (2019), the gaps and needs in these level (Level 1) in terms of SBM performance are clearly visible because of limited support as the main stakeholders, such as Local Government Unit (LGU) and Local School Board (LSB), prioritize big schools in terms of fund allotment. In other words, schools with level 1 performance indicate poor enactment of transparency and low value of support mechanisms. The two most difficult dimensions for the small schools as shown by their level of compliance are Leadership and Governance with an average rating of 1.19, and Accountability and Continuous Improvement with an average rating of 1.17. The four principles of School-Based Management, Leadership, and Governance guides the education system to achieve its shared vision, mission, and goals making them responsive and relevant to the context of diverse environments. Curriculum and Learning Systems anchored on the community and learners' contexts and aspirations are collaboratively developed and continuously improved. Accountability and continuous improvement mean having a clear, transparent, inclusive, and responsive accountability system in place, collaboratively developed by the school community, which monitors performance and acts appropriately on gaps and gains. Management of Resources are collectively organized, judiciously mobilized, and managed with transparency, effectiveness, and efficiency to support targeted education outcomes. Along with these four principles of ACCESs, the SBM practice evolved within the context of "differentiated practice" as created and affected by the variations in the

typology of schools, leadership quality, and characteristics, resources of the community, diversity of learners, and extent and depth of community involvement (DepEd, 2012). The variations in the typology of schools, like the small schools, affected their compliance with the SBM requirements.

3.2. Challenges in School-Based Management Implementation:

3.2.1. In terms of Leadership Governance:

Table 2: *Challenges encountered by the participant schools in the implementation of School-Based Management in terms of Leadership Governance*

Participant School	Respondents' Response	Challenges
School 1	The first time that I handled this school, their SMB (School-Based management) section is empty and without any record. Although the teachers knew what SMB was all about, they do not know what to do about it. What I did is I patiently guided them to complete the documents needed. With the grace of our Lord, we are now validated as Level 1 already.	Guiding the teachers in the proper implementation of the School-Based Management
School 2	I experienced difficulty in performing my role in guiding the teachers and parents Communication and cooperation with parents is hardly achieved.	School head's role in providing guidance to teachers and parents Establishing open communication
School 3	School plans are not implemented. If implemented, desired outputs are not met due to lack of monitoring.	Implementation of plans and monitoring of plan execution
School 4	It is challenging to let the stakeholders like LGU, Barangay committee on education, alumni, PTA, etc. to involve in school improvement planning.	Engagement of the local community in school improvement planning
School 5	Initiatives of school administrators for a review and improvement of a development plan.	Initiatives from school district officials

The table above (Table 2) shows the responses of the respondents that led the researchers to determine the challenges encountered by the participant schools in the implementation of School-Based Management in terms of Leadership Governance. School no. 1 encountered challenges in guiding the teachers in the proper implementation of School-Based Management. School no. 2 encountered challenges in the school head's role in providing guidance to teachers and parents and establishing open communication with the parents. School no. 3 encountered challenges in the implementation of school plans and monitoring the execution of these plans. School no. 4 encountered challenges in the engagement of the local community in school improvement planning. School no. 5 encountered challenges in the initiatives of school district officials.

3.2.2. In terms of Curriculum and Instruction:

Table 3*: Challenges encountered by the participant schools in the implementation of School-Based Management in terms of Curriculum and Instruction*

Participant School	Respondents' Response	Challenges
School 1	We only have one projector for the school and is only used during school activity. It is not used in classroom teaching.	Adequacy of learning technology

School 2	Our school lacks appropriate and good learning materials. Our library is so small and textbooks are outdated.	Appropriateness of learning materials for the learners
School 3	We lack evidences to show improved learning outcomes, like achievement rates, promotion rates, and failure rates. We also lack evidence of improved performance using localized curriculum, monitoring tool and assessment tool.	Evidence of leaning outcomes and performance improvement
School 4	Our teachers voluntarily use money from their own pocket to provide their own teaching materials and learning materials for their students.	Financial resources to support curriculum instruction
School 5	Lack of adequate trainings and professional development seminars for the teachers.	Upskilling and retooling of teachers

The table above (Table 3) shows the responses of the respondents that led the researchers to determine the challenges encountered by the participant schools in the implementation of School-Based Management in terms of Curriculum and Instruction. School no. 1 encountered challenges in the adequacy of learning technologies. School no. 2 encountered challenges in appropriateness of learning materials for their learners. School no. 3 encountered challenges in providing evidence of learning outcomes and performance improvement. School no. 4 encountered challenges in financial resources to support curriculum instruction. School no. 5 encountered challenges in upskilling and retooling teachers.

3.2.3. In Terms of Accountability and Continuous Improvement:

Table 4: *Challenges encountered by the participant schools in the implementation of School-Based Management in terms of Accountability and Continuous Improvement*

Participant School	Respondents' Response	Challenges
School 1	There are tendencies for us to come up with plans for the school year, but because of some constraints financially, and sometimes suspension of classes due to bad weather, the percentage of accomplishment at the end of the school year is reduced	Financial and time constraint
School 2	The school find difficulty to comply with school handbook, Memorandum of Agreement, accomplishment report, and assessment framework. Appraisal mechanism are not reviewed regularly nor continuously. We're still in level 1 but our rating was higher compared to last year.	Compliance with pertinent documents Periodic review of appraisal mechanism
School 3	We don't have continuous improvement projects in our school this school year. We admit that our school is still in the beginning stage based on the SMB (School-Based Management) performance. This is because we are still in the preliminary stage of the SMB implementation.	Continuous improvement projects Familiarity in the implementation of the School-Based Management
School 4	Performance assessment are not objective. Documentation of activities are not given importance and recording of the activity outputs are often neglected. But in terms of SMB (School-Based Management) we are compliant from planning to	Performance evaluation tools Documentation protocol and recording of outputs

	implementation and monitoring. It means our school is progressing and improving in my three years of being the school head.	Continuous school progress and improvement
School 5	Teachers financial difficulties reduce teacher's commitment to the school Low participation of our stakeholders, both internal and external, that makes our school still in level 1.	Work commitment of teachers through equitable compensation Involvement of stakeholders for improvement

The table above (Table 4) shows the responses of the respondents that led the researchers to determine the challenges encountered by the participant schools in the implementation of School-Based Management in terms of Accountability and Continuous Improvement. School no. 1 encountered challenges in financial and time constraints. School no. 2 encountered challenges in complying with pertinent documents and periodic reviews of the appraisal mechanism. School no. 3 encountered challenges in continuous improvement projects and familiarity of the teachers in the implementation of the School-Based Management. School no. 4 encountered challenges in the performance evaluation tools, documentation protocol and recording of outputs, and continuous school progress and improvement. School no. 5 encountered challenges in the commitment of teachers to their work by providing equitable compensation for them. The school also encountered challenges in the involvement of the stakeholders in school improvement.

3.2.4. In terms of Management Resources:

Table 5: *Challenges Encountered By the Participant Schools in the Implementation of School-Based Management In Terms Of Management Resources*

Participant School	Respondents' Response	Challenges
School 1	There are tendencies for us to come up with plans for the school year, but because of some constraints financially, and sometimes suspension of classes due to bad weather, the percentage of accomplishment at the end of the school year is also reduced	Financial constraints
School 2	We, the teachers and the students, should be the one to perform first before we involve our external stakeholders. The students and teachers are the first to act for the school operations. It is very hard for us to mobilize our stakeholders and seek participation from them because we are in a rural area where most of the families here belong to an average to low income earner.	Teachers & students' engagement in school operation Support from the low income earning family of stakeholder
School 3	We have our PTA (Parent-Teacher Association) but they are not active this year. For our external stakeholders, we primarily rely support from the LGU, community, alumni, and private individuals. Other than that, we don't yet have bigger stakeholder that could provide us bigger support.	Involvement of the community Limited support from small stakeholders
School 4	We have limited number of teachers that could work together in making and executing plans. Stakeholders like LGU, Barangay committee on education, alumni PTA, etc. lacks involvement in school improvement	Manpower resources Engagement of the local community in school improvement planning

	planning.	
School 5	When it comes to resources, we have small MOOE (Maintenance and Other Operating Expenses). We also seldom become a recipient of supports especially financial support coming from the LGU (Local Government Unit) because they prioritize the Central School and other bigger schools.	Insufficient school fund Immediate support from the Local Government Unit

The table above (Table 5) shows the responses of the respondents that led the researchers to determine the challenges encountered by the participant schools in the implementation of School-Based Management in terms of Management Resources. School no. 1 encountered challenges in financial constraints. School no. 2 encountered challenges in engaging the teachers & students in school operations. The school also encountered challenges in soliciting support from the low-income earning family of stakeholders. School no.3 encountered challenges in the involvement of the community and limited support from small stakeholders. School no. 4 encountered challenges in manpower resources and engagement of the local community in school improvement planning. School no. 5 encountered challenges in insufficient school funds and immediate support from the Local Government Unit.

3.3. Proposed Compliance Framework: Based on the result of the study, along with the combined views and suggestions of the respondents during the interview process, a proposed Compliance Framework (Figure 1) was crafted by the researchers. The proposed framework is aligned with the principles of the existing School-Based Management of the schools and was based on the challenges encountered by these schools. The objective of the framework is to intensify the implementation of the School-Based Management of schools that may help elevate their level and general status.

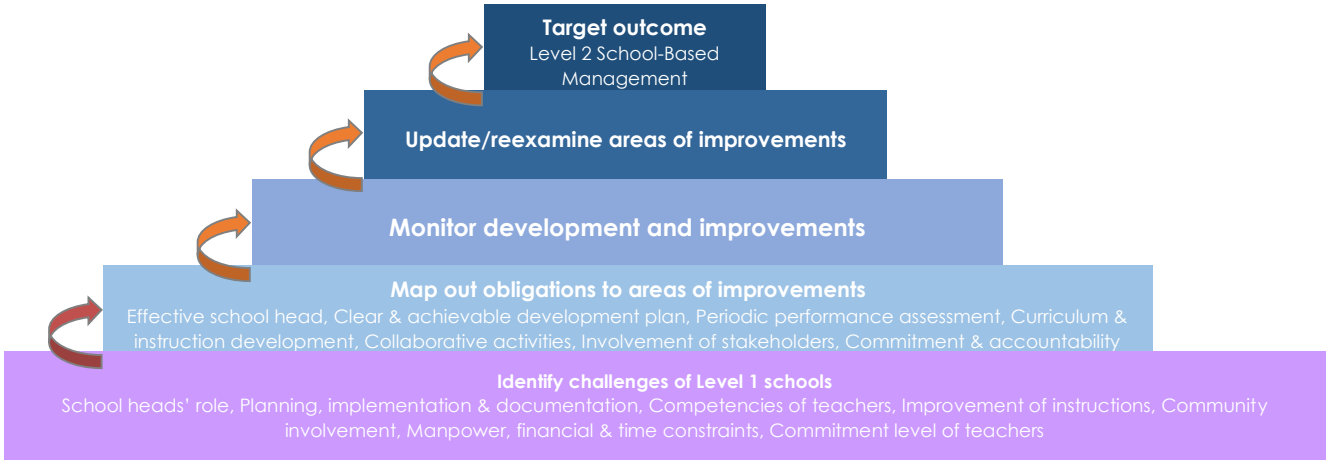

Figure 1: *Proposed Compliance Framework*

4. Conclusion: Based on the findings, it was concluded that the actual performance of schools studied was way below the expected standards of advanced level of School-Based Management and that there is a need for improvement of these schools in the implementation of all the principles of School-Based Management. In particular, this study revealed that participant schools experienced challenges in managing the four dimensions/principles of School-Based Management. The challenges that the schools encountered in terms of Leadership and Governance include guiding the teachers in the proper implementation of School-Based Management, the school head's role in providing guidance to teachers and parents, establishing open communication, implementation of plans, and monitoring of plan execution, engagement of the local community in school improvement planning, initiatives from school district officials. The challenges

encountered in terms of Curriculum and Instruction include the adequacy of learning technologies, appropriateness of learning materials for the learners, evidence of learning outcomes and performance improvement, financial resources to support curriculum instruction, and upskilling and retooling of teachers. The challenges encountered in terms of Accountability and Continuous Improvements include financial and time constraints, compliance with pertinent documents, periodic review of appraisal mechanisms, continuous improvement projects, familiarity with the implementation of School-Based Management, performance evaluation tools, documentation protocol, and recording of outputs, continuous school progress and improvement, the commitment of teachers through equitable compensation, and involvement of stakeholders for improvement. The challenges encountered in terms of Management Resources include financial constraints, teachers & students' engagement in school operations, support from the low-income earning family of stakeholder, involvement of the community, limited support from small stakeholders, manpower resources, engagement of the local community in school improvement planning, insufficient school fund, and immediate support from the Local Government Unit.

5. Recommendation: Based on the aforementioned conclusion, the researchers recommend that schools need to conduct comprehensive training on the management and implementation of School-Based Management (SBM) system. It is necessary to require School Heads and teachers to attend related training on adequate supervision, curriculum development, and accomplishing monthly and quarterly instructional and supervisory plans. In addition, periodic monitoring of the school's performance is needed to determine if the actual accomplishments of the school fully comply with the School-Based Management standards. Active engagement of the schools to the community is also recommended. Lastly, the implementation of the proposed Compliance Framework generated in this study is highly recommended to intensify the implementation of School-Based Management to improve the level of the school from Level 1 to a higher level.

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The Process of Developing Indigenous Culture-Integrated Mathematics Remedial Teaching Modules for Elementary School Low-Achieving Indigenous Students in Taiwan

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Abstract: Mathematics is one of the most difficult subjects for most indigenous students in Taiwan. In view of the international trend of emphasizing the education equity principle concerning the learning of minority students to improve their success in mathematics, this study implemented an activity theory to analyze the difficulties of low-achieving indigenous students in mathematics. Then, it developed an indigenous culture-integrated mathematics remedial teaching module to address the students' challenges. Furthermore, this research applied the case study method and invited twelve fourth- and fifth-grade Truku indigenous students with low achievement in mathematics in the tribal Mountain Primary School (pseudonym) and the tutors of the two classes as the study participants. The research tools used for analysis included a teacher-student interview outline, an indigenous culture integration mathematics remedial teaching module, classroom videos, and reflection logs. Moreover, from the analysis of the activity theory, this study found that the low-achievement indigenous students' resistance appeared among the tools, rules, and division of labor, which caused them to produce contradictory emotions towards mathematics, such as a lack of self-confidence. The study team developed a mathematical remedial module integrating indigenous culture into the problem-solving tasks. They taught multiple representations with graphs that the low-achieving indigenous students were good at and used peer tutoring strategies to address the challenges. 60% of the indigenous low-achieving students have improved their arithmetic operation ability. This finding implies that the dual-guidance teaching strategy expanded the indigenous students' ability to use multiple representations to solve problems, improved their confidence to present solutions, and appeared to have a "sense of ability" to contribute to the team.
Keywords: Activity Theory, Culture-Integrated Mathematics Module, Indigenous Students, Mathematics Remedial Teaching

1. Introduction: In recent years, the Taiwan government has actively and continuously implemented educational interventions to offer assistance to the disadvantaged and promote the cultural advantages of the indigenous group. In particular, the government has established indigenous culture experimental schools (Hsu, 2019) and offered mathematics remedial for low-achieving students, which echoes the development trend of world education where multiculturalism is valued. Teaching research in the fields of ethnic mathematics, culturally responsive teaching or culturally integrated mathematics teaching modules improves the conceptual understanding and problem-solving skills of indigenous students (e.g., Demitra & Sarjoko, 2018). Based on the above multicultural research results and the world's respect for multiculturalism, the researchers have the following goals:

1.1 Research objectives: The principal objectives of the study were as follows. •To implement an activity theory to analyze the difficulties of low-achieving indigenous students in mathematics. •To develop an indigenous culture-integrated mathematics remedial teaching module to address their difficulties.

2. Literature: Vygotsky (1935; 1978) emphasized the influence of social culture on the development of human

cognition. He pointed out that when people participate in social and cultural activities, shared experiences among people-using the basic tools of culture, such as language, symbols, numbers, and words, and through the cooperative relationship between subjects, objects, and tools - act as an intermediary with each other affecting the whole activity. A collaborative dialogue allows people not only to be passive recipients of information but active participants in creating meaning (Qiu, 2006). Based on the intermediary action triangle of subject, tool, and outcome by Vygotsky and Engeström (1987), this study added three elements: rule, community, and division of labor, called "the activity model", as shown in Figure1. This model explains that the subject uses mediators: tools, rules, and division of labor to interact with the community, generating a perception of the goal and affecting the outcome.

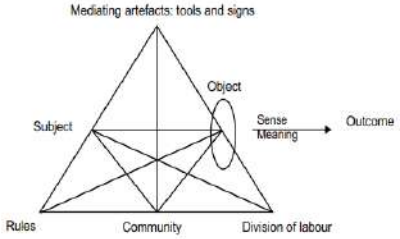

Figure 1: *Engeström's (1987) Activity Theory Model, Taken from Daniels (2001)*

3. Research methodology:

3.1 Participants: This study applied the case study method and invited 12 low-achieving fourth- and fifth-grade indigenous students in the tribal Mountain Elementary School (pseudonym), comprising eight boys and four girls. The invited students failed to pass the mathematics basic competence test of the Ministry of Education (2019) and needed to strengthen the arithmetic operational skills and basic concepts of fractions proposed by the two math teachers from the classes. Therefore, it was necessary to implement learning assistance and guidance. The school is located in the tribes where 90% of Truku people live, the clan of the 16 indigenous peoples in Taiwan. Although the young tribal people do not like the older adults communicating in their native language, they often participate in daily traditional cultural inheritance activities. They hold celebrations for marriage, winning awards, and graduations and prepare pork to share with everyone in the tribe. Given the low migration rate, students were resistant to diverse cultural stimulation and learning.

The researchers observed the learning process of low-achieving indigenous students in the classroom. The teacher's teaching has the following characteristics. • Teacher-centered instruction • Teachers talked to high-achieving indigenous students more by oral interaction • The teacher primarily used mathematical representations of numbers and symbols. •Teachers often used textbook examples to explain new concepts, but some examples deviate from students' life experiences.

3.2. Research tools: The research tools include teaching videos, teaching materials, a mathematics module, reflection logs, and outlines of teacher and student interviews. The interview questions for teachers include "What do you think of students with low math scores in the class?", "Can you give us feedback on the remedial teaching module?" On the other hand, the interview questions for students include "Who do you think can help you the most in learning mathematics?", "In today's class, did you understand the concept where the teacher converted mixed fractions to improper fractions?

3.3. Data processing and analysis: This study applied the template analysis style by Chang (2010). In addition, this study adopted the triangulation method, which included multiple data, multiple raters, and multiple analysis methods, to improve the reliability of data analysis. Among them, the raters invited two senior students who completed independent qualitative research to discuss the inconsistencies and obtain a consensus.

4. Results:

4.1. Mathematics resistance and learning difficulties of low-achieving students: The researcher found that the resistance of the low-achieving indigenous subjects lies in “material tools”, such as digital representation, abstract, and a cultural experience; “psychological tools”, such as ambivalence towards mathematics, lack of assistance in solving math problems at home; “division of labor”, such as unequal teacher-student ratios, the indigenous low-achieving students spending extra time even in holidays for math remedial teaching, and the ineffective implementation of peer guidance; “rule”, such as the inconsistencies between school culture and tribal learning culture, parents and students being low achievers in mathematics, students’ ambivalence about learning math. All of the above resulted in little to no motivation and low interest in mathematics and even school learning.

4.2. The mathematics remedial teaching module: Based on the learning challenge of the low-achieving indigenous students, the study team developed a mathematics remedial teaching module, “Come! Let’s go hunting”. After discussing with the math teachers of the two classes, the remedial teaching goal was aimed at strengthening the students’ arithmetic operational skills and the basic concepts of fractions. Subsequently, three units were designed with the math concepts relevant to Truku hunting, sharing food, and music culture. For resistance 1, the module taught multiple representation strategies with graphs representations of where students are good at. For resistance 2, the module was based on the peer tutoring model, involving the “dual mentors”, who were college students and high-achieving indigenous students, to cooperate in guiding the low-achieving students to solve problems. For resistance 3, the peer tutoring model stressed that equal rights exist between mentors and mentees. For resistance 4, the module integrated indigenous culture into the mathematics problem-solving task, creating a friendly and “I can contribute to the team” learning atmosphere.

4.3. Teaching process: The first unit, “Collaborative Carrying Prey down the Mountain”, illustrated the teaching process. The researcher implemented construction-oriented teaching centered on indigenous student culture experience. 4.3.1. Introducing the ancient and modern hunter spirit; arousing similar experiences to promote mathematics learning 4.3.2. Designing problem-solving tasks in real-life situations and teaching peers to practice multiple representation strategies to solve math problems 4.3.3. Providing an opportunity to present problem-solving strategies, allowing the low-achieving indigenous students to gain achievement. 4.4 Low-achieving indigenous students’ learning effect: The researchers took the first unit as an example to analyze the learning effects of the module and strategy on the low-achieving indigenous students as follows: 4.4.1. Arithmetic operation ability: The study team designed a summative assessment at the end of each unit to check the learning effectiveness of the low-achieving indigenous students. Based on the summative evaluation of Unit 1, the researcher took Task 1 as an example. The task is as follows: Six students want to work together to climb a mountain in seven days, and one needs to eat three kilograms of food a day. How much food do they have for seven days? As shown in Figure 2, seven indigenous students (58.3%) answered the question correctly. LS56M found a regularity relationship between the “Number of Classmates” and the “Seven-day food quantity”. When a student is added, the number in brackets will be plus three; so, when the third student is added, they need to write (3+3+3) × 7 in the table cell. The student wrote down the solution tips carefully: “the relationship was between twenty-one kg each time” (total weight) and “increase 3 kg each time” (number of students). The low-achieving students frequently used multiplication to calculate the result. For instance, they directly wrote 9 × 7 = 63 in the column instead of calculating through continuous addition. This finding shows that the low-achieving students understood multiplication, allowing them to calculate fast and accurately.

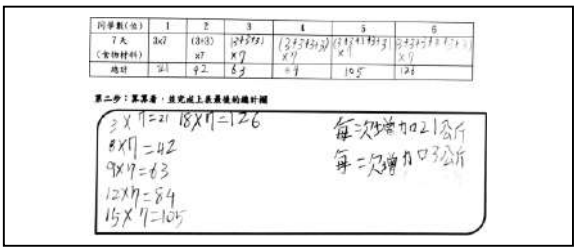

Figure2: *LS56M Problem-Solving Process*

4.4.2. The teaching effect of peer tutoring: The researcher took Task 3 as an example. This task includes the following question: "Please calculate how many times your team will move the heaviest prey down the mountain. How many kilograms will you move every time?". Further, the researcher took the team that drew eighty-six kilograms of prey as an example. The guidance difficulty encountered by high-achieving indigenous students HS59F used oral language and digital representation alternately to LS52F. However, these two representations were difficult for her to understand. The college students then observed the difficulties, demonstrated the graphic method to understand the meaning of the math problem, and marked the key sentences with a color pen to help describe the problem's meaning. The double guiding strategy could enable the high-achieving and low-achieving indigenous students to practice more multiple representation strategies. HS59F revised the guidance after comprehension: "LS52F, this key sentence in this question was very important (demonstrate by pointing the sentences with your finger). You should circle the sentence and read it again. There were six peers in our team. I drew a circle to represent 1 and wrote ten kg in the circle, which means 'I can carry 10 kg'. You represented the second circle and wrote ten kg because you could carry ten kg. For the first time, six team members could carry sixty kg. Look at my drawing and compare it to the question. Did you understand the meaning of 10×6?". Figure3 shows that the total weight of the prey drawn by the team was eighty-six kg. After LS52F understood HS59F's guidance, she learned to use three representations strategies—diagrams, tables, and word symbols—to solve the problem. The answer to this task was the prey needed to be carried twice; at first, six team members had to carry ten kg, with a remaining twenty-six kg. Thus, two members must carry five kg during the second time, and the other four must carry four kg.

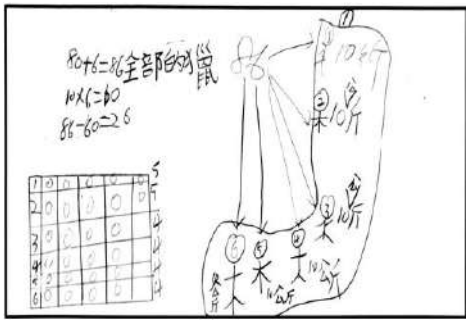

Figure3: *LS52F Using Multiple Representation Strategies to Solve Problems*

4.4.3. The learning effect of the oral presentation: This module is based on the equal rights between the high- and low-achieving students to decide the way of cooperation and division of labor. This equality of rights allowed both to contribute to the team's scoring and transfer from the higher students who dominated the right to present. The low-achieving students in math (50%) were not only brave to present on stage, but they also calmly answered the teacher's and peers' questions. The module allowed them to practice oral presentation among the team, write the problem-solving steps by themselves, practice again by writing on the blackboard, and present more confidently.

5. Conclusion: This study analyzed the resistance to and difficulties of low-achieving indigenous students

through the activity theory. It further developed a remedial teaching module to address these problems and integrated indigenous culture into mathematical concepts to improve the students' arithmetic operational ability and basic concepts of fractions.

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Fostering Reasoning Skills in Mathematics Classroom through Phenomenon-Based Learning

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Abstract: The study aimed to identify the significant impact of embedding proof writing into phenomenon-based learning on students' mathematical reasoning skills. The study used a quasi-experimental pretest-posttest control group design. There were 2 experimental groups, one exposed to phenomenon-based learning alone and the other was exposed to phenomenon-based learning with classroom proof-writing activities, and one control group exposed to the conventional method. A 6-item researcher-made test was used to measure the students reasoning skills. The data were analyzed using mean, standard deviation, and ANCOVA. The analysis revealed that students exposed to phenomenon-based learning with proof writing had significantly higher level of reasoning skill among the three groups. Further, students exposed to phenomenon-based learning alone may not outperform students exposed to phenomenon-based learning with proof writing, but they still had significantly higher posttest mean scores compared to students exposed to the conventional type of teaching. The researchers recommend to teachers in tertiary education to use phenomenon-based learning with proof writing in teaching mathematics and its related courses since this instructional approach engages students in learning that is more focused to real-life issues, apply skills and knowledge from different subjects,

and enhance important skills like creativity, problem-solving, communication, and teamwork.

1. Introduction: Reasoning and mathematics are inseparable, through mathematical reasoning, mathematics is understood, while reasoning is understood and practiced through mathematics learning. With this notion, mathematical reasoning is considered an important element in the learning of mathematics (Herbert, Vale, Bragg, Loong & Widjaja, 2015). It has been emphasized that reasoning is the potential ability to analyze, assert, judge, explain, conclude, justify and generalize critical thinking (Herbert & Bragg, 2017). Thus, good mathematical reasoning is very necessary to improve mathematical literacy ability (Niswah & Qohar, 2020). Besides as one of the basic abilities in mathematical literacy, reasoning is also one of the five standards of National Council of Teachers of Mathematics' (NCTM) processes, namely the standard of problem solution, communication, connection, and representation. Brodie (2010) also recognized the value of reasoning to understand mathematical concepts, to make flexible use of mathematical ideas and procedures, and to reconstruct mathematical knowledge once understood, but forgotten. However, it has been found out that most of students nowadays are not accurate in their problem solution and communicated minimal mathematical reasoning in their written expression. Students tend to use general vocabulary rather than academic precise math vocabulary (Hughes, Riccomini & Lee, 2020). This is manifested in the recent results of the Filipino students' low performance in both national and international assessment which an alarming issue is for educators in the country. This poor mathematical performance may be attributed to students' performance to perform mathematical reasoning, which is also low. Low mathematical reasoning and communication skills occurred when mathematics learning mainly geared towards mastering the requisite skills and a limited focus in daily life, mathematically communicating and mathematically speaking (Shadiq, 2019). Hence, it was pointed that further research should be undertaken to provide a higher degree of clarification on the roles of reasoning in mathematics learning (Tajudin & Chinnappan, 2016). Constructing reasoning and argumentation through proving plays a special role in fostering mathematics learning. Proving tasks encourage students to explore concepts, create new ideas, and evaluate those attempts in order to ultimately create a valid proof. Proving tasks can also inform both teachers and students regarding the progression that a student is making in developing his/her own mathematical reasoning (Savik, et. al, 2017). Hence, mathematical proof activities should be integrated in the mathematics classroom through all grade levels (Arbaugh, Herbel-Eisenmann, Ramirez, Knuth, Kranendonk & Quander, 2010). Yet, despite the importance of proofs and reasoning in undergraduate mathematics and the difficulty students have producing and comprehending proofs, few studies have focused specifically on students' mathematical abilities and interaction in relation to the outcomes of proofs and reasoning (Regier & Savic, 2020; Ko & Knuth, 2009) and there are only few other synthetically generated resources designed to assess reasoning of some form (Saxton, Grefenstette, Hill & Kohli, 2019) and the lack of consideration of students presenting their supposed proofs orally, in parallel with their written proofs of the same claims, may have contributed to a twisted version of the potential of student-made proof, and this raises questions about the validity of research findings (Stylianides, 2019). In addition, in mathematics education, both the school or university level often fails to equip students with a way of how their learnings in mathematics can be applied and observed on daily living (De Villiers, 2010). This caricature of mathematics can easily create the false impression that mathematics is only a systematic and deductive science. Hence, it is important that the method and practice of teaching and learning have continuously checked, restructured and designed to achieve a more productive learning. Thus, with the main philosophy of incorporating real-life events to students' learning process and integrating proof-writing into phenomenon-based approach would be best suited approach in a mathematics classroom. Phenomenon-based learning (PhBL) encourages students to connect learnings to the real-world context and learn through understanding what they are doing (Permites & Lomibao, 2022; Cano & Lomibao, 2022, Asahid and Lomibao, 2020). However, in the Philippines, very few studies have been conducted in relation to phenomenon-based learning since it is an approach originated in Finland in the year 2015. Thus, these prompted the researcher to study the embedded

proof-writing into phenomenon-based learning and its influence on students' reasoning in mathematics. The researcher highly considered phenomenon-based learning and proof writing as possible variables that may influence the increase of students' reasoning skill in mathematics and support that phenomena-based approach have traditionally been a missing piece in mathematics education.

2. Theoretical Framework: Phenomenon-based approach in teaching and learning starts from constructivism and includes elements of social-cultural learning (Symeonidis and Schawrz, 2016; Vygotsky, 1987), progressive inquiry learning (Hakkarainen, Lipponen and Jarvela, 2002; Muukkonen, Hakkarainen and Lakkala, 1999) and problem-based learning (Hmelo-Silver, 2004; Kilroy, 2004; Schmidt, 1983). Social constructivist theory of learning, in its modern form, is based on how people make sense of their experience. Therefore, meaningful learning is considered a personal process of making meaning out of what we see and hear in our surroundings. Every student in a class brings unique cognitive resources, which lead to the construction of personal knowledge (Taber, 2011). This happens in phenomenon-based learning where learners are active knowledge builders and information is being constructed as a result of problem-solving, constructed out of little pieces into a whole that suits the situation in which it is used at the time. Furthermore, in a constructivist context and phenomenological view, teachers seem to be absolved from their responsibility to teach because the meanings of phenomena emerge in the minds of students, teachers give way to students' experiences and recognize moments of learning when they arise. It has been emphasized that learning is a social process through an active personal experience of every learner, where purposeful personal experience were deemed to be the keys to authentic learning (Dewey, 1998). Learning by the child, also occurs through social interactions, not just through self-initiated processes (Vygotsky, 1978). Through social interaction (such as group work), students learn from one another and support each other's learning and this is very evident in phenomenon based learning. Since, in phenomenon-based learning students are not just accepting the matter alone, students' learning must be meaningful, knowledge must be received actively, knowledge is constructed by reflection physical actions and mentally performed with activity in the new knowledge they obtained. Hence, learning becomes a social process that is obtained through discussions between students and teachers or by peers in the classroom (Azmidar, et. al, 2017). Vygostsky (1978) also stressed that peer interaction in a cooperative social setting offer the learners more sufficient time to imitate, observe and gradually develop their higher mental abilities and functions. Specific to mathematics, sharing knowledge, teaching and learning mathematics is successfully done through human interaction, which then become a theoretical perspective which firmly believes that learning is realized in a social setting (Bauersfeld and Skowronek, 1979). It thus becomes clear that all approaches that inform phenomenon-based teaching and learning are grounded in and derived from constructivist epistemology. Multiple perspectives, authentic problem-solving activities, real-world environments, inquiry learning and scaffolding are some of the themes related to constructivist teaching and learning. The similarities between the approaches imply that learning is mediated and controlled by the learner, who constructs knowledge in a process facilitated by the teacher. The role of the teacher is to guide and organize the learning process rather than strictly provide knowledge. From this perspective, students are seen as active participants who engage in social construction of knowledge (Symeonids and Schwarz, 2016). When it comes to proof writing, it has been found out that proofs provide legitimacy to mathematical solutions, claims and forms of reasoning (Francisco and Maher, 2005). Thus, good mathematics teaching, according to this view, should eventually result in meaningful understandings of concepts and procedures, as well as in understandings about mathematics: what it means to do mathematics and how one establishes the validity of answers (Erlwanger, 1975). Thus, proof writing and reasoning can communicate mathematical knowledge when it's placed within an organized structure (Hanna and Barbeau, 2010). The reason to teach proof is the potential to teach methods of problem solving leading to enrichment of students' creativity. Hanna and Barbeau (2010) argued that students can thus learn a technique whose applicability extends beyond that situation as well as learning what can be discovered by reducing equations to a canonical form. Finally, Rav (1999) proposes that proofs are of primary importance

in mathematics because they embody tools, methods, and strategies for solving problems. Lastly, students' successful engagement in proof making, is enhanced when the focus is on building convincing justifications for their mathematical claims and not so much on the formal writing of them. As such, proving becomes an integral, not separate, part of the problem-solving process and promotes the building of personally meaningful arguments and ways of articulating them (Francisco and Maher, 2005).

3. Methodology: This study employed quasi-experimental research utilizing pretest-posttest reserach design**.** The study was conducted in Amable M. Aguiluz Computer College (AMACC) in Davao City. The study involved freshmen Information Technology and Engineering students who were officially enrolled in the MATH611 - Differential Calculus course. Due to a small number of population, universal sampling was used. A total of 103 freshmen students participated in the study which were randomly grouped into three, one control group, and two experimental groups. The control group (CG) was taught using the conventional method. The first experimental group (EG1) was exposed to phenomenon-based learning alone and the second experimental group (EG2) was exposed to phenomenon-based learning with proof writing. This particular group was also encouraged to justify every step of their solutions or answers in any assessment or activities as what the teacher had been doing during discussions. Both the control group and experimental group 1 were also taught the proofs of the derivative rules, however, it is by the use of a conventional method unlike with the experimental group 2, who were required to prove the derivative rules on their own. All of these three groups were taught by the researcher to minimize the effect of the teacher factor as an intervening variable that may affect the results of the study. The researcher used the 6-item researcher made Mathematical Reasoning Test (MRT). This instrument was based on three factors - analyzing, generalizing and justifying - identified by Powers and Enright (1987) as underlying tertiary ratings of importance. From the list of mathematical reasoning questions, the researcher chose 10 items fitted for the nature of the study. The questionnaire was then subjected for validation by three (3) experts of the field for face and content validity. Furthermore, the questionnaire was first administered as a form of pilot testing before the actual participants took the test. After the pilot testing, the questionnaire was revised, which the number of items was reduced into 6 items to increase internal consistency. Subsequently, the scale has gone through reliability testing, which scored a Cronbach's Alpha of 0.828, indicating high internal consistency. This finding has generally stipulated an acceptable internal consistency of the self-made questionnaire developed by the researchers in pursuit of measuring the mathematical reasoning skills of the participants. To score the students' level of mathematical reasoning the rubric was adapted from the study entitled: Planning and Assessing Mathematical Reasoning in the Primary Classroom. The original Mathematical Reasoning Rubric was developed by Herbert and Bragg (2017), as part of the reSolve: Mathematics by inquiry collection of supportive resources (Australian Academy of Science and Australian Association of Mathematics Teachers) and was simplified by Davidson, Herbert & Bragg (2019). The weighted mean and standard deviation were used to identify the students' level of pretest and posttest reasoning skills. In determining the effects of the treatments one-way analysis of covariance (ANCOVA) was used because the samples were intact groups.

4. Results and Discussion: Level of Students' Analyzing Skills as an Indicator of Reasoning Skills **-** Table 1 shows the analysis of the mean scores and standard deviation of the students' analyzing skills as one of the indicators of their mathematical reasoning skills. Results revealed that for pretest, all of the three groups showed beginning level of analyzing skills, as evidenced by the mean scores ranging from 1.26 to 1.51. This indicates that the level of analyzing skills of the participants before the treatment has been given, is comparable across three groups. As to the posttest, all of the three groups showed an improvement of analyzing skills as evidenced by their increased posttest score, however the two experimental groups showed greater improvement than the control group.

Table 1: *Mean, Standard Deviation and Descriptive Level of Students' Analyzing Skills as an Indicator of Reasoning Skills*

		Control Group (n = 28)	Experimental Group 1 (n = 44)	Experimental Group 2 (n = 31)
Pre-test	$\bar{x}$	1.51	1.26	1.32
	sd	0.83	0.60	0.50
		Beginning	Beginning	Beginning
Post-test	$\bar{x}$	1.69	2.42	2.61
	sd	0.56	0.40	0.55
		Developing	Consolidating	Consolidating

Legend Intervals Description 3.20 – 4.00 Extending 2.40 – 3.19 Consolidating 1.60 – 2.39 Developing 0.80 – 1.59 Beginning 0.00 – 0.79 Not Evident. Particularly, experimental group 2 which are exposed to phenomenon-based learning with proof writing showed the highest increase among the three groups of students. Following this group is the group of students exposed to phenomenon-based learning alone (experimental group 1), with the mean increase of 1.16 and this made them show a posttest mean score of 2.42 which is described as consolidating which infers that students at this stage systematically searches for examples, extends patterns or analyses structure to form a conjecture and makes predictions about other cases. Eventually, the control group also showed a mean score increase by about 0.18, which made them show a posttest mean score of 1.69, described as developing. It's very evident that the students in experimental groups had the higher mean gain than in control group. Though the control group's level of analytical reasoning skills improved in the posttest, this may be due to the fact that they have experienced solving a lot of derivatives in Differential Calculus and have enhanced their way of analyzing problems. The greater improvement in the experimental groups mean scores indicates that students' exposure to phenomenon-based learning and phenomenon-based learning with proof writing augmented their analyzing skills. Analyzing, being a method to break something down into its components in order to understand how they work together to make up a whole, many stakeholders, including students, scientists, and policy makers in science and education, are encouraging teaching by exploring its ability to improve students' skills in analysis (Sundstrom, 2014). PhBL being a perspective of teaching by inquiry, advocates for applying the knowledge and skills developed in the formal learning to a real, every-day-life context (Lonka et al., 2018). This stresses that it is quite important that educational curricula of the 21st century should be designed to promote activities within and across formal and informal settings that stresses on training for skills acquisition which aims at individual and community development. In this view, learning is not seen as a reusing of thoughts, but rather involves transformation of ideas, that gives optimal understanding of the society (Akram, 2012). Since in PhBL, phenomenon is a source of investigation. Students observed the phenomenon and collect significant experiences of the studied phenomenon (Louca & Zacharia, 2014). Students will then find problems, formulate theories, plan experiments, gather and analyze data, and draw conclusions about phenomena. Consequently, the results has been supported from a study of Wareham, Evans, and Rooij (2011). They have found out that the students exposed to PhBL are categorized expert on problem-solving skill which involves analyzing skills, because they had adequate knowledge and have been apt in doing the procedures and exchanging the owned knowledge from a previous problem to a new problem. Further, studying proofs or proving statements concerning the derivatives is emphasized to better assists students to learn and become familiar with in understanding new definitions and concepts that can improve their analyzing skills. To understand the concepts students have to understand how they are connected to each other and from the proof students can learn something about the concepts involved in it (Hemmi, & Lofwall, 2010).

5. Level of Students' Generalizing Skills as an Indicator of Reasoning Skills: Results on table 2 revealed that for

pretest, all of the three groups showed beginning level of analyzing skills, as evidenced by the mean scores ranging from 1.10 to 1.34. This implies that the level of mathematical forming of the participants before the treatment has been given, is comparable across the three groups. As to the posttest, all of the three groups showed an improvement of their generalizing skills as evident by their increased posttest score, still the two experimental groups showed greater improvement than the control group.

Table 2: *Mean, Standard Deviation and Descriptive Level of Students' Generalyzing Skills as an Indicator of Reasoning Skills*

		Control Group (n = 28)	**Experimental Group 1 (n = 44)**	**Experimental Group 2 (n = 31)**
Pre-test	$\bar{x}$	1.34	1.10	1.17
	sd	0.68	0.56	0.48
		Beginning	Beginning	Beginning
Post-test	$\bar{x}$	1.53	2.18	2.36
	sd	0.45	0.44	0.52
		Developing	Developing	Developing

Particularly, experimental group 2 which are exposed to phenomenon-based learning with proof writing showed the highest increase among the three groups of students. Second, is the group of students exposed to phenomenon-based learning alone (experimental group 1 is also described as developing level. Eventually, the control group also showed a mean score increase by about 0.19, but still described as beginning. It is very evident that the students in experimental groups had the higher mean gain than in control group. Though all of the three groups showed an improvement, students in experimental groups showed greater improvement that students in control group, which indicates that students' exposure to phenomenon-based learning and phenomenon-based learning with proof writing helped them to have developing forming skills that enables them to communicate a rule about a: property using words, diagrams or number sentences, pattern using words, diagrams to show recursion or number sentences to communicate the pattern as repeated addition and can explain the meaning of the rule using one example. For the investigation of phenomena generates data patterns that can be utilized as proofs and materials to develop conclusions so one can enhance students' thinking and reasoning (Islakhiyah, et. al, 2017). In PhBL, phenomenon is a source of investigation. (Louca & Zacharia, 2014). In conducting the investigation stage, the students are able to have discussion about scientific phenomena they observe. By observing the phenomenon, students can construct knowledge and utilize it to create and test phenomenon-related explanations and will afterward generalize (Kipnis & Hofstein, 2008) to answer causal questions. In addition, Schoenfiled (2009) vividly claimed that problem solving is the heart of mathematics and that proof is its soul. Proof shows how ideas are connected to each other. This view refers to the role of generalization. Evidence includes thinking about new scenarios, reflecting on important factors, using prior experience to bring new concepts together in new ways. In doing proof writing activities, students are involved in mathematics as a sense-making activity rather than memorizing given truths or methods, they probed patterns and amied to understand the mathematical grounds on which claims be accepted or rejected (Stylianides, 2016).

6. Level of Students' Justifying Skills as an Indicator of Reasoning Skills: Depicted on Table 3 is the analysis of the mean scores and standard deviation of the students' justifying skills as the last indicator of their mathematical reasoning skills. Results revealed that for pretest, all of the three groups showed beginning level

of justifying skills. This implies that the level of justifying skills of the participants before the treatment has been given, is comparable across the three groups.

Table 3: *Mean, Standard Deviation and Descriptive Level of Students' Justifying Skills as an Indicator of Reasoning Skills*

		Control Group (n = 28)	Experimental Group 1 (n = 44)	Experimental Group 2 (n = 31)
Pre-test	$\bar{x}$	1.25	1.03	1.13
	sd	0.68	0.53	0.47
		Beginning	Beginning	Beginning
Post-test	$\bar{x}$	1.50	2.08	3.15
	sd	0.44	0.42	0.56
		Beginning	Developing	Consolidating

As to the posttest, all of the three groups showed an improvement of justifications skills as evidenced by their increased posttest score, still the two experimental groups showed far greater improvement than the control group. Particularly, experimental group 2 which are exposed to phenomenon-based learning with proof writing showed the highest increase among the three groups of students, as evidenced by posttest mean score of 3.15, described as consolidating. Following this group is the group of students exposed to phenomenon-based learning alone (experimental group 1), with a posttest mean score of 2.08 which is described as developing. Eventually, the control group also showed a mean score increase of 0.25 only, which is still in the beginning level. It's very evident that the students in experimental groups had the higher mean gain than in control group. Though all of the three groups showed an improvement, students in experimental groups showed greater improvement that students in control group, which indicates that students' exposure to phenomenon-based learning with proof writing molded them to use a correct logical argument that has a complete chain of reasoning to it and uses words such as 'because', 'if… then…', 'therefore', 'and so', 'that leads to'. Eventually, students exposed to phenomenon based learning alone are now starting statements in a logical argument are correct and accepted by the classroom and are able to verify truth of statements by using a common property, rule or known facts that confirms each case. Justifying is seen by Yackel and Hanna (2003) as a social mechanism, that is, more than one person may be involved and the mechanism is focused on public awareness. Students can interact more convincingly by engaging in arguments based on empirical evidence (Lederman, Lederman, Bartos, Selina. Bartels, Meyerand & Schwartz, 2014). In PhBL, the data obtained and evaluated by the students are interpreted as drawing conclusions as a final interpretation from the group discussion. The interpretation must be accompanied by the principles and hypotheses that students should retain when presenting the findings of the investigation (NRC, 2012), which is a mechanism of justification. Similarly, phenomenon-based learning provides a review of the empirical theories that have been prepared. Students offer a full summary and the reasoning for the evidence given to support the assertion (Sampson, Grooms, & Walker, 2011). Students are expected to explain their place in the classroom, and the explanation must be accompanied by the ideas and hypotheses that can be developed in the discussion forum. Developing scientific explanation may increase students ' comprehension of the scientific theories being studied. Through phenomenon-based explanations, students may procure better understanding than the teacher's explanation (Kipnis & Hofstein, 2008). Some activities in phenomenon-based learning students observe phenomena,organized temporary explanations, conduct a request, prepare the final explanation and give reasons to support the explanation (Yuliati & Parno, 2018), such learning helps students to hone their ability in explaining and to know concepts in concrete terms. Additionally, Communication of ideas and discussion with other students or teachers may help to refine and convince them of the validity of the conclusions (Brodie,

2010; Loong, Vale, Herbert, Bragg, & Widjaja, 2017). This occurs in classrooms where teachers and researchers have developed approaches intended to build mathematical understandings through problem solving activity convincing them of the validity of their conclusions (Brodie et al., 2017).

7. Level of Students' Mathematical Reasoning: It can be clearly gleaned from the table 4 that before the experiment started, all of the three groups of students are described as advance beginner, as evidenced by the mean scores ranging from 3.62 to 4.10. These mean scores imply that before the treatment, the students' level of reasoning skills is equal across groups.

Table 4: *Mean, Standard Deviation and Descriptive Level of Students' Analyzing Skills as an Indicator of Reasoning Skills*

		Control Group (n = 28)	**Experimental Group 1 (n = 44)**	**Experimental Group 2 (n = 31)**
Pre-test	$\bar{x}$ **sd**	**4.10 2.18**	**3.38 1.67**	**3.62 1.44**
		Advanced Beginner	Advanced Beginner	Advanced Beginner
Post-test	$\bar{x}$ **sd**	**4.73 1.42**	**6.67 1.11**	**8.12 1.47**
		Advanced Beginner	Competent	Proficient

Legend Intervals Description 9.60 – 12.00 Expert 7.20 – 9.59 Proficient 4.80 – 7.19 Competent 2.40 – 4.79 Advanced Beginner 0.00 – 2.39 Novice

As to the posttest, all of the three groups showed an improvement on mathematical reasoning skills as evidenced by their increased posttest score, however the two experimental groups showed far greater improvement than the control group. Particularly, experimental group exposed to phenomenon-based learning with proof writing showed the highest increase among the three groups of students, followed by the group of students exposed to phenomenon-based learning alone. in contrast to the control group which showed a minimal mean score increase of 0.63 only which is still described as advanced beginner. This means that the students exposed to phenomenon-based learning with proof writing managed to show mathematical reasoning scores in the level of being proficient which indicates that they are already using intuition based on enough past experience, this may be because of the way they presented their weekly works in phenomenon-based learning together with their proof writing activities on the rules of derivatives. Students exposed to phenomenon-based learning alone managed to improve to being competent from being advanced beginner, which means that they were able to possess a hierarchical procedure for making decisions which may be brought by the way they presented their weekly works in phenomenon-based learning together with their exposure to the proofs of the derivative rules. Indeed, phenomenon based learning is one of the learning approaches that departs from contextual problems and considered effective for improving the ability of mathematical reasoning and communication in realistic mathematics. Having a similar theoretical structure, phenomenon-based learning has a lot in common with problem-based learning and research-based learning. In curricula, a phenomenon-based methodology promotes, in particular, learning in line with study learning, problem-based learning and project and portfolio learning in educational institutions, as well as their realistic implementation (Silander, 2015). Likely, phenomenon-based learning uses contextual phenomena as a trigger to help students build ability and expertise in the learning process (Kondratjew & Kahrens, 2018). This case shows that physical problem-solving capabilities could be strengthened by an exposure to everyday life-related phenomena. Since implementing phenomenon-based learning, the proportion of problem-solving abilities which includes

reasoning skills of students at each stage have improved from beginner to expert. (Santhalia, Yuliati & Wisodo, 2020). PhBL offers more than a way to help students' understanding of an abstract to a realistic one. PhBL instructional guidelines are viewed as learning lines in which contextual problems are utilized as starting points to gather students' casual reasoning (Webb, Van der Kooij & Geist, 2011). Phenomenon-based learning is ended with a discussion of the scientific explanations that have been arranged. Students show a full explanation and present the reasons how the evidences provided to support the claim. Each explanation must be supported by the concepts and theories that can be maintained at a discussion forum. The final explanation is based on the results of group discussions and were carried out after the investigation. Creating these scientific explanations can enhance students' reasoning abilities (Sampson, Grooms & Walker, 2011). In addition, a realistic mathematics approach like PhBL is believed to promote the mathematical reasoning and communication. Similarly, there was an improvement in the quality of students' scientific reasoning after the learning was done in studying phenomenon. Students can create an explanation when answering the posttest problems (Islakhiyah, Sutopo & Yulianti, 2017) because it is what they have been doing being exposed to PhBL. Phenomena can also help students to create claims through observation, search for evidence and provide reasoning through estimation and investigation exercises (Islakhiyah, et. al, 2017). Phenomena can motivate students to make reasonings. Eventually, in the classroom, proof is the key to mathematical understanding (Hanna, 2000), and the degree of a student's mathematical understanding can be accounted to student's construction of proof. Numerous mathematics educators consider proving to be one of the foundations of mathematical practice and believe that an imperative objective of mathematics education is to hone students into the mathematical practices associated with proof (Stylianides, Bieda, & Morselli, 2016). Thus, if one becomes accustomed to study proofs one gets practiced with mathematical reasoning, something one can draw incredible points in problem solving. Significance of the Difference of Students' Mathematical Reasoning Scores Lastly, to determine if there is significant effect on the mathematical reasoning skills by the treatment applied on the experiment, analysis of covariance (ANCOVA) was used.

Table 5: *One-Way ANCOVA Unequal n Summary of Students' Mathematical Reasoning*

Source	df	Adjusted Sum of Squares (SS)	Adjusted Mean Squares (MS)	F Computed	p-value
Treatment Between Groups	2	162.71	81.356	53.36	0.000*
Error Within	99	150.95	1.525		
Total	103	4698.55			

*Significant at 0.05 level

Reflected on Table 5 is the result of the analysis of covariance of the participants' level of mathematical reasoning skills. Depicted from the table that, after adjustment of students' pre-test in mathematical reasoning test, there was a statistically significant difference in post-test mathematical reasoning scores between three groups, $F(2, 99) = 162.71$, $p < .0005$, which led to the rejection of the null hypothesis of the study. This implies that the experimental groups who were exposed to phenomenon-based learning with proof writing and phenomenon-based learning alone, performed better than the control group who were exposed to conventional type of learning. Though the control group showed an increase in their posttest mathematical reasoning score, as shown in previous table, this increase is not comparable to the mean increase of the participants in the experimental groups. The result further implies that the students in experimental groups performed better because they were required to apply the lessons every week to the phenomenon they have chosen right after they were pretested. These students were more involved in the learning process because

they themselves have created their own worded problems in line with their chosen phenomenon and applying the topic/s discussed for that particular week. They have provided comprehensive solutions applying what they have learned on the lessons, presented their work in the class and justified their results. This may also be a product of deep situational involvement and recognition of similarity because students' in phenomenon-based learning with proof writing were required to prove the rules of derivatives. Consequently, post hoc analysis was performed with a Bonferroni adjustment.

Table 6: *Post Hoc Analysis of the Students' Reasoning Skills*

Groups		Mean Difference	*p*- value	Ineterpreatation	Decision on H_0
A	B	-1.94	0.000	Significant	Reject H_0
	C	-3.39	0.000		
B	A	1.94	0.000		
	C	-1.45	0.000		
C	A	3.39	0.000		
	B	1.45	0.000		

A – Control Group B – Experimental Group 1 C - Experimental Group 2

Post-test mathematical reasoning scores were significantly greater in students exposed to phenomenon-based learning with proof writing than the other two groups of students as reflected on table 6. Further, students exposed to phenomenon-based learning alone did not outperformed students exposed to phenomenon-based learning with proof writing, but they still had significantly higher posttest mean scores compared to students exposed to conventional type of teaching. At this point, the most effective strategy is phenomenon-based learning with proof writing. Experimental groups' posttest scores are not comparable to control group's posttest score, which implies that students in the two experimental groups significantly performed better than the students in control. Phenomenon- based learning and proof writing could be a perfect combination in promoting students' mathematical reasoning skills. The PhBL strategy helps students to consider how subjects are connected to each other (Valanne, Al Dhaheri, Kylmalahti, & Heidi, 2017). Activities that put the desires of learners to debate and use them to investigate a multidisciplinary phenomenon are in the eye of PhBL. In a less rigid and linear way, PhBL's definition of learning tends to be conceptualized. The view of PhBL is consistent with NCBE, which sees learning as a complex process that occurs in contact with other students, teachers and other adults, and different cultures and environments of learning (Finnish National Board of Education, 2016). Like inquiry-based instruction, PhBL asks students to participate in research and exploration of the phenomenon assigned to them in order to excel in their assignments. Students are encouraged to engage with their surroundings and use inductive and deductive reasoning to draw conclusions (Drew, 2019). With this, students practice planning evidence based on scientific hypotheses by gathering, debating and interpreting data (Louca & Zacharia, 2014). Eventually, facts are recognized as playing a key role for all learners in defining realistic mathematical interactions (Stylianides, Stylianides, & Weber, 2017). It is interesting to note that the relation between proof and problem-solving is central in the field of constructive mathematics, where these two practices are considered not only similar but essentially the same.

8. Conclusion and Recommendation: Embedding proof writing in phenomenon based learning is the most effective treatment in augmenting students' level of mathematical reasoning skills. It has helped students to improve their ability to analyze, generalize and justify as indicators of reasoning skills. Students' exposure to phenomenon based learning and proof writing enabled them to be more involved in the learning process,

creating claims through observation, searching for evidence and provide reasoning through estimation and investigation exercises. As they become accustomed to proofs, it led them to show a full reasoning as to how the evidences they provided support their claims and enabled them to execute elegant logical proof writing. Educators in both basic and tertiary education can use phenomenon-based learning with proof writing in teaching mathematics and its related courses since this instructional approach engages students in learning that is more focused to real-life issues, apply skills and knowledge from different subjects, and enhance important skills like creativity, problem-solving, communication and teamwork. Further, educators and other experts in the field may conduct a further inquiry regarding the use of phenomenon based learning and proof writing in context to allow modifications, improvements, and testing of assumptions in theory, which may generally contribute to the existing body of knowledge.

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Establishing a Solid Legal System and One of the Main Economic Rights

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Abstract: Conventional technique (court system) was being used by the organizations and people to solve various issues which proved to be costly. In connection with international investment disputes, fundamental relationships between the parties were also affected by the court system, where there is a need to search for some substitute to the official judiciary in order to secure the financing and motivate the organizations and people to invest. Matters like this play a vital part in the economy growth.
The objective of this paper is to describe the idea and drawbacks of the national court system which will, consequently, help us analyse the part played by it in settling economy related disputes. Moreover, this paper will analyse the significance of ADR in comparison with traditional legal structure. Various kinds of Alternative Dispute Resolutions and its benefits will be also discussed.
Keywords: Legal Obstacles, Economic Growth, Solid Investment.

1. Introduction: When an investor is going to invest in a country, certain problems may be raised by the parties involved in the delivery of the contract. These issues may involve the explanation of the provisions of contract, errors, delays, or non-performance of the terms and conditions of contract. Usually the disputes like these are solved by litigation as an ordinary legal structure. The litigation used to solve the disputes in the past as well. This was the only source offered by the state to facilitate the process of fair decision making. Though, the transformations in the kind of conflicts, the parties included, and traditional principles, has resulted in the exploration of another technique that could be used as a substitute to litigation and hence, Alternative Dispute Resolution (ADR) is used by many people. Usually, ADR is considered more pertinent in disputes where the economy of a country is involved, and especially in poor countries (Robert & Palmer, 2009) which are constantly working for the economic growth. Since ADR is relatively cheaper, faster, more informal and easier to use as compared to the formal methods, several countries have started to use ADR in order to promote social justice and good governance (Mwenda, 2003). The court litigation system must incorporate ADR. The major kinds of ADR involve: mediation; expert determination, negotiation, conciliation and possibly arbitration (Grant, 1994).

2. Oficial Legal Structure as a Main Legal Obstacle: Litigation as a traditional legal system is a source which is offered by the state to resolve various disputes among people. Though, people tend to resist litigation due to some important reasons such as it involves a slow pace of processes, it is an expensive procedure, in some cases the experience of judges is not sufficient, and the fact that court system involves non-confidentiality (Weinstein, 1986). An important reason is that litigation takes a lot of time and involves a rigid system which follows formal rules of evidence. Cases where an appeal has to be filed against an adverse outcome (award or procedure) often

make the overall legal process exceedingly long and complex particularly when all the advocates are aware of procedures and rules of courts and attempt to use them as a mean to further slowdown the legal process to accomplish the most favourable outcomes for their clients (Stephens, 1992). Litigation is also an expensive procedure as it involves recurrent discovery procedure and delays resulting in extra demands on advocates' time, very often it involves additional fees such as the charges of experts, investigators, post, paralegals, and travel costs (Cooly, 2003). Many key reviews on litigation have stated the aforementioned points (Moffitt & Bordone, 2012). As per the Woolf Report (on the civil justice system in England and Wales), for instance, litigation system is deemed costly mainly because the overall costs involved in the process very often surpass the value of the claim; it takes a lot of time; there is an absence of equality between the powerful and the weak; it is extremely unfathomable to a number of accuser as it is not possible for a litigant to predict the overall cost of the litigation and that how much time will be taken by the court to reach a decision regarding a dispute (The Woolf Report, 1996). In order to save cost and complete the projects timely, nature of investment contracts require the cases to be solved fast and efficiently. In case a dispute comes, it must be resolved as soon as possible because unnecessary suspensions and additional money can have a bad impact on the relationship between the contactors which, consequently, can damage the economic development. Hence, the major drawbacks associated with litigation i.e. it is expensive and takes a lot of time, are for the most part pertinent in terms of investment contractual disputes. It is important to resolve such disputes in a short period and very frequently the nature of the contract itself will demand the projects to be accomplished quickly. Moreover, judges' insufficient experience in disputes involving complex affairs may indicate that they should consult from the reviews produced by the experts to be able to give an award in less time (Genn, 2002) and this shortcoming is mainly related to the disputes of business. Conflicts along with the adverse effects related to delays, the right to cease work and transform the terms or rules, require to be resolved as soon as possible without any suspension. In order to avoid the dangers associated with the settlement of investment contract disputes by lawsuit, some other system is needed which can be used as a substitute. ADR is believed to play a significant part in ensuring that people get the services they want on the right time without any delay and it can also motivate organizations to invest in different countries due to which a positive change may be perceived in terms of economic development. Hence, the shortcomings of lawsuit are more apparent in case of investment disputes, especially in underdeveloped countries which mainly rely on the private sector to accomplish the public projects. An important objective of this paper is to avoid lawsuit and discover an alternative technique through which investment contracts disputes can be resolved effectively. ADR can be used as a substitute to litigation. In the subsequent session, the significance of ADR as an entire system has been analyzed.

3. Benefits of Alternative Dispute Resolutions (ADR): ADR can be referred to a procedure or method used for settling a conflict among disputants without involving formal procedures carried out in a court system. Some major kinds of Alternative Dispute Resolutions are expert determination, mediation, conciliation, negotiation and possibly arbitration (Weil, 2007). As major advancements are being observed in the national and international trade, the escalating amount of government contracts and market economies, ADR has been extensively incorporated as a means of resolving various disputes because it is considered as a more useful technique of settlement as compared to court system. ADR boards are formed to retain the interest of the government in the implementation of national plans via promoting economic collaboration among enterprises (Feuerle, 1972). In the subsequent part, we have discussed the major benefits (Al-Shiek, 2000) of ADR and these benefits suggest that ADR must be employed in the investment disputes. First of all, the method takes lesser time than court litigation. 'Through ADR a dispute can be settled in just a few weeks or months that is likely to take years in a court system' (Bales, 1997). It is more flexible with regard to time and processes. Such cases where prompt settlement is required, parties can opt one kind of ADR which will perform quickly (David, 2007) as ADR resolves a disputes in just on stage (ADR proceeding), whereas the court system takes more than one stage before the last decision is taken. The arbitration award, for instance, has the right to res judicata and it is

applied in exactly the same way as an order or judgment of a court (The UK Arbitration Act 1996 & the Jordanian Arbitration Act 2001). Hence, the arbitral aware which is offered by just one stage in the case of ADR is equal to an award which is offered by a court. By attracting different disputes/cases, ADR lessens the excessive workload of the courts. Lately, the caseloads on court have augmented due to different reasons, like the ease with which people can access litigation (no win no charges). A prominent increase in the usage of goods and sophisticated working patterns have resulted in an increase in the scope for disputes and requirement of a highly useful and rapid system for dispute settlement like ADR (Riordan, 2002). ADR also enables the disputants to select a person of their own choice who will resolve their dispute. This gives the disputants a benefit to select a third party having proper degree of skills, knowledge and expertise (Benson, 1999) and hence avoid the chances of depending on a relatively lesser skilled and experienced judge (Enobun, 2008), particularly in cases which require greater knowledge and skills related to a certain subject matter and where only knowledgeable decisions are required to be made. Disputing parties, in some cases, wish to select arbitrators or mediators having technical skills and prefer them over those having legal knowledge or tend to select a mixed group of arbitrators or mediators, a few of whom may have no past experience in law. In some intricate and technical matters in which majority of the juries and judges do not have sufficient knowledge and experience related to the subject of dispute (Bennett, 2002), selecting the most appropriate arbitrator or mediator is very significant. As majority of the investors believe that juries and judges are not efficient enough to resolve the difficult investment disputes (Spear & Largent, 2010) effectively, ADR is considered vital in disputed related to construction contracts, supply contracts, public works contracts and stock market. Another important advantage associated with ADR is that it offers greater freedom of representation without constraining the party regarding the choice of representatives. This benefit is not offered in case of litigation in court where a lawyer has to represent the litigation in case he is not willing to handle the case himself. A significant benefit of ADR is the privacy offered by it. ADR does not have to follow the principle of open justice (Jaconelli, 2002) as is the case in court system because there are chances that a dispute may be settled in privacy. Through ADR, losses related to court cases like hostile publicity, revelation of confidential data and lack of flexible methods to re-establish relationship with other parties can be avoided. It can be assumed that this certain feature of ADR makes it most appealing. ADR is a system which involves privacy and is significant for government contracts because it enables to retain constant business terms and enables disputes to be resolved without much trouble (Ministry of Justice,2000) particularly due to the fact that only the arbitrators/mediators and the disputing parties (Moses, 2008) are aware of the proceedings. It is for the betterment of the public that some facts related to economic contracts are kept confidential as these details may damage the commercial interest of any contractor, or affect the competition between renderers or contractors. Majority of the organizations like to keep the proceedings private because they do not want the important information concerning their business connections and operations to be revealed in any case. Moreover, companies would not prefer the possibly negative outcomes of a dispute to be known by the public. Though, everyone who is directly linked to the case is usually authorized to be present, and other people may participate by taking permission from parties and with consent of the arbitrator/mediator, when an important party is unable to attend personally or through counsel. Another apparent benefit of ADR is its objectivity due to which an impartial and rational result (Cabrillo & Fitzpatrick, 2008) is achieved. The assurance of parties that the case will be heard and decided by the mediator or arbitrator without any partiality as per their best knowledge is an important factor through which the reliability of ADR as a process is maintained. This benefit is very relevant in cases in which government is party to the dispute. In such cases, it may be believed that court may issue orders or decisions in the favour of government, particularly because the government sometimes exploits its power by pressurizing the judges and courts to make decisions that are favourable for them. Hence, ADR is deemed as an important system where it is assured that investors, especially investors belonging to underdeveloped countries, the mediator/arbitrators, are treating the disputing parties without any biases and everyone is being given a fair treatment, especially when one of the parties belong to the government or is its representative. At last, the major observed advantage

of the ADR procedure is that it is really flexible because majority of the methods that lie under ADR can be developed or changed according to the needs of a party. Through ADR, one can get accustomed to a series of dispute settlement methods which can fulfil the requirements of various parties. Moreover, ADR enables the overall process to be changed according to the needs/requirements of a certain party. Hence, relying on ADR for dispute settlement allows the parties to select laws and process which are appropriate for their contracts and facilitate public interest. Putting it simply, ADR is a system through which 'party autonomy' rule can be implemented. This signifies that parties associated with a contract or transaction are independent in a way through which they can, by shared agreement, decide different aspects of their contracts and the terms employed in settling any dispute may stem from it, without the need to conform to a certain legal system. They have the choice to determine the law(s) that are most appropriate for their contracts and disputes, and that would apply their agreement on the medium. Consequently, the rules and principles of an ADR system are harmonious with a number of cultures and customs in dispute settlement and can be used in all kinds of business disputes and the realistic complexities that come with them.

4. Conclusion: The disputes related to investment are required to be resolved fast and efficiently mainly because they are directly linked with the economic development of the country. Hence, this paper intended to analyze the significance and value that an ADR system has as a substitute to litigation in resolving investment contracts disputes. In this paper, the author attempted to analyze the relationship between court system and ADR by analyzing different drives that may be encouraging people to use ADR rather than opting the court system. The disadvantages associated with litigation have also been discussed. The paper also highlights the major benefits associated with ADR involving the fact that the system can effectively avoid the shortcomings of the court system like slow pace in which the legal actions are carried out and multiple delays; that it enables the disputants to select the person of their own choice who will resolve their dispute and hence the chances of depending on a less skilled judge can be reduced; that disputants have the freedom to select the most suitable laws for the disputes themselves; that dispute can be settled down confidentially; and that the system employs a more flexible rule of evidence.

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There are many cases that come before courts in which the judges have limited experience in the subject of the dispute. These cases include, for example: construction contracts; contracts relating to aircraft; the operation of international markets and exchange; the international carriage of goods; contract relating to ships and shipping; banking instruments and international credit. See, Genn, H. (2002). Court – Based and Initiatives for Civil Disputes: The Commercial Court and the Court of Appeal. London: University College London.

The benefits of open justice include: that it enables the public to know that justice is being administered impartially; it ensures the appropriate proceedings are applied and followed; and it maintains the public's confidence in the administration of justice. See, J. Jaconelli, J. (2002). Open Justice - a Critique of the Public Trial (First edn). New York: Oxford University Press.

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Commercial interests might, for example, be prejudiced where disclosure causes damage to business reputation or the confidence of government, customers, suppliers or investors, or would affect the ability of government to obtain supplies or secure finance. It should be also mentioned that the public interest in protecting commercial interests includes the private sector, which also plays an important role in the general health of the economy. See, Ministry of Justice, (2000). Freedom of Information Guidence - Commercial Interests. London: Ministry of Justice.

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The Effects of Literacy on the Mind: Writing System Effects on Cognition and Learning

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Abstract: This talk unfolds a driving force behind the software of the mind as the consequences of literacy. At the crux is the writing system in which we read on paper and on screen every day. To understand how reading in different writing systems yields different cognitive maps and how writing systems shape our cognition and learning, the talk discusses how language affects the ways in which we think and perceive the world, and then moves on to how reading changes our perception, preference, and brain circuitry. Psycholinguistic and neuro-linguistic examples and evidence are provided. Given the significant impact of multimedia, hypermedia, and social media, the effects of reading in the digital era become even more important than ever before. The talk ends with ongoing discussion points related to the consequences of literacy in different writing systems.

The Impact of Social Media on Foreign Language Learning

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Abstract: The emergence and rapid growth of social media have inspired many educators to explore using social media as a teaching and learning tool. With social media becoming the main socializing tools among the young, it is important to explore how this can impact their learning. This paper seeks to study the impact of social media on foreign language learning. It uses Malay as an example of how social media can be a learning tool for students learning the language. In this study, students will go through a structured classroom learning. They will learn the standard language with all its rudiments of grammar rules. However, they will also access various learning activities via social media platform such as facebook and tiktok. Students will also be engaged in social media activities such as producing tiktok videos and accepting tiktok challenge. This study looks at the impact of social media on the four language skills of reading, writing, speaking, and listening. This study seeks to find out if social media aid learning or disrupt learning. It also seeks to ascertain the differences between language taught in class and the informal language acquired through social media.
Keywords: Social Media, Language Learning, Foreign Language, and Malay Language

Project-Based Instruction for the Five C's of 21st-Century Skills

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Abstract: Twenty-first century skills -- critical thinking, creativity, collaboration, communication, and competencies in digital literacy, the five C's -- have become the foci of education. Funding has been made available for universities and schools to design 21st century skills schools and teach the skills. Scholars and professionals have been in search of effective approaches for teaching and learning them. Project-based instruction (PBI) has been proposed for promoting the critical thinking (CT), one of the five C's. This presentation discusses that proposal as well as the application of PBI to the other four C's -- creativity, collaboration, communication, and competencies in digital literacy, to promote deeper learning, higher-order thinking, and language development.

Communicative Dictation for Adult Foreign Language Learners in Academic Contexts

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Abstract: Dictation has been shown to benefit acquisition of a foreign language. But traditional dictation did not include elements of authentic, real world communication. The communicative approach to foreign language education, the core of which is having learners engage in meaningful communication in the classroom, has become the most common approach in language learning environments. Dictation can align itself with the communicative approach through the dictation method, Dictogloss, which introduced communicative dictation and has been used widely in communicative classrooms around the world. However, even communicative dictation can be perceived by adult learners as something for younger learners. This can be partially remedied by having Dictogloss activities revolve around topics geared towards adults. But many of these topics may be more at home in a language institute than an academic university setting. This presentation will briefly review the history of traditional dictation, summarize the tenets of dictogloss and how it fits into a communicative classroom where traditional dictation does not, review some of the research on dictation's benefits for improving competency in a foreign language, and discuss how it can be used in university settings.

Revolutionizing the Online Arduino Programming Education using Tinkercad during the COVID-19 Pandemic

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Abstract: The COVID-19 pandemic has disrupted traditional methods of education, forcing educators to adapt to online teaching methods. This research paper explores the usability of online Arduino programming education using Tinkercad, a web application simulation platform, during the COVID-19 pandemic. Usability also covers effectiveness and efficiency of Tinkercad and the satisfaction of students while using the application. Through a mixed-methods study, including post-evaluation surveys and interview, the researcher investigates the learning outcomes, challenges, and opportunities of teaching Arduino programming using Tinkercad. The findings suggest that online Arduino programming education using Tinkercad can still be effective for student learning during the pandemic, although certain challenges and limitations need to be addressed, such as: the negative effect of pandemic to the mental health of students; the inadequate internet infrastructure to support the internet connectivity of the students for online learning; and traditional classroom learning was more effective than online learning, specifically delivering hands-on activities.
Keywords: Arduino Programming, Tinkercad, Online Education, COVID-19, College Education

Teaching English translations of Abai

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Abstract: The purpose of the article is to consider the theoretical foundations of teaching English translations of Abai as a result of increasing interest in Kazakh literature and culture. The heritage of Abai, the main Kazakh poet, occupies a special place not only in Kazakh, but also in world literature. Abai is a unique person who did not remain within the framework of one nation but rose to the spiritual heights of all mankind. The issues raised in the works of Abai are relevant not only for the Kazakh, but also for representatives of other nationalities. The poet's works discussed the values inherent in the human race, and his reflections on the nature of life were well received by foreign readers. The work of translating the poems of the poet expanded from translation into the languages of neighboring countries, and then in 1995, when the entire world community celebrated the 150th anniversary of Abai under the auspices of UNESCO. Comparison of the English translations of Abai with the authentic text allows not only to increase the interest of foreign students in the Kazakh language and Kazakh literature, but also to create opportunities for a deeper explanation and presentation of national characteristics and values, to develop ethnocultural competence. During the research, methods such as comparing Abay's poems with their English translations and text analysis were used. For the development of ethnocultural competence through study of translations, the intercultural method, the contrast method, the method of exercises and open tasks, the method of conversation, discussion, and finally, to summarize the topics covered the cinquain method were used.
Keywords: Abai, Translations, Comparative Teaching, Ethnocultural Competence, Text Analysis

Implementing Content and Language Integrated Learning (CLIL) in the University EFL Classroom

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Abstract: Content and Language Integrated Learning (CLIL) is a way to combine acquisition of a foreign language with study of substantive academic subjects at the university level. It has thus become justifiably popular in the university EFL teaching context. There are two main types of CLIL. One focuses on academic knowledge with a secondary goal of improving language competency. A second type prioritizes acquiring a second language with attaining knowledge of academic subjects as a secondary goal. This presentation will focus on this second type where language acquisition is the primary goal. In this category of CLIL, students are provided with information about an academic topic in summary form using language that is tailored towards gaining skills in the target language. They then do classroom activities that promote language acquisition. Though language acquisition is the primary goal here, learners engage with and gain important knowledge about academic topics. This gives students both language practice and an expansion of their knowledge. This combination of language practice and academic knowledge also helps prepare learners for language assessment tests such as the TOEFL and IELTS.

Formulating and Implementing Communicative Tests of Foreign Language Proficiency

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Abstract: The communicative approach to language teaching is now the most widely accepted pedagogical methodology in EFL classrooms around the world, communicative testing has not accompanied communicative teaching. Instead, educators teaching according to the communicative approach in their regular classes often use more traditional styles of testing. The communicative approach to language learning and teaching involves

learners engaging in real-world, authentic communication rather than rote learning such as memorizing and drilling of grammar structures. Communicative testing requires students to successfully communicate in the target language in order to fulfill the requirements of the test. This presentation will define the characteristics of a communicative test. It will then give reasons why communicative testing is superior in the communicative classroom to earlier forms of testing. It will discuss how to assess student performance on communicative tests. It will also suggest how communicative testing can be used in a variety of learning and teaching contexts from Content and Integrated Language Learning (CLIL) to English for Specific Purposes (ESP) to more traditional classrooms where curricula revolve around language structures or communicative functions. Communicative testing tests the real communication that learners do in a communicative classroom and can be profitably administered in a variety of learning environments.

Quality Assurance Mechanism for Video-based Learning Resources: Design, Development and Pilot in a Hong Kong University

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Abstract: The significance of video-based learning resources is growing in higher education owing to their potential to provide immersive and interactive content that improves learning outcomes. Nonetheless, there is a lack of a standardized mechanism to assess the quality of these resources, resulting in differences in their implementation effectiveness. The project aims to explore the feasibility of a quality assurance (QA) system for video-based learning resources and establish criteria for assessing and evaluating them. Our two-pronged approach involves consultation with professionals and a thorough review of existing frameworks. The consultation involved experts in online pedagogy and multimedia design from local universities who were invited to discuss QA criteria and conduct detailed assessments. The review examined literature from the past decade, including relevant QA frameworks or guidelines from prominent universities and accreditation bodies). We identified 22 crucial factors to be considered in designing video-based learning resources, divided into three categories: context and content, instructional design, and technical issues. We tested the system with two cycles of implementation, as well as an online professional development course developed by the university. Three panels were formed, and they reviewed over 100 instructional videos in various formats (e.g., talking head videos, interview videos, animations, live stream videos, etc.). The pilot enabled us to refine the QA criteria and an evaluation rubric. In this presentation, we will describe the development process of the evaluation mechanism and suggest how this system can be used in the future to enhance the quality of video-based learning content and online courses.
Keywords: Quality Assurance, Multimedia Content, Instructional Design, Criterial Assessment, Learning Outcomes

Bridging Urban-Rural Education in Bangladesh: E-Learning and Urban Leadership

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Abstract: This study aims to mitigate Bangladesh's educational disparity by empowering high school students through e-learning initiatives and fostering leadership skills in urban students. By leveraging digital platforms, the project intends to increase rural students' access to quality education while nurturing a sense of social responsibility in urban students. The research investigates e-accessories usage, institutional e-skills provision, and socio-economic barriers impeding e-skills development. It places particular emphasis on high-achieving urban students who can drive the empowerment of rural students in the future. Data from surveys and interviews across seven administrative divisions will be used to create a tailored e-book with resources like videos and e-lectures. The goal is to establish a more equitable, collaborative education system in Bangladesh.
Keywords: Urban-Rural Divide, Educational Equity, E-Learning, Empowerment, Leadership, Bangladesh

Role Playing Games as A Way to Develop Speaking Skills in Teaching Business Kazakh

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Abstract: In Kazakhstan the language policy has three directions: the Kazakh language as the state language, Russian as the language of interethnic communication, and English as the language of integration into the world economy. To promote integration into the world economy some universities in Kazakhstan like the KIMEP University, the Kazakh-British Technical University, and the Nazarbayev University use English as a language of instruction. The following problems of the Kazakh language use at English-speaking educational institutions are found: some local students do not use Kazakh as the state language; they make mistakes in business communication in Kazakh; they use the structure of the English or Russian grammar language when writing business letters in Kazakh. To increase students' motivation and develop their oral business speech I used role-playing games in my classes. Pedagogical recommendations suggested by such leading experts in the field as C. Bovée and J. Thill (2017) in their textbook "Business Communication Today" have been practiced in my classes as well. The main idea of the game is to create a situation in which students put themselves in the place of a particular character (play a professional role) and should be able to see and appreciate the importance of subject knowledge, independently master necessary theoretical material, and apply the acquired knowledge and respective language skills in practice. Role play game activates knowledge of the professional language, skills and abilities to use professional vocabulary, grammatical and syntactic correctness of written speech. Due to the competitive nature of the role play games game imagination of the participants is activated, logical thinking develops to help them to find solutions to the problem. Students are motivated to communicate spontaneously and they are stimulated to ask and answer questions.
Keywords: Role Playing Games, Business Kazakh Communication, Speaking Skills

Evaluation of a Brief Sexuality Education in a Nursing School in Hong Kong

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Abstract: **Background**: Although sexual health is an important element of holistic health, healthcare professionals feel embarrassed and are not willing to address sexual concerns of patients. Poor knowledge and conservative attitudes regarding sexuality are two major obstacles to providing sexual healthcare. Objective of the study: This study organized a 9-hour brief sexuality education program in a nursing school in Hong Kong to promote general knowledge and positive attitudes regarding human sexuality.
Methods: The brief sexuality education covered topics on theories of love, perspective of sex, sexual dysfunction, and topics on psychosocial factors of human sexuality. The mode of instruction included lecture, tutorials, and group project presentations. A total of 168 students participated in the education program and 53 students who did not join the program served as a comparison group. Measures of general sexual knowledge and general sexual attitudes were administered to both groups of students before the educational program and two weeks after the completion of the program. Results: Baseline measurement revealed that nursing students' general sexual knowledge was inadequate and they hold a rather neutral attitude towards sexuality. After participation in the education program, participants' correct answers to the general sexual knowledge scale raised from 53% to 91%. General sexual attitudes became more liberal and positive. No significant changes in sexual knowledge and attitudes were observed in students of the comparison group. Conclusion: Efficacy of the brief sexuality education was confirmed. With good sexual knowledge and positive sexual attitudes, students are expected to be more willing and efficient in the delivery of sexual healthcare

services.
Keywords: Nursing Students, Sexual Attitudes, Sexual Knowledge, Sexuality Education

History of India

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Abstract: What is the brief history of India? The history of India starts with the existence of India itself as It located in the continent of Asia, India covers 2,973,193 square kilometers of land and 314,070 square kilometers of water. Making it the 7th largest nation in the world with a total area of 3,287,263 square kilometers. Surrounded by Bhutan, Nepal, and Bangladesh to the North East, China to the North, Pakistan to the North West, and Sri Lanka on the South East coast. India is a land of ancient civilizations. India's social, economic, and cultural configurations are the products of a long process of regional expansion. Indian history begins with the birth of the Indus Valley Civilization and the coming of the Aryans. These two phases are usually described as the pre-Vedic and Vedic age. Hinduism arose in the Vedic period. The fifth-century saw the unification of India under Ashoka, who had converted to Buddhism, and it is in his reign that Buddhism spread in many parts of Asia. In the eighth century, Islam came to India for the first time and by the eleventh century had firmly established itself in India as a political force. It resulted in the formation of the Delhi Sultanate, which was finally succeeded by the Mughal Empire, under which India once again achieved a large measure of political unity. It was in the 17th century that the Europeans came to India. This coincided with the disintegration of the Mughal Empire, paving the way for regional states. In the contest for supremacy, the English emerged 'victors'. The Rebellion of 1857-58, which sought to restore Indian supremacy, was crushed; and with the subsequent crowning of Victoria as Empress of India, the incorporation of India into the empire was complete. It was followed by India's struggle for independence, which we got in the year 1947. Here is a brief timeline about the history of India:

Ancient India History: The History of India begins with the Indus Valley Civilization and the coming of the Aryans. These two phases are generally described as the pre-Vedic and Vedic periods. The earliest literary source that sheds light on India's past is the Rig Veda. It is difficult to date this work with any accuracy on the basis of tradition and ambiguous astronomical information contained in the hymns. Indus valley civilization, which flourished between 2800 BC and 1800 BC, had an advanced and flourishing economic system. The Indus valley people practiced agriculture, domesticated animals, made tools and weapons from copper, bronze, and tin and even traded with some Middle East countries.

The Indus Valley Civilization: A long time ago, in the eastern world, there rose a few civilizations. The main reasons for the rise of these urban civilizations were access to rivers, which served various functions of human beings. Along with the Mesopotamian civilization and the Egyptian civilization, rose the Indus Valley civilization spanning Northwest India and modern-day Pakistan. The largest amongst the three civilizations, the Indus Valley civilization flourished around 2600 BC, at which time agriculture in India started flourishing. The fertile Indus valley made it possible for agriculture to be carried out on a large scale. The most well-known towns of the Indus Valley in today’s date are Mohenjo Daro and Harappa. Unearthing these two towns showed excavators glimpses into the richness of the Indus Valley civilization, evidenced in ruins and things like household articles, war weapons, gold and silver ornament - and so on. The people of the Indus Valley civilization lived in well-planned towns and well-designed houses made of baked bricks. In an era of developments and prosperity, civilization, unfortunately, came to an end by around 1300 BC, mainly due to natural calamities.

Vedic Civilization: The next era that India saw was that of the Vedic civilization, flourishing along the river Saraswati, named after the Vedas, which depict the early literature of the Hindus. The two greatest epics of this period were the Ramayana and the Mahabharata, still held in great reverence by the followers of Hinduism.

Buddhist Era: Next came the Buddhist era, during the time of the Mahajanapadas which the sixteen great powers were, during the 7th and the 6th centuries BC. Prominent powers at the time were the Sakyas of Kapilavastu and the Licchavis of Vaishali. Buddha, whose original name was Siddhartha Gautam, was born in Lumbini near Kapilavastu and was the founder of Buddhism - a religion based on spiritualism. He died at the age of 80 in 480 BC but his teachings spread throughout southern and eastern Asia and are followed across the world today.

The Invasion of Alexander: When Alexander invaded India in 326 BC, he crossed the Indus River and defeated the Indian rulers in battle. Noteworthy of the Indians' attempts at war, was the use of elephants, something that the Macedonians had never seen before. Alexander then took over the lands of the defeated kings.

The Gupta Dynasty: The Gupta period has been referred to as the Golden Age of Indian history. When Chandragupt I received the gift of Pataliputra in dowry when he married the daughter of the chief of the 'Licchavis', he started to lay down the foundation of his empire, which extended from the river Ganges or the Ganga to the city of Allahabad. He ruled for 15 years and was also referred to as the 'king of kings' for his strategic conquests and the flourishing state of India.

Harshavardhana: The last of the ancient kingdoms in India was by the king Harshavardhana, who ascended the throne at Thanneshwar and Kannauj after his brother died. While successful in a few of his conquests, he eventually got defeated by the Chalukya Kingdom of Deccan India. Harshavardhana was well-known for establishing relations with the Chinese, and also for having high religious tolerance and strong administrative capabilities.

Medieval Indian History: The medieval history of India is renowned for deriving a lot of its character from Islamic kingdoms. Extending across almost three generations, medieval India included a number of kingdoms and dynasties: - The Chalukyas - The Pallavas - The Pandyas - The Rashtrakutas - The Cholas. The Cholas were the most important rulers at this time, the 9th Century AD. Their kingdom covered a large part of South India, including Sri Lanka and the Maldives. While the rulers ruled bravely and carried out the annexation of multiple territories in India, the empire came to an end in the 14th Century AD with an invasion by a man named Kafur Malik. The monuments from the Chola Dynasty are still intact and are known for their rustic charm. The next major empire was that of the Mughals, preceded by a rise in Islamic rulers. The invasion of Timur was a significant point in Indian history before a Hindu revival movement called the Bhakti movement, came to be. Finally, in the 16th Century, the Mughal empire started to rise. One of the greatest empires of India, the Mughal empire was a rich and glorious one, with the whole of India united and ruled by one monarch. The Mughal Kings were Babar, Humayun, Sher Shah Suri (not a Mughal king), Akbar, Jehangir, Shah Jahan, and Aurangzeb. They were responsible for setting up efficient public administration, laying out infrastructure, and promoting the arts. A large number of monuments in India today exist from the Mughal period. The death of the last Mughal King, Aurangzeb, sowed the seeds of disintegration within India. Influencers of Islamic architecture in India, the Mughal kings are still looked back in awe.

Akbar: Emperor Akbar, also known as Akbar the Great or Jalaluddin Muhammad Akbar, was the third emperor of the Mughal Empire, after Babur and Humayun. He was the son of Nasiruddin Humayun and succeeded him as the emperor in the year 1556 when he was only 13 years old.

Shah Jahan: Shah Jahan, also known as Shahbuddin Mohammed Shah Jahan, was a Mughal Emperor who ruled in the Indian Subcontinent from 1628 to 1658. He was the fifth Mughal ruler, after Babur, Humayun, Akbar, and Jahangir. Shah Jahan succeeded the throne after revolting against his father, Jahangir.

Chhatrapati Shivaji: Chatrapati Shivaji Maharaj was the founder of the Maratha Empire in western India. He is considered to be one of the greatest warriors of his time and even today, stories of his exploits are narrated as a part of the folklore. King Shivaji used the guerrilla tactics to capture a part of, the then, dominant Mughal empire.

Modern Indian History: During the late 16th and the 17th Centuries, the European trading companies in India competed with each other ferociously. By the last quarter of the 18th Century, the English had outdone all others and established themselves as the dominant power in India. The British administered India for a period of about two centuries and brought about revolutionary changes in the social, political and economic life of the country. However, the zenith of colonisation was achieved when the British arrived in the early 1600s as traders. Capitalizing on the disintegration that existed in India after the Mughal rule, the British actively used the strategy of 'divide-and-rule' to rule over India for over 2 centuries. While the British had come in earlier, they only achieved political power in 1757 AD after the Battle of Plassey. They took a keen interest in the resources that India had to offered and have been looked back at as plunderers of India's wealth of resources - as they took cotton, spices, silk, and tea, amongst numerous other resources. While they did lay out a massive chunk of India's infrastructure, by also bringing the Indians steam engines, it is seldom looked back at as an equal relationship. The British Raj was divisive and pit Indians against one another, on the basis of religion; and also mistreated the labourers. The Indians were essentially slaves of the British rule and were working hard without any returns on their work. This, naturally, led to multiple mutinies; and prominent freedom fighters came to the forefront. Different ideologies of thought believed that there were different ways of gaining freedom; however, they all had one common goal - freedom. The British queen had asserted that the aim of the British was to help India progress - however, multiple problems arose without the consultation of Indian leaders. One important instance of this was when in the First World War, Britain launched an attack on Germany on behalf of India, even though India did not wish for that to happen; and millions of Indian soldiers were at the forefront of the British Indian Army during both the world wars - further fuelling the Indian resistance. Over a million Indian soldiers were killed in both the World Wars.

Exploring the Factors of Help-Seeking Behavior in Collaborative Learning: Positive Goal Interdependence and Individual Goal Orientations

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Abstract: This study aimed to investigate the influence of positive goal interdependence and individual goal orientations on elaborated help-seeking behavior in collaborative learning groups. The research surveyed a total of 832 fifth-grade students from 34 math classes that used collaborative learning. Path analysis was employed to examine the direct effect of positive goal interdependence and individual goal orientations on elaborated help-seeking behavior, as well as the indirect effect of positive goal interdependence on individual mastery goal and elaborated help-seeking behavior. The results revealed that both positive goal interdependence and individual goal orientations had a significant direct effect on elaborated help-seeking behavior. Additionally, positive goal interdependence had a significant indirect effect on individual mastery goal and elaborated help-seeking behavior, but it did not have a significant indirect effect on individual performance-approach goal or

performance-avoid goal and elaborated help-seeking behavior. These findings suggest that promoting positive goal interdependence and individual mastery goals in collaborative learning groups can enhance students' elaborated help-seeking behavior.

Keywords: Goal Interdependence, Goal Orientation, Help-Seeking, Collaborative Learning

A Comparison of Brain Activation in Cartoon and Text Problem-Solving

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Abstract: The purpose of this study was to investigate whether there are differences in the mathematical problem-solving process among students depending on the method of problem presentation, using cognitive neurology as a basis. Elementary school students in grades 5 and 6 solved two types of problems presented as cartoons and text, and their gaze and brain activity were measured using eye trackers and fNIRS devices during the process. When the same problems were presented as cartoons and text, differences in brain activity and the area of brain activation were examined. Using an eye tracker, the distribution of gaze on speech bubbles, characters, and other pictures was analyzed when reading cartoons. By checking where, the gaze was focused during the most active brain activity, it was confirmed how students obtained information to solve problems when reading cartoons and the results of problem-solving according to their reading method. The learning characteristics of the students were also analyzed by surveying them before and after the experiment. The results of this study objectively analyzed the effects of mathematical problems presented as cartoons and suggest how to use cartoons and text according to the characteristics of students.

Analysis of Model Mechanism Testing Types of Elementary School Students

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Abstract: This study aimed to analyze the types of model mechanism testing performed by elementary school students to obtain insights for effective modeling learning. The mystery tube, a task that involves identifying the structure of a hidden string inside a closed tube, was used to investigate model mechanism testing. Twenty-two sixth-grade elementary school students were purposely sampled, and each participant performed the same task 1-4 times. Data collected included think aloud protocols and behavioral protocols generated by the participants during the task, retrospective interviews conducted after the task, and models expressed through writing or drawings on the practice sheet. The collected data was qualitatively analyzed through an inductive categorization process. The study found that elementary school students' types of model mechanism testing were classified into "data-based testing" and "model-based testing." Data-based testing involves comparing the results obtained through task manipulation with the mechanism to test it, while model-based testing involves externalizing the model and testing the mechanism through simulation. This study provides insights into the modeling process for elementary school students and directions for effective modeling learning.
Keywords: Elementary School Students, Model Mechanism, Testing Types, Modeling Learning

Affordance Analysis of Astronomical Illustrations Providing Both Earth-Based Perspective and Space-Based Perspective

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Abstract: The purpose of this study was to analyze the affordance of illustration in learning about the “cause of seasonal change” presented in Korean elementary schools to derive the form of astronomical illustration for effective science learning. For the study, 80 sixth-grade students from elementary schools (40 in the experimental group and 40 in the control group) were randomly sampled and conducted. In the study, an eye-tracker was used to analyze the affordance of illustration. The collected data was analyzed for re-reading of illustration and visual transition using the Lag Sequential Analysis method. The results showed that, First, the experimental group, which learned tasks that considered learner’s affordance by simultaneously providing earth-based perspective and space-based perspective, showed a greater integrated understanding. Second, in the experimental group, the number of re-readings of illustration and the transition-frequency increased. The result was significant compared to the control group. This study suggests directions for effective astronomical learning for elementary school students by analyzing the relationship between the affordance of illustration and learning effects.
Keywords: Elementary School, Astronomical Education, Illustration, Affordance, Earth-Based Perspective, Space-Based Perspective

Comparison of Two Elementary Preservice Teachers' Science Identity: Experiencing Lectures on the 'Nature of Science'

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Abstract: As mentioned in many previous studies, science identity is formed and changed by various contexts and factors. The purpose of this study was to explore the process of building science identity through the experience of two elementary school preservice teachers taking a course related to the "nature of science" in university. One of the preservice teache, A, was a student in the science and math track in high school, while the other, B, did not choose math and science courses and was in the liberal arts track. To explore the science identity that the two students were developing, the study had them write nine science-related essays over 15 weeks as part of the "understanding the nature of science" course and conducted one preliminary interview and one in-depth interview. The results of analyzing the science essays and interview data are as follows. First, both preservice teachers had a positive attitude toward science and were in a state of psychological openness to approaching the nature of science without resistance, through positive experiences with science in their childhood or adolescence, such as fond memories with their parents or experiments and discussions in extracurricular clubs. Second, they had future plans to get even closer to the "nature of science" and apply it to their teaching by expanding scientific concepts through interesting scientific activities in class and emphasizing

curiosity and freedom in their teaching methods. Third, their science identity as elementary preservice teachers were developing. In the weekly essays, they had various thoughts about themselves and gave different answers to various science-related topics, allowing the researchers to explore how their science identity were being formed. The various activities related to the "nature of science" in the course provided clues to the development of the preservice teachers' science identity, confirming the research significance.
Keywords: Science Identity, Elementary Preservice Teacher, The Nature of Science, Scientific Practice

Exploring MET-Data Analysis Methods Using Machine Learning: Attention Analysis in Real Classroom

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Abstract: The purpose of this study is a case study to explore the possibility of analyzing student attention and mind wondering (MW) by mapping mobile eye tracker (MET) gazedata collected during classroom instruction with a machine learning program. One student was selected from a 6th grade elementary school classroom where science was being taught, and the MET was worn, and the gazedata of the entire three lessons was collected. From the collected data, images were extracted from the recorded video from the learner's point of view, and a machine learning program (YOLOV7) was used to find the object corresponding to the on-task by coordinate range. By contrasting the gaze coordinates of on-task objects and learner gazedata, we analyzed the frequency, duration, and total time of on-tasks during a science lesson by categorizing learners' on-tasks and off-tasks. We also compared this data to MW occurrence zones calculated using learner gaze data. The results of this study are as follows. First, across the three lessons, MWs occurred for an average of 548,637ms, which is about 20.8% of the total learning time. Second, the average amount of time learners' eyes was on-task during class was 504,082ms. This is about 19.1% of the total learning time. This study shows that the problem that it takes a lot of time and effort to analyze the gazed data of MET can be handled by simplifying the mapping process through machine learning. This study provides implications that can contribute to the revitalization of research using MET in the future.
Keywords: Machine Learning, Mobile Eye Tracker, Gazedata, Attention, Mind Wandering

Comprehensive K-12 School Management System

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Abstract: This abstract describes a school administration system that is designed to simplify and streamline various administrative tasks such as admission and exit processes, class and campus management, student management, attendance, class schedules, sibling management, and many more. A low-code configuration platform was used in the system's construction, allowing for quick and simple customization in accordance with the needs of the school. The admission process module of the system includes features such as online application forms, and verification of the application by several authorities along with fees and sponsorship management. The exit process module allows for the generation of Transfer certificates (TC) and Bonafide certificates, with automated tracking and record-keeping for each student. Class and campus management are made easy with the ability to create class schedules, holidays, vacations, and other useful features. The student management module allows for easy tracking of student information, attendance, promotions and demotion of students, fee refunds, and many more. The unique feature of this system is that it is developed using a low code configuration platform, which means that it can be easily customized to suit the school's specific requirements with just a few clicks. This feature eliminates the need for extensive coding and development efforts, making the system easily adaptable and cost-effective. Overall, this school administration system offers a comprehensive solution for managing various administrative tasks, with the added benefit of easy customization using a low code configuration platform. The features of school administration in a nutshell: ●Customized: Fully customized school management system ●Configurable: Highly configurable dashboard for stakeholders ● Transformative: Effective digitization of previously manual activities ●Empowered educators: Freed up educators' time by reducing duplication of efforts & paperwork their day-to-day. ● Quick Implementation: Rapid onboarding process with easy customization in line with bespoke requirements ● Boosted accountability: Features such as the custom report generator helped different departments become more efficient. ● State-of-the-Art Support: Get swift support from a team with expertise and international experience

Identifying Challenges, Perceptions, and Best Practices of In-Service Teachers during the Covid-19 Pandemic

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Abstract: The Covid-19 pandemic placed a significant amount of stress upon in-service teachers during the rapid shift from physical to virtual learning experiences. Individual emotional experiences of in-service teachers impacted each educator's motivations from different perspectives. The purpose of this research is to examine the ongoing effects on the wellbeing and pedagogical approaches of educators needs to be identified through longitudinal studies. This study examines the challenges that educators faced while trying to adapt to new technologies as a means of disseminating information, while exploring how can teachers' perceptions during the pandemic can be leveraged to advance the current field of teaching after the pandemic. Results from educators throughout 14 school districts in northeast Ohio, USA indicated that although the pandemic caused a significant disruption in the traditional dissemination of information found in a face-to-face classroom, there were several lessons that could be learned. The results of the study identified new methodologies for educators in virtual or hybrid environments and the conclusion extrapolated qualitative data to recommend best practices moving forward in a post-pandemic world.

Online Learning for Medical Students, how are the Implementation and Effectiveness?

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Abstract: **Research Objectives**: This study aimed to determine the use of online learning and the effect of the COVID-19 pandemic on online learning for medical students.

Methodology: This research was a qualitative study, conducted in 2022. The research participants were preclinical medical students, clinical medical students, and lecturers at 11 Medical Faculties in Indonesia. The sampling technique with cluster sampling was based on the Faculty of Medicine's accreditation. Data collection was carried out with a focus group discussion. Data analysis was carried out by thematic analysis.

Findings: This study found several themes related to the use of online learning among medical students: online learning usage, the effectiveness of online learning, and the preference for learning methods (online, offline, blended). The COVID-19 pandemic has affected the learning process of medical students. Medical students have strategies to overcome problems experienced due to the COVID-19 pandemic in learning.

Research Outcomes: Online learning could be considered as a learning strategy for medical students.

Future Scope: Further research on online learning is needed, especially about clinical skills learning and online learning designs that can keep students playing an active role.

Correcting Students Correctly: Avoiding Grammar Misconceptions in the Foreign Language Classroom

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Abstract: Striving towards grammatical accuracy is a justifiable goal of educators in language teaching classrooms around the world. But there are misconceptions about grammar that can hinder this goal. The main misconception is that native speakers make grammar errors when using their own native language. They do not. The idea that native speakers can make grammar mistakes in their own languages is detrimental to foreign language classrooms because when language teachers attempt to find answers to grammar questions, they encounter conflicting information and are sometimes not able to give their students useful answers. The main cause of the misconception that native speakers can make grammar errors in their own language is the conflation of formal and informal style, a conflation of grammar and style, which leads to informal usage being incorrectly stigmatized as incorrect grammar. This paper will outline three major misconceptions arising from this fundamental confusion of style and grammar: 1) the idea that native speakers are using some words incorrectly; 2) native speakers using words that are said not to be real words; and 3) the conflation of emphasis and redundancy. This issue will be addressed in the context of the English language. But the principles apply across languages. Knowledge of these misconceptions will allow language teachers to answer common questions about grammar. Finally, suggestions for what conventions students should follow when communicating in a foreign language given the pervasiveness of these misconceptions.

Invisibility of Specific Learning Disabilities: A Challenge in Higher Education

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Abstract: This research aimed to illuminate the experiences of students with Specific Learning Disabilities (SLD) at a South African university. While universities are increasingly addressing the needs of students with sensory and physical disabilities, there is less emphasis on SLD which does not present physically, thus often referred to as invisible or hidden disabilities. The research was, conducted as a qualitative case study, guided by Vygotsky's social cultural theory (SCT). A basic qualitative research methodology, embedded in an interpretive paradigm was used. Data was collected through an online background survey and semi-structured interviews. Thematic qualitative content analysis was used to analyze collected data systematically. From a social justice perspective, the major findings suggest that there are several factors that impede on equal education for students with SLD at university. The research outcomes revealed that the hidden nature of SLD becomes apparent as participants must self-declare their needs. They further experienced a lack of acknowledgement and support from lecturers. Participants revert to valuing the support of family and friends more than that of lecturers. While universities have policy and structures for the support of students with SLD, there is a dire need for lecturers to be aware and sensitive to the needs of students with SLD. The future scope is thus that university lecturers need to be reflective of their pedagogical practices to transform higher education learning spaces in pursuit of authentic inclusion.
Keywords: Specific Learning Disabilities, Inclusion, Higher Education, University Lecturers, Transformation

The Use of Math Manipulatives as Multi-Sensory Tools in Introductory Statistics Courses

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Abstract: Many students in social sciences have negative attitudes towards statistics courses, which are often excessively rigid, abstract, and employing teaching approaches that take much of the fun out of learning. A great deal of research has shown that the human brain learns and performs better in situations where information is integrated across several sensory modalities. Research also shows how multi-sensory teaching approaches are valuable in the learning of language and literacy, as well as for children with learning disabilities like dyslexia. Furthermore, many research studies have pointed out how math manipulatives contribute to students' experiences by providing them with hands-on and concrete learning experiences. Currently, there seems to be a lack of research that incorporates math manipulatives as a multi-sensory teaching technique in introductory statistics courses. The purpose of this research is to investigate whether the use of math manipulatives as a multi-sensory teaching technique has an impact on students' academic performance in Statistics II at a South African university. A non-equivalent pre-test post-test design was employed to see if the post-test performance of students exposed to the multi-sensory teaching strategy (in Statistics II) differed from that of students who received traditional instruction (in Business Statistics). The results of the study showed that students who were exposed to the multi-sensory teaching technique using math manipulatives achieved higher scores in Statistics II than the students who were taught through traditional instruction. The study has significant implications on education, specifically for introductory statistics and probability.
Keywords: Diverse Students; Multi-Sensory Teaching; Math Manipulatives; Statistics

Matlab Live Script and Its Application in Civil Engineering Education

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Abstract: Pre pandemic teaching of engineering mathematics included Matlab coding in the command window which was instructed during face-to-face contact sessions. With the onset of Covid, face-to-face instruction was not possible and other avenues had to be explored for the delivery of Matlab coding. The Live script platform which is an alternative to the command window and associated with the Matlab software presented a way

forward for these students as it combines MATLAB code with formatted text, equations, and images in a single environment suited to the use of a first time coder. In addition, this software is accessible from any computer online which eliminates downloading this software which requires a large capacity memory device. The study material provided to students is a live script .mlx file containing theory, worked examples and code with which students can interact. These scripts can be exported to word or pdf for student printing should they require a hard copy. This has changed the delivery and experience of Mathematics for civil engineering student at the Central University of technology post Covid. This paper will present the results of students using Live script to solve a problem that was originally removed from subject content on account of the time it takes to perform calculations manually. Student manual solution and Matlab Live script solution will be compared where the outcome will prove the value of the inclusion of this software in the classroom or online. Future research will extend the uses of live script in other subjects requiring intervention where manual ways are not practical ways of content delivery and/or visual understanding. We are living in exciting times!

Equipping Students with a Real-World Problem-Solving Skill in the Mathematics Class

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Abstract: The question "Why must we do math?" is often posed to a mathematics instructor especially in Engineering disciplines where other course material is practically applicable. For this reason the philosophy of problem identification and evaluation of best tools taught in the mathematics class at the Central University of Technology (CUT) was extended to the solving of a real world problem. Students were challenged to change an existing product to be more functional. Products overdue for re invention such as the humble umbrella that folds backwards in heavy wind and a cello tape roll for which no one can find the beginning were used as examples students could use in identifying imperfect products in their own daily lives. In an awareness exercise, students were exposed to the Product development technology station (PDTS) at CUT where they were made

aware of the processes and costs involved in realizing a product. As this was a compulsory assignment together with regular mathematics assignments, all students had to comply either choosing to work in groups of 3 or as single innovators. In this presentation it will be seen how students extend classroom problem solving to real world problem solving by identifying the problem, choosing the correct tools and evaluating the viability of bringing the product to market. Not all students will be fortunate in securing employment post qualification which necessitates the inclusion of an innovation-skill in course content at CUT.

Methods of Teaching the Works of M. Auezov in Higher Educational Institutions

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Abstract. The article discusses the creative skills and writing talent of M. Auezov, who has become an honorary name in the world. The works of the writer M. Auezov, who rose to the world level with his first stories in the twenties, raise a problem common to all mankind. The first stories, which raised the issues not only of one nation, but of all mankind, were distinguished by the artistic and ideological basis, the issues raised. From this point of view, the ways of teaching the artistic and ideological features of the first stories and short stories of the writer in higher education are considered. It collects literary analysis and methods based on best practices and offers effective methods. The author demonstrates the effectiveness of the widespread use of the "anthropocentric" paradigm in the study of M. Auezov's fiction. He analyzes the importance of using the writer's own method of realistic description when teaching the story "Korgansyzdyn kuni" on the basis of paradigms in different ways used in modern education. Also the author analyzes the experience of M. Auezov's large-scale and artistically-ideologically story "Karash-Karash okigasy" in the use of expressive reading, role-playing, problem situations, question-answer, dialogue platform, research conversation, etc. The author emphasizes the importance of M. Auezov's works in the upbringing of children in modern education system.
Keywords: story, artistic idea, problematic question, literary analysis, artistic reality.

Student-Produced Videos as a Form of Assessment in Economics

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Abstract: Assessing technical modules has become a major challenge due to the rise of online exams and the increasing use of AI technologies. It is also uncertain whether traditional paper-based exams can accurately

evaluate students' understanding and knowledge acquired throughout the course. In this paper, we argue that student-produced videos are an effective means of tackling these issues. Students were required to create a 5-minute video demonstrating how they tackled a mathematical problem and explaining their calculations in detail. For the past three years, video and standard written assessments have been used to evaluate students' comprehension. The combination of these assessments has allowed for data collection and has revealed a significant positive correlation between the two components. This means that students who did well in the written component also did well in the video assessment, indicating that the video assessment is fair and doesn't put any students at a disadvantage. Additionally, the correlation coefficient is below 1, meaning that the two forms of assessment measure different aspects of knowledge and comprehension. Finally, before releasing the grades, a survey was conducted to gather feedback from students about their experience with recording the video assessment. The survey asked about the time it took to complete the task and how it compared to traditional forms of assessment in terms of ease, convenience, stress levels, enjoyment, and more. Students were also given the opportunity to provide additional comments in free text. Our findings indicate that videos are a reliable and efficient way to evaluate students' level of understanding throughout the course. This is particularly significant for technical subjects, where assessments tend to involve basic problem-solving that can be easily compromised during online exams and with the growing use of AI technologies. Moreover, video assessments offer students opportunities to enhance their communication, time management, and planning skills.

Obstacles to Implementing English as a Medium of Instruction in Japanese Universities

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Abstract: Through the design and implementation of a survey, this paper has sought to better understand perceptions among educators in Japan concerning the readiness and necessity of English-taught programs in Japanese higher education institutions. The researchers surveyed both domestic and international teachers at a private science university in Japan and found that educators believe some struggles exist for Japanese students in English-taught classes. These struggles, specifically regarding cultural differences in teaching and learning styles, might hinder Japanese students' acclimation to English-taught courses. The respondents also felt that English-taught programs were necessary and benefitted both international and domestic students.
Keywords: English as A Medium of Instruction, International Students, Japanese Higher Education, Passive Learning.

The Variety of Problems in Students' Hypothetical Premise Constructions

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Abstract: Among the foundations of critical thinking is the perspective provided by theory of mind and the critical disposition of being willing to rethink one's preconceptions of the way the world works when evidence to the contrary is discovered or produced. In this presentation, I outline the rationale, the Active Learning (AL) approach and the materials used in an extended experiential learning project, which involved face-to-face and forum-based discussions; and in-class hands-on collaborative learning using physical objects and observable phenomenon. This activity culminated in a Group Written Report. While students' general use of premise and conclusion markers markedly improved, problems in their construction of hypothetical premises persisted. I will discuss the types of problems and offer explanations for why these problems continued to occur; and I will suggest ways in which instruction on hypothetical premise construction may be improved.

Implementing Total Quality Management in Higher Education

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Abstract: Total Quality Management (TQM) in the context of educational institutions requires careful planning and the implementation of an annual quality program to achieve its vision effectively. By applying TQM concepts, the higher education system can experience significant improvements. This study aims to examine TQM in higher education, focusing on Critical Success Factors (CSF) and their implementation across all areas. The study ultimately concludes that CSF and their execution play a crucial role in higher education institutions. Some institutions have already benefited from TQM methods by dedicating themselves to the system and using it to achieve their objectives. Through this review, recent studies shed light on how the TQM system can employ various strategies and hypotheses to empower employees, foster a positive and supportive environment, and

emphasize the importance of enabling students to unleash their full potential.
Keywords: Total Quality Management (TQM); Critical Success Factor (CSF), Higher Education; Literature Investigation; Organizational Performance; Quality Management Practices.

Building Collaborations among ASEAN Countries: Understanding Cultural Similarities and Differences

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Abstract: In today's interconnected world, technological advancements, improved communication, and enhanced transportation have brought countries closer than ever before. This has made it easier for people to travel, work, and study abroad, fostering greater connectivity among nations. In the context of ASEAN, this connectivity has led to an increase in people visiting and residing in neighboring countries, supported by the establishment of the ASEAN Economic Community in 2015. While the opportunities for living in foreign countries are abundant, it also comes with challenges. One significant challenge is adapting to the cultural nuances of the destination country, which may differ from one's home country. In light of this, this research aims to explore the cultural similarities and differences between Indonesia and two of its neighboring countries, namely The Philippines and Malaysia. The study examines six cultural dimensions, namely Power Distance Index, Individualism vs Collectivism, Masculinity vs Feminity, Uncertainty Avoidance Index, Long Term vs Short Term Normative Orientation, and Indulgence vs Restraints. Using Hofstede's framework, the research analyzes these dimensions to gain insights into the cultural dynamics between Indonesia, The Philippines, and Malaysia. The results reveal both commonalities and distinctions among the three ASEAN countries. These findings might be the starting point to build collaboration among those three ASEAN Countries.
Keywords: Collaborations, ASEAN Countries, Cultural Dimensions.

Using the Local Heritage in Musical Education to Produce Creativity Moroccan Child Music as A Model

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Abstract: Nowadays, practical scientific studies penetrate all fields of science to develop and advance them,

especially education sciences. From this point of view, and based on the fact that Morocco is striving to achieve progress at the level of its global classification concerning the quality of education and attention giving into its human and immaterial capital, there is a fundamental necessity of adopting a preventive treatment plan based on scientific research to preserve the intangible heritage and its exploitation in the development and construction of the generation of tomorrow's Morocco. This research focuses, through a set of scientific methods, on studying the impact of using the digitized musical heritage of the child in order to influence levels of creativity and academic achievement in primary schools with fragile social and economic backgrounds. A multi-scientific approach was chosen for this study, which embraced creativity under two different perspectives: one of creativity as a product and the other of creativity as a process. The methods used to explore the problem were quantitative, in the form of a standardized test of creativity and analysis of score averages, combined with descriptive observation. The results show a positive correlation between the technical research program and the improvement of creative cognitive skills in the Moroccan primary school. However, the results of the quantitative creativity test left some questions about the relationship of the use of arts in education and academic achievement. Creativity has proven that it can be understood more systematically when examined in the context of the creative process. Finally, the current research has led to several points of discussion and recommendations for future research.

Keywords: Education - Musical Heritage - Child – Creativity- Morocco

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