TABLE OF CONTENTS

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Capacity Building Initiatives for the Informally Trained Mechanics on the Repairs and Services of Modern Motor Vehicles for Sustaining Service Workshops in Nsukka, Nigeria

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Abstract:
As a result of the complexity of the innovative technologies embedded in the modern motor vehicles components, systems, sub-systems and because of the increasing sensitivity in technology transfer which has consequently facilitate the assimilation and adaptation of technology, has posed a challenge to the informally trained motor vehicle mechanics in the repairs and services of modern motor vehicles which suffice the need to ameliorate their capacity building needs. The study was therefore design to identify areas of the modern motor vehicles components, systems and sub-systems where the mechanics requires capacity and proffering some capacity building initiatives for coping with the challenges of the innovative technologies in modern motor vehicles for sustaining service workshops. Two research questions were stated in line with the specific purpose of the study. Descriptive survey research design was adopted for the study. The population for the study is 150 comprising the master craftsmen, journey-men and apprentices in the informal sector of motor vehicle repair and service workshops. A thirty-two (32) items questionnaire was developed from an extensive review of literature on the different areas of modern motor vehicles components, systems, sub-systems, and proffered capacity building initiates for coping with the challenges of the innovative technologies in modern motor vehicles for sustaining service workshops. Three experts from the department of Industrial Technical Education, University of Nigeria, Nsukka with stress in Automobile Technology validated the instrument. Cronbach Alpha reliability method was used to determine the internal consistency of the instrument. A reliability coefficient of 0.88 was obtained. The data were analyzed using the mean and standard deviation. It was found out that eighteen (18) questionnaire items were considered as the different areas of modern motor vehicles components, systems, sub-systems, where the mechanics requires capacity and fourteen (14) questionnaire items were also considered as the proffered capacity building initiates for coping with the challenges of the innovative technologies in modern motor vehicles for sustaining service workshops. It was therefore recommended that stakeholders should implement the capacity building initiates for coping with the challenges of the innovative technologies in modern motor vehicles such as, given incentives or remunerations/ wages, the master craftsmen should be encouraged to embark on training to widen or broaden his knowledge on innovations in automobile and transfer same to his apprentices for sustaining service workshops.

Keywords: Capacity building, Apprenticeship system, Motor vehicle mechanic, Innovative technologies, Informal sector, service workshops.

INTRODUCTION

The term informal sector was used for the first time in the reports a Ghana and Kenya prepared by the ILO (International Labour Organization) under ILO World Employment programme at the

beginning of the 1970s (ILO, 2000). The informal sector according to Liimataimen (2003) is commonly used to refer to that segment of labour market in the developing countries that has absorbed significant numbers of job seekers, mostly in self-employment and for workers in very small production units. Informal activities are often characterized by low level of capital, skills, access to organized markets and technology; low and unstable income and poor and unpredictable working conditions and are usually often outside the scope of official statistical enumeration and government regulations and beyond formal systems of labour and social protection. Messina (1994) describe the informal sector as a process of involving informal group of individuals of limited means as well as a group of people at vulnerable economic stage, often falling into subsistence levels. Kent and Musli (1995) stated that the informal sector is interpreted as individuals or groups of people engaged in legitimate enterprises, some of whom may be regulated by the states but the vast majority are operating outside the legal regulations of the state. In view of STATECO (2005), the informal sector is defined as being all production units without an administrative registration number and which do not keep formal written sets of accounts (accounts permitting the preparation of operating account and a balance sheet). This definition is the one most commonly used in the various statistical surveys of the African informal sector and especially Nigerian informal sector and was accepted by all the stakeholders as being very operational approach to the informal economy, it nevertheless contributes to reflections on the most legitimate way of approaching the nature and specificities of the sector activities (Walther, 2007).

Ekpo and Umoh (2012) stated that the informal sector in Nigeria refers to economic activities in all sector of the economy that are operated outside the purview of the government regulations. This sector may be invisible, irregular, parallel, non-structured, backyard, underground, subterranean, unobserved or residual (Magbagbeola, 1996 in Ekpo and Umoh, 2012). Informal economic activities in Nigeria encompass a wide range small scale, largely self-employment activities and most of them are traditional occupations and methods of production, others include such financial and economic endeavours of subsistence nature as: retail trades, transport, restaurant, repair services, financial intermediation and household or other personal services (Ogwo, 2007). Adamu (1996) noted that activities in the informal sector in Nigeria are difficult to measure: they are highly dynamic and contribute substantially to the general growth of the economy and personal or household income.

Motor vehicle maintenance, repair and service workshops in the informal sector is a viable business provided that it is operated with a good business acumen that involves having a thorough knowledge and experience of the repair and service operations and also managing the jobs with the right type of skilled manpower. Motor vehicle maintenance, repair and service workshops according to Westnedge (2012) are businesses that fix or perform upgrades and modifications to vehicles and light trucks and buses. These shops may be large, publicly traded companies or small, locally owned businesses and some of these service workshops specialize in certain type and make or models of vehicles, while others service workshops carry out repairs on all types/models of cars, trucks and buses which is done by a motor vehicle mechanic. A motor vehicle mechanic is an individual that can apply technical knowledge and skills to repair, service and maintain all types of motor vehicles, and carry out or perform operations on the vehicles some of which include, operations in the braking systems, electrical systems, engine performance and fine tuning, engine overhauling and repair, suspension and steering, automatic and manual transmission and drive trains, and heating ventilation and air conditioning systems (Erjavec, 2010).

Olaitan and Ede (2010) observed that there has been an unprecedented influx of fairly used imported vehicles in the country since the inception of this democratic government, and this has placed a heavy demand on the quality of service expected from a skilled motor vehicle mechanic in Nigeria. Ogwo (2007) similarly stated that the more sophisticated automobiles become in North America, Europe and Japan, the more difficult it is to service those exported to developing countries, consequently, leaving the informal automobile sector with the arduous task of servicing cutting edge technology in modern motor vehicles (Ogwo, 2007).

The very essence of manufacturing these modern vehicles is as a result of several factors that have influenced consumer automotive buying preferences and which have to a large extent regulated and lead to improvement and innovations in automobile in technology. Ogwo (2004); Hillers, Coombes and Rogers (2006) outlined some of these factors as emission control, safety, comfort, fuel economy, dependability, price, quality, and improved drivability. Emission control and fuel economy as stated by Hiller, Coombes and Rogers (2006) has occasioned tremendous technology changes in the fuel and ignition systems, these changes also includes electronic fuel injection, gasoline direct injection, electronic carburetor, variable valve timing intelligence (VVTi) and double overhead cam operations, electronic ignition, super charging (slow and turbo charging), and the emission control systems (exhaust gas recirculation systems EGR, catalytic converter. On the safety factor, innovations according to Hiller and Rogers (2007) include anti-lock braking systems (ABS), all wheel driving and steering systems (AWDS), speed limit alarm systems, electronic stability control, traction control systems and airbags (self-restraint systems, SRS). The maintenance and repairs of these innovative technologies on modern motor vehicles require some knowledge of automobile electricity and electronic or mechatronics (mechanical components controlled by electronics) which involves the study of the use of computers in motor vehicle through the engine control unit (ECU) via sensors and actuators, technologies which is relatively new to these motor vehicle mechanics in the informal sector. For the technicians or the motor vehicle mechanics in this sector to service the modern motor vehicle, they must understand not only the mechanical parts, nomenclature and operations, but must also understand the diagnosis and service procedures for each system and sub-systems in the vehicle. Ogwo (2007) stated that in the formal auto sector, major vehicle distributors are making conscientious efforts at equipping their workshops and retraining their technicians, same cannot be said of those in the informal sector. Hence, the motor vehicle mechanic in the informal sector motor vehicle repairs, maintenance and service for sustaining service workshop require capacity, or capacity building.

Capacity-building is defined as the process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in a fast-changing world (United Nation Development Programme,2021). An essential ingredient in capacity-building is transformation that is generated and sustained over time from within; transformation of this kind goes beyond performing tasks to changing mindsets and attitudes. Sustainable Development Goal 17: Revitalizing the Global Partnership for Sustainable Development, the United Nations is committed to transformation from within. Goal 17 includes targets for capacity-building, including increasing technology and innovation in least developed countries and improving data collection and monitoring for the achievement of the SDGs themselves. Universities in particular can serve as centers of capacity-building through research, innovation and data collection and analysis.

Similarly, in the view of Di Pierro (2021), the term capacity building in the global context, capacity refers to the ability of individuals and institutions to make and implement decisions and perform functions in an effective, efficient and sustainable manner. At the individual level, capacity building refers to the process of changing attitudes and behaviours-imparting knowledge and developing skills while maximizing the benefits of participation, knowledge exchange and ownership. At the institutional level it focuses on the overall organizational performance and functioning capabilities, as well as the ability of an organization to adapt to change. At the systemic level it emphasizes the overall policy framework in which individuals and organizations operate and interact with the external environment.

Specific and targeted capacity building initiatives needs to be undertaken at each single level. Potential capacity building initiatives for each cluster are: individual: training programmes, business development activities, workshops for in-depth discussion of specific topics; conferences ;institutional: development of internal policies, organizational and procedural restructuring; and systemic: advocacy initiatives, consultations, open dialogue, reforms(Di Pierro, 2021).The effects and impacts of each capacity building strategy differ from country to country, institution to institution as well as from individual to individual, according to the pre-existing historical, legal, economic and social background. This is why capacity assessment is a key priority when developing any capacity building programme for the informal motor vehicle mechanic on the maintenance, repairs and services of modern motor vehicle.

Modern motor vehicles comprised of components, systems and sub-systems which includes, steering and suspension systems, braking systems, cooling systems, electrical systems, fuel and exhaust systems, lubrication systems, transmission/ transaxle systems, air conditioning/ systems, electronics systems, which is the major component and driver of modern vehicles (Erjavec, 2010). Innovative technologies in modern motor vehicles components, systems and sub-systems involves automobile electricity and electronic or mechatronics (mechanical components controlled by electronics), use of computers in motor vehicle through the engine control unit (ECU) via sensors and actuators, on board diagnostics (OBDII) systems, electronic stability program, anti-lock braking system, traction control systems, electronic fuel injection systems, exhaust gas circulatory systems, variable valve timing intelligence systems among others (Halderman,2012)electronic fuel injection, gasoline direct injection, electronic carburetor, variable valve timing intelligent and cam operated(VVTi), electronic ignition, super charging (slow and turbo charging), and the emission control systems (exhaust gas recirculation systems EGR, catalytic converters (Halderman,2014). On the safety innovations according to Halderman,(2014) include anti-lock braking systems(ABS), all wheel driving and steering systems (AWDS), speed limit alarm systems, Electronic stability control, traction control systems and airbags (self-restraint systems, SRS). The maintenance and repairs of these innovative technologies in modern automobiles require some knowledge of auto-electricity/electronic or mechatronics which involves the study of computers/electronics in automobiles (sensors and actuators) which is relatively new to these motor vehicle mechanics in the informal sector. For the informally trained mechanics to service the modern motor vehicle, they must understand not only the mechanical parts, nomenclature and operations, but must also understand the computer/electronics parts, diagnosis and service procedures for each system in the motor vehicle (Hiller and Coombes,2007). Ogwo (2007) stated that in the formal automobile sector, major vehicle distributors are making conscientious efforts at equipping their workshops and retraining their technicians, same cannot be said of those in the informal sector. For the informal automobile sector to be improved the informally trained motor vehicle mechanics must conform with the innovative technologies in

modern motor vehicles for sustainability and inputs of productive resources like credit facilities, raw materials and tools, technology and training have to be accessible for these craftsmen (ILO, 2010).

Technical training is badly needed for the informally trained motor vehicle mechanic in the automobile sector to improve product, quality of service, contribute to diversification, incomes, positive rate of return, productivity and enhance occupational safety (Ogwo, 2008). Training becomes imperative for the informally trained motor vehicle mechanics in the automobile sector because of its increasing sensitivity to technology transfer and innovations in automobile technology for the motor vehicle imported from North America, Europe and Japan which has consequently facilitate the assimilation and adaptation of technology, some of these components, systems and sub-systems are new to the informally trained motor vehicle mechanic for the repairs and services of modern motor vehicles which suffice the need to ameliorate their capacity building needs in the identified areas of modern motor vehicle system where they might require capacity and also proffering some capacity building initiatives for coping with the challenges of the innovative technologies in modern motor vehicles for sustaining service workshops.

Statement of Problem
The proficiency of the informally trained motor vehicle mechanics requires to be updated to meet the attending challenges from the embedded innovative technologies in modern motor vehicles and from the influx of imported used vehicles. Some of the imported vehicles come with sophisticated computer and electronics technologies, such as electronic fuel injection systems, variable valve timing intelligence (VVTi), exhaust gas recirculation systems (EGR) and catalytic converters, self-restraints systems (SRS), antilock braking systems, traction control systems, electronics stability control (ECS) systems, among others and which are control by the engine control unit (ECU) via the sensors and actuators. All these are new to our developing technologies for repairs and services of modern motor vehicles. The onus lies on the ability of the informally trained motor vehicle mechanics in the service workshop to repair and maintain motor vehicles to manufacturer's specifications, carrying out general maintenance and perform a complete overhaul of the motor vehicle with dexterity and prowess that will lead to client/customers satisfaction. In acquiring the knowledge and expertise in these innovative technologies in modern motor vehicles, stakeholders in this sector are to provide avenue for training of the motor vehicle mechanic in the motor vehicle repair and service workshop and should be able to offer up to date training to the mechanic to enable them transform and to cope up with the challenges posed in the maintenance of modern motor vehicles technology systems.

However, these innovative technologies in modern motor vehicles are new technologies of which these mechanics are unfamiliar with. It is observed that some of these mechanics lack the expertise on the computer and electronic technologies in modern motor vehicles, what they do during diagnosis is trial by error and often with the best of intentions, a person new to diagnostics will not only fail to find the fault but introduce more faults into the system in the process which if care is not taken can lead to complete breakdown of the motor vehicle system and customers/client dissatisfaction. The motor vehicles owners are at risk as well as the informally trained motor vehicles mechanics involved in the maintenance, repairs and service sector in leaving the mechanic to suffer knowledge lag in a global era mainly driven by knowledge and skill. The informally trained motor vehicle mechanic should be assisted in adjusting to the demands of inevitable effects of globalization in terms of technical skill training in the automobile industry.

This could be achieved through improved knowledge base and development of skill training programmes on the innovations in the modern motor vehicle technology and proper accounting of the sector development. Hence this study sought identification of different areas, component, systems and sub-systems of the modern motor vehicle where the motor vehicle mechanic requires capacity/ competence in the repairs and service of modern motor vehicles for sustaining service workshops and to identify capacity building initiatives by which the motor vehicle mechanic can improve their level of expertise in the repairs and service of modern motor vehicles based on the identified areas of needs that capacity is required for the sustenance and effective service delivery in the workshop.

LITERATURE REVIEW

Informal Apprenticeship System in Motor Vehicle Repair Work

ILO (2002) defined apprenticeship system as a means by which an employer undertakes by contract to employ a younger person and to train him systematically for a period of time or duration. The definition of apprenticeship system incorporates some of the key features such as, based in the workshop under the supervision of an employer or the master-craftsman, intended for young people to be skilled in the trade for gainful living, and for skill acquisition. ILO (2012) reformulated the definition of apprenticeship system as involving vocational training with systematic long-term training for a recognized occupation or trade taking place substantially with an undertaking by the apprentice under an independent master-craftsman and governed by a written contract or contractual agreement to be signed by the apprentice and the master-craftsman and be subjected to established standards. The informally trained motor vehicle mechanic is trained under the apprenticeship system in Nigeria.

Apprenticeship training according to Hawkins (2016) is the informal or unregulated apprenticeship training that has been used from a very long time in passing or process of transferring skills from one generation to another in some societies especially in Nigeria. According to Okorie (2003), a young apprentice learns by way of observation from an experienced master-craftsman who has also passed through the informal apprenticeship training, acquires the skills of the trade after a specified period of training and he is inducted into the culture of the trade by way of settlement or freedom and starts his own business enterprise as master-craftsman. In the view of Hawkins (2016), under the informal or unregulated apprenticeship system, agreements are mostly oral, though in some cases could also be written, yet they are embedded in the society's customs, norms, values and tradition. Variations in terms of practice are wide and no written curriculum for training. However, the informal or unregulated apprenticeship training is characterized by a number of weaknesses some of which include long working hours, unsafe working conditions, little or no remunerations, no social protection in case of injuries or accident, gender imbalance, usually male dominated among others (Hawkins, 2016). On the other hand, it is a way that is considered cost-effective in investing in a country's skill base and enhances employability of youth to have a gainful living especially in motor vehicle repair work considering the influx of innovative technologies embedded in modern motor vehicles in Nigeria today.

Motor vehicle mechanic repair work under the master-craftsman in the informal apprenticeship system is to give training to the apprentices and impart the necessary and required skills to the apprentices leading them to become a master-craftsman, establish their own motor vehicle repair workshops and become enterprising. The main duty of the master-craftsman and his apprentices in the informal sector of motor vehicle repair work is to diagnose malfunctions and carry out necessary repair on the vehicle to manufacturer's specifications for safety, drivability and

reliability. Their other functions and jobs include but not limited to; adjusting, repairing, and replacing faulty parts, rebuilding engines, carrying out major or minor repairs on steering and suspension systems, braking systems, cooling systems, electrical systems, fuel and exhaust systems, lubrication systems, transmission systems, heat and ventilation air conditioning systems and carrying out general service station mechanic work. Complexities of the workings of these systems with accompanied working conditions and challenges faced by the motor vehicle mechanic can lead to poor service delivery in the sector.

Innovative Technologies, Learning and Evolution of Skills in Automobile Industry
There are some innovative technologies in the modern motor vehicle that has influence consumers over the tremendous improvement in automobile. These technologies include but not limited to electronic fuel injection, gasoline direct injection, variable valve timing intelligence and double overhead cam (DOHC) operation, electronic ignition, super and turbo charging, emission control system, exhaust gas recirculation, catalytic converter, electronic stability control (ESC), traction control, variable headlamp control systems (Schwaller,1993; Nice, 2001; Erjavec, 2010; Halderman, 2012; Halderman, 2014). In addition, the dual fuel system that permits the use of gasoline and natural gas, whichever is available just by switching the supply circuit have proved to be very economical. The full electronic system uses a solenoid operated fuel injector which opens at a set time (intermittently) in the engine cycle and is held open for a period of time proportional to the quantity of fuel that is required (Hiller, 2004). The main difference between the fully electronic systems of different manufacturers is the way in which the air flow is measured: indirect (indirect-sensed) and direct air flow measurements.

Regarding the safety factors, the innovations include among others, Anti-lock braking system, (ABS), Electronic stability programme (ESP), Traction control system (TSC), All wheel Steering system (AWS), Speed limit alarm, Air bags e.t.c(Nice 2000; Halderman, 2014; IEEE,2021). The ABS prevents a complete tyre lock in emergency braking which often result in loss in vehicle control. Airbags are nylon bags that are deployed (inflated) for protection of the occupants of the vehicle on event of any serious impact. If an impact of certain minimal severity occurs, the vehicles crash sensors triggers a chemical reaction inside the airbag module and causes the airbag which folded like a parachute (at the wheel hub or seat side panel) to inflate. It is important to note that these changes in automobile technology had been primarily changing from mechanical to electronics component (IEEE, 2021).

Literature is replete with definitions of technological learning and its relationship with technological advancement in automobile technology. For example, Mytelka and Tegfachew (1999) defined it as the process of technological capability building through which the firms acquire the tacit knowledge needed for the sustenance of their productivity. In the instance of the informal sector automobile industry, it is the process whereby the mechanic builds up their knowledge based on the vehicle they service in order to remain in business. According to Malerba (1992) cited in Oyelaran-Oyeyinka (2000), technological learning can set a firm on three broad types technical change trajectories such as, increased production through dynamic efficiency, changing the quality and nature of products scaling up of processes/products. The maintenance activities in the informal motor vehicle repair entails "firm" level technological learning in repair of faulty vehicles and fabrication of products over improving replacement parts.

A number of factors have been identified to influence technological learning, innovation and evaluation of skills in developing countries. Education and its level of the target group directly and

significantly affect the probability of technological learning of new technology (Mbanefo, 2001). Oyelaran-Oyeyinka (2000) identified the following learning channels as affecting technological learning, the apprentice's system of training; support mechanism provided by public institutions; learning through transactions with local and external agents and learning by doing; production and maintenance.

To varying degrees, these factors play significant roles in technological learning in the informal motor vehicle repair. Regarding supply factors, the nature of technology, technological information, education and stimuli/maturation play the most roles in informal sector technological learning. Severally, and in combinatorial, these factors influence the extent to which motor vehicle mechanics cope with the demands of motor vehicle repair and maintenance. In combinatorial, as the innovative technologies motor vehicle get more complex against the background of the motor vehicle mechanic's low level of education, there's bound to be knowledge lag and little learning. On the demand factor, input, market and changes in international technology transfer affects informal sector technological learning to a great extent. It is important to note the paucity of literature on firm level dynamics of technological learning in the informal sector.

METHODOLOGY

The study employed descriptive survey research design in order to describe, analyze and interpret the findings from the study. Survey research as explained by Frankael, Wallen and Hyun (2012) is seeking opinion from large or small population or sample using questionnaire, interview schedule, observation in order to determine the opinion, attitude, perception, preferences of people. It is also a method of data collection using questionnaires or interviews to collect data from a sample that has been selected to be a representative of the population to which the findings of the data analysis can be generalized (Gall, Gall and Borg, 2007). The population of the study is 150 master-craftsmen, 100 journey-men and 120 apprentices making a total of 370 in the informal motor vehicle repair at the industrial site (mechanic village) in Nsukka urban of Enugu State, Nigeria. The sampling technique used for the study was stratified random sampling. Stratification was based on the number of years of experience of the master-craftsman and number of years served as a journey man and apprentice and the sample size obtained was 150. Instrument for data collection is a closed ended questionnaire items designed based on the purpose of the study and research questions and was validated by experts from the department of Industrial technical education, University of Nigeria, Nsukka. The part I of the questionnaire sought for the demographic variables of the respondents while part II sought for data information based the three research questions structured on a four-point response scale. The reliability coefficient of the questionnaire was determined using Cronbach alpha reliability technique and a coefficient of 0.86 was obtained. Data collection was done by the researcher with the assistance of three other researchers, and data obtained from the respondents and were analyzed using statistical package for social sciences (SPSS) version 23.0 windows operating system. The decision rule for the research questions was based on the mean value of 2.50 for each item remark while the standard deviation was used to interpret the mean values.

RESULTS

The results for this study are presented according to the headings that correspond to the research questions as indicated below:

Research Question 1:

Identify different areas, component, systems and sub-systems of the modern motor vehicle where the motor vehicle mechanic requires capacity/ competence in the maintenance, repairs and service of modern motor vehicles for sustaining service workshop in Nigeria.

Table 1: Mean scores responses of master craftsman, journey-men and apprentices on the different areas, component, systems and sub-systems of the modern motor vehicle where the motor vehicle mechanic requires capacity/ competence in the maintenance, repairs and service of modern motor vehicles for sustaining service workshops. (N=150)

S/n	Items	Mean	Rmks
1.	Knowledge and skills required in the operations of on-board diagnostics (OBD II) vehicles' engines diagnosis.	3.00	Agree
2	Knowledge and skills required in troubleshooting issues relating to the operations of sensors and actuators.	3.51	Agree
3	Identification and location of all the sensors and responding actuators on the motor vehicle	3.69	Agree
4	Skills required in locations and types of the various sensors in motor vehicle engine systems.	2.90	Agree
5	Knowledge, skill and ability to use a scanner or other hand-held diagnostic tools	3.01	Agree
6	Ability to read and interpret efficiently the digital trouble codes (DTC)	3.50	Agree
7	Knowledge, skills, ability to use an engine analyzer and be able to interpret the data displayed on the screen.	3.00	Agree
8	Knowledge about power train, body, chassis and control electronics technology in motor vehicle.	3.22	Agree
9	Knowledge and ability to effectively interpret the information / symbols displayed on the vehicle dashboard.	3.33	Agree
10	Ability to carry out repairs on repairs on Anti-lock braking systems (ABS)	3.45	Agree
11	Knowledge, skill and ability to effectively to perform operations and repairs on double overhead cam (DOHC)	3.02	Agree
12	Knowledge, skills and ability to carry out repairs effectively on a faulty variable valve timing intelligence (VVTi)	3.33	Agree
13	Knowledge, skill and ability to carry out repairs effectively on continuously variable transmission (CVT)	3.49	Agree
14	Knowledge, skill and ability to carry out repairs effectively on electronic fuel injection (EFI) systems	3.55	Agree
15	Knowledge, skills and ability to carry out repairs on the traction control systems	3.47	Agree
16	Knowledge, skills and ability to troubleshoot, operations and repairs on the Power-train control module (PCM) or the Engine control unit (ECU).	3.59	Agree
17	Knowledge and skill about automatic transmission and transaxle diagnosis and in-service vehicle.	3.67	Agree
18	Knowledge and skill on continuous variable transmission systems (CVT)	3.48	Agree

Table 1 revealed that all the 18 items had their means ranged from 3.00-3.67 and were above the cutoff point of 2.50 on a four-point rating scale. This revealed that the respondents (Mastercrafts-man, journey-men and Apprentices) agreed that all the 18 items might affect the different areas, component, systems and sub-systems of the modern motor vehicle where the motor vehicle mechanic requires capacity/ competence in the maintenance, repairs and service of modern motor vehicles for sustaining service workshops.

Research Question 2

Identify capacity building initiatives by which the motor vehicle mechanic can obtain training and improve their level of skills in the maintenance, repairs and service of modern motor vehicles based on the identified areas of needs that capacity is required for the sustenance of service workshop.

Table 2: Mean scores responses of master craftsmen, journey-men and apprentices on the capacity building initiatives by which the motor vehicle mechanic can obtain training and improve their level of skills in the maintenance, repairs and service of modern motor vehicles based on the identified areas of needs that capacity is required for the sustenance of service workshop.

S/N	Item	Mean	Rmk
1	Organizing training workshops for the motor vehicle mechanic based on their identified areas of needs	3.56	Agree
2	Arranging training programmes in modules based on the identified areas of need and use the developed training module in training the motor vehicle mechanic	3.44	Agree
3	Empowering the National Directorate on Employment (NDE) towards skill training in the identified areas of need of the motor vehicle mechanic by developing training module.	3.66	Agree
4	Through Public-private partnership (PPP) . The association of motor vehicle mechanic (NATA) partnering with automobile manufacturing company in the private sector by providing training update on the latest technologies to the motor vehicle mechanics.	3.25	Agree
5	The motor vehicle mechanic can avail themselves the opportunity of identifying with an automobile training centre close them for necessary regular skill updates on the identified areas of needs	3.22	Agree
6	Consulting with a more experienced and versatile motor vehicle mechanic who has undergone training on the innovations in motor vehicle for assistance and necessary skill updates.	3.14	Agree
7	Ministry of Labour and productivity and the Central Bank of Nigeria through their small and medium scale enterprises (SME) partnering with the association of motor vehicle mechanics in providing training and incentives for the motor vehicle mechanic.	3.27	Agree
8	Allowing the informally trained motor vehicle mechanic assess to fund without collateral to enable them acquire workshops space and modern service tools for repair work.	3.33	Agree
9	Regular access to training opportunities and frequent outlets where the motor vehicle mechanic could be trained and improve their level of skill.	3.48	Agree
10	Government should step into the informally trained motor vehicle mechanic by granting soft loans through the SMEs to enable them equip the service workshop	3.57	Agree
11	The motor vehicle mechanic should be motivated to attend automotive training institute closer to them through the Industrial Training Fund (ITF) for skill updates.	3.12	Agree
12	Government and local authorities or other agencies involved in the issue of acquisition of land/ workshop space should step in for the motor vehicle mechanic in land acquisition.	3.51	Agree
13	The motor vehicle mechanics can all come together to form an association in form of cooperative society that will be formidable to enable them have access to fund .and for their voice to be heard.	3.21	Agree
14	Government and relevant agencies or whoever have the mandate to make serious effort in developing a unified standard training curriculum in line with the	3.47	Agree

	innovations in motor vehicle technology for training and re training as against the training received informally.		

Table 2 revealed that all the 14 items had their means ranged from 3.12-3.66 and were above the cutoff point of 2.50 on a four-point rating scale. This revealed that the respondents (Mastercrafts-man, journey-men and Apprentices) agreed that all the 14 items might affect the different areas, component, systems and sub-systems of the modern motor vehicle where the motor vehicle mechanic requires capacity/ competence in the maintenance, repairs and service of modern motor vehicles for sustaining service workshops.

DISCUSSION OF FINDINGS

The findings of the study in table 1 revealed that all the 18 items were the different areas, component, systems and sub-systems of the modern motor vehicle where the motor vehicle mechanic requires capacity/ competence in the maintenance, repairs and service of modern motor vehicles for sustaining service workshops. All items recorded high mean response and well above the cut-off point 2.50. These include, Knowledge and skills required in the operations of on-board diagnostics (OBD II) vehicles' engines diagnosis, Knowledge and skills required in troubleshooting issues relating to the operations of sensors and actuators, Knowledge, skill and ability to effectively to perform operations and repairs on double overhead cam (DOHC), Knowledge, skills and ability to carry out repairs effectively on a faulty variable valve timing intelligence (VVTi), Ability to read and interpret efficiently the digital trouble codes (DTC), Knowledge, skill and ability to carry out repairs effectively on continuously variable transmission (CVT). These findings are in substantial agreement with Ogwo(2010) who had earlier stated that due to the sophistication of vehicles imported from North America to Nigeria popularly known as "Tokunbo" has made the job of the master craftsman in the informal sector motor vehicle repair more difficult.

Olaitan and Ede (2010) observed that there has been an unprecedented influx of fairly used imported vehicles popularly known as "Tokunbo" in the country since the inception of this democratic government, and this has placed a heavy demand on the quality of service expected from the skilled auto mechanic master craftsmen in Nigeria. Ogwo (2007) similarly stated that the more sophisticated automobiles become in North America, Europe and Japan, the more difficult it is to service those exported to developing countries, consequently, leaving the informal automobile sector with the arduous task of servicing cutting edge technology in modern automobiles.

The data in table 2 revealed that all the 14 items were the capacity building initiatives by which the motor vehicle mechanic can obtain training and improve their level of skills in the maintenance, repairs and service of modern motor vehicles based on the identified areas of needs that capacity is required for the sustenance and effective service delivery in the workshop. All items recorded high mean response and well above the cut-off point 2.50. These include: Organizing training workshops for the motor vehicle mechanic based on their identified areas of needs, Government and relevant agencies or whoever has the mandate to make serious effort in developing a unified standard training curriculum in line with the innovations in motor vehicle technology for training and re training as against the training received informally, Ministry of Labour and productivity and the Central Bank of Nigeria through their small and medium scale enterprises (SME) partnering with the association of motor vehicle mechanics in providing training and incentives for the motor vehicle mechanic among others. These findings were in

consonance with Ekpo and Umoh (2012) who are of the opinion that an essential ingredient in capacity-building is transformation that is generated and sustained over time from within; transformation of this kind goes beyond performing tasks to changing mindsets and attitudes. Similarly, in the view of Di Pierro, (2021), specific and targeted capacity building initiatives needs to be undertaken. Potential capacity building initiatives are: individual: training programmes, business development activities, workshops for in-depth discussion of specific skill training; conferences/workshops; institutional: development of internal policies, organizational and procedural restructuring; and systemic: advocacy initiatives, consultations, open dialogue, reforms.

CONCLUSION

Training becomes imperative for the informal automobile sector because of its increasing sensitivity to technology transfer and innovations in automobile technology from automobiles imported from North America, Europe and Japan which has consequently facilitate the assimilation and adaptation of technology. Some of these components, systems and sub-systems are new to the informally trained motor vehicle mechanic for the maintenance, repairs and services of modern motor vehicles which suffice the need for capacity building needs in modern motor vehicle system for sustaining service workshops.

Hence there's need by the stakeholders to find a means of integrating capacity building initiatives into the activities of the master craftsmen, journey men and the apprentices in the informal sector motor vehicle mechanic in maintenance and repair work towards improving effective service delivery so the informal motor vehicle mechanic performing operations in the maintenance and repair work can be sustainable. Again, the master craftsman should be encouraged to embark and participate in training on new technologies to enable him to impart and transfer the new knowledge learnt to his apprentices.

RECOMMENDATION

The following recommendations were made based on the findings

1. The master craftsman, journey man and the apprentices should be encouraged to embark and participate in training on new technologies to enable them to impart and transfer the new knowledge learnt for effective service delivery.
2. Some sort of incentives such as access to fund, loans and grants to the master craftsmen, and journey men to enable them acquire land for workshops and service tools for repair work.
3. Effective policy formulation should be enacted to provide protection rights to the mechanics on the issue regarding land acquisition for establishing a service workshop.
4. 4.Some of the identified capacity building initiatives should be packaged and turn into policy that can be used by the ministry of labour and productivity and other relevant agencies for the improvement of the informal sector motor vehicle repair activities.

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A University Vice Chancellor-in-Waiting Speaks

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My joys knew no bounds when on March 15, 2024 I had the fortune to be in the 'Next Generation Nalanda' campus (of the World's First Residential University in Nalanda, India from 427 till 1197); in the ultimate the revival and rejuvenation of the ancient Nalanda proposed by Dr A P J Abdul Kalam, Former President of India and now called as Nalanda International University, Rajgir, Bihar, India. What an Excellent Center of Higher Learning in the ancient world and now to attract the first-rate students from around the world.

A human being is a part of the whole universe; the part limited in time and space. The most beautiful experience we can have been the mysterious and the fundamental emotion that stands at the cradle of true art and science. Whoever does not know it and can no longer wonder, no longer marvel, is as good as dead and the eyes dimmed. Life is like riding a bicycle and to keep our balance, we should keep moving. I am enough of an artist to draw freely upon my imagination; which is more important than knowledge. And knowledge is limited, imagination encircles the world.

Threescore and six years after (66) I rise to the rostrum to speak to render my oration from the deep recesses of my inner consciousness to all of you accepting the responsibility of Vice Chancellorship of our/your University, the Great and Sacred Seat of Learning of our system of Higher Education. It is with humility and with the consciousness that imparting genuine education will lead this organization that I ask for the prayers and aid from all of you in seeking to fulfill the desire of the Torch Bearers, Government, Students and Parents and all other stakeholders across the Globe to carry on Thy Footsteps.

The Great Indian Teachers' commitment [like Swami Vivekananda, Sri Aurobindo, Gurudev Rabindranath Tagore and Mahatma Gandhi] to being pure channels of the Acharyas' love—their divine example of seeking to attune every thought, decision, and action to the Gurus' will and guidance—have been my inspiration since I opened my eyes; and it is with a sense of that sacred responsibility that I look forward to serving this great work of God in the days ahead, trusting in the help, prayers, goodwill and divine friendship of you all.

"Each of you is chosen and I take the support of all in acknowledgment that it is only as a united spiritual family that we can, together, continue to advance this great work of the University, the Seat of Higher Learning in that spirit of divine love, joy, and self-surrender—seeking God as the one Beloved of our souls in that spirit which our Founders enjoined upon us and which they prophesied would be the life and strength of this organization for all time to come.

"My Dear Ones, I am humbly grateful again for the opportunity to serve in the University. Spirituality is being in the present, coming out of the past and future and showing up for this precious moment. This is opening up to the extraordinary gift of life, embracing pain and

joy, bliss and the sorrow, the ecstasy and overwhelms and awakens. I am sharing a beautiful poem by Lee Tzu Pheng:

When I'm dead yours tears will flow but I won't know, cry with me now instead. You will send flowers but I won't see; send them now instead. You'll say words of praise but I won't hear; praise me now instead. You'll forget my faults but I won't know; forget them now instead. You'll miss me then but I won't feel; miss me now instead. You'll wish you could have spent more time with me; spend it now instead. When you hear I'm gone, you'll find your way to my house to pay condolence but we haven't even spoken in the yester-years; look for me now.

This poem teaches us to spend time with every stakeholder-student-parent around us and help them with whatever we have to make them knowledgeable. Make them feel special because we know time will take them away soon from us to call them as our 'Alumni to Speak for Us'. Let them feel their time in the campus is an experience in itself.
1. Alone I can 'Say' but together we can 'Talk', about our Seat of Learning
2. Alone I can 'Enjoy' but together we can 'Celebrate' the victory of our stakeholders
3. Alone I can 'Smile' but together we can 'Laugh' with humility from within

Only the Divine can lead us on the righteous path so let's swear in Thy Name to be duty bound, rise to do our duty and serve all with sincerity, there is a special way for us and the way is as follows:
1. Shedding Tears of Joy to clean the sacred feet of Lord to bless us do our duty
2. To offer Sandal of Truth-Love to put on Lord's body to bless us do our duty
3. To project Cloth of strong faith to cover Lord's body to bless us do our duty
4. Fruit of pure-concentrated mind to offer to Lord to bless us do our duty
5. Applying Bhava Kajal (Kohl/Antimony: both typically used to darken and enhance the appearance of the eyes) on God's Forehead to bless us do our duty
6. To fasten Belt of faith to tie around Lord's waist to bless us do our duty
7. At last, to surrender before the Lord to be blessed to do our duty
8. With all above support coming to the University shall be our duty and leaving the University at the end of the day remains our pleasure
9. Steadiness in mind to help us watch silently the movement of all the happenings around us

I rise to express thanks to those workers, with enormous debt of gratitude, and it is they who are at the front line of keeping the entire University space neat and safe and sacred to use. I doubt there is anyone among us who has not sensed pain of loss during the pandemic. Some of you may have lost family or friends to COVID-19: if so, my heart goes out to you. Even if that is not the case, most of you will be feeling the loss of certain freedoms – to work, to travel without restrictions, to use certain libraries, to attend conferences, to socialize freely with friends and colleagues. We have missed the subtle ecology of academic life, where meetings would have led us to significant initiatives and achievements. Our homes have had to serve in many different roles: sometimes doing duty as nursery, school, library, office, hairdressing salon and gym. Scholarship has been a quick-change act, particularly for those with caring responsibilities. I appreciate how weary you may be feeling after months of uncertainty and upheaval. Yet I also know that we have learned a great deal and made significant gains during this pandemic: that it has shown the very best this University can be and can do. So, without for a moment downplaying

the difficulties intermittent period has brought us, I do want to hats off our achievements and to speak positively, indeed glowingly, of the work our university is doing.

I would like to place on record the enormous effort that we have made to adapt and adopt to new ways of working when COVID hit us, and how rapid and successful our adaptation has been; the transition to remote teaching had been remarkably, surprisingly smooth, notwithstanding the Herculean efforts in difficult circumstances. Emergencies take us from our cocoon of our familiar environments. I am sure that each of us can individually think of things we have had to learn over the past months that we would not otherwise have learned. Noun like 'Teams' and Verb like 'Zoom' have acquired entirely new meanings for us all; I'd like briefly to reflect on what the University has learned during the pandemic and what we can take forward from this period to enhance our work in the future.

What a magnificent history we have nurturing leaders of the society. Our researchers have contributed in disproportionate manner to human knowledge and to fundamental shifts in how we understand the society. This kind of past now could help us and should help us to visualize the future ahead of us crystal clear. If I had nothing holding me back or felt something felt joyful doing it, nothing I might want to have in life. Hence, knowing our work is utmost important. This follows manifesting our work-life with a clear vision how our university get placed among the comity of World Universities. There need be no magic wand. Then start envisioning the actual outcome and ask yourself 'What would I feel if all my visualizations came true'? Now let's eventuate in a series of days and actions of working towards our goal asking individually 'What is the one thing I could do today that would help me get closer to the vision I want' and coming to the challenges then 'What would help me persevere when I am faced with a challenge'.

We know either we use or lose: unused talent diminishes; unused potential decays; unused time dies; unused knowledge becomes a burden; unused machinery disintegrates; so what is not used is abused. The tragedy is life is not the ultimate death but the resources unused die within us when we are still alive. We need to learn when to use, how to use and also why to use and teach our students to use or they lose.

In case of an auspicious occasion, we prefer gifting cash in the envelope never like Rs. 100/500 or 1000; but it is always Rs. 101, 501 or 1001 so on. There is reason why we add one buck coin to any round figure like 100/200 ---; there are four age-old reasons/social beliefs to this: "Zero" signifies an end while "One" signifies a new beginning; that extra one buck coin ensures that the receiver does not come across a zero; Mathematically, the numbers 100, 500 and 1000 are divisible but the numbers 101, 501 and 1001 are indivisible; we want our good wishes/relation and blessings to remain indivisible; The added one buck coin is a symbol of continuity, ahead of the basic amount and it strengthens the bond between the giver and the receiver; it simply means "our good relationship will continue"; however, the added buck must be a coin, and never an one buck paper note. A coin is made of metal which comes from Mother Earth and it is considered to be a part of Goddess Lakshmi. While the bigger amount is an investment, the one buck coin is the "seed" for further growth of that investment. Now, let's be like the one-buck coin adding so much value to this Great-Seat-of-Learning, the University.

So Be It

'The Thought Never Ends ……. The Commitment to Walk the Talk'

Synchronous and Asynchronous Digital Tools for Real Life Support and Skills-Lessons Learnt from Covid 19

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The current pandemic has surprised language educators. Globally, educators have been forced to implement online platforms and remote pedagogies. Online or virtual situations are challenging for students and teachers. Distance learning has become the norm. They must deal with a situation for which they never had any formal training or orientation. Although language learners have weathered this new crisis well, language instructors remain challenged with remote teaching's complexities. In this research proposal, the researcher examines how language educators have adapted to remote learning and discusses how they have implemented synchronous and asynchronous digital tools like OneNote in their language classrooms.

Education system inequalities have been exposed in the current pandemic. Some communities lack internet connectivity, so students struggle to catch up on today's learning. Therefore, we must come up with creative solutions to this once-in-a-century crisis. Online learning can be the best friend for educators. Increasingly, faculty can access reliable, "ready to use" technology tools to assist them in their daily tasks (Clyde and Delohery, 2005). We can adapt classroom activities and homework assignments to meet the needs of our diverse students. Technology integration still focuses on instructional design. Technology plays an essential role in fostering student-centered learning.

Likewise, technology is changing the roles of educators and students. Students are more responsible for their own learning thanks to technology (Erovnik and Nanovska Erbec, 2021). Technology can also help facilitate active learning. Personalized learning platforms, educational games, simulations, augmented reality learning platforms, etc., are necessary to promote active learning, as Batista and Carvalho (2008) cited in (Carvalho, 2021). The digitally smart students require environments conducive to their comfort and motivation. Google Docs, One Note, Padlet, Prezi and other applications can promote student collaboration online. Students can participate more creatively and actively in the classroom.

RATIONALE FOR RESEARCH

One of the most important aspects of blended learning is the 'classroom' atmosphere. With emerging technologies, online learning continues to grow. Increasingly, students are self-directed (Edwards, 2021). Cloud-based language learning platforms ensure students always have the latest content and keep them at par with latest learning techniques. The research proposal addresses the MENA (Middle Eastern and North African) region where English is not the first language. This research is important for the author, as she observed a major change in student performance when they used synchronous digital application like OneNote during the current pandemic.

Educators at the researched institution faced a challenge due to the pandemic. Learning management systems already facilitate assessments and information sharing at the institution. However, the pandemic prompted a complete synchronous and asynchronous monitoring of students. To deal with this challenge, instructors explored a range of technology. The researcher previously monitored her students using Google Docs synchronously and asynchronously. Collaboration projects involving group work were handled using Google Docs.

Despite its efficiency, Google Docs does not allow students to be observed as a class. Moreover, it does not offer complete integration with Microsoft Office 365, the researcher's preferred method of communication. Students can integrate synchronous and asynchronous support through Microsoft's OneNote application, offered as part of Office 365 package. In their article, Borja, Espinosa, and Quinteros (2020) define OneNote as an application which extends beyond a student's professional career. Student motivation is increased by its simplicity. Using this application, students can build their knowledge inside and outside of class. As part of the program, non-contact learning is facilitated while collaborative group work is encouraged, which enhances traditional teaching methods (Borja & Salguero, 2020, p.151).

Considering the current pandemic, the author found the application a perfect solution. This research proposal examines how digital tools like OneNote impact student learning and prepare them for unforeseen and unexpected situations like the current pandemic. Students' learning with OneNote is not adequately researched. Some research is available on how Google Docs impacts students' learning. However, there is little or no research available on OneNote as a digital tool impacting student learning hence creating a need to investigate OneNote's potential as a tool to support students synchronously and asynchronously and find out how it prepares them for situations like the current pandemic.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This assignment uses original research to investigate the given topic. It consists of mainly five sections each dealing with important part of research. The first section introduces the background and context of the topic in discussion. The author briefly discusses the context of the current pandemic and its influence on learners and instructors alike. She goes on to further introduce the educational setting of her research where she employed technology to deal with the situation to support learners. The second section discusses the problem statement and the rationale for research pointing at the gaps in this area of research.

The third section presents the conceptual framework including the research question presenting a road map for the proposed project. It also builds a theoretical framework for established theories while evaluating them through a brief literature review to investigate if the perspective of the researcher is established and or verified by those studies. The author employed synchronous and asynchronous application called OneNote during the pandemic strategically. She will try to apply a critical lens to different studies in this field that support the use of technology in general and more specifically during the pandemic to support student learning. Additionally, this section will also investigate how can OneNote as an application impact student learning. Furthermore, differences in viewpoint and gaps if any shall be discussed.

The fourth section discusses the methodology to be used to investigate and prove the research question. The appropriacy and relevance of the methodology used will also be the point of discussion in this section. In the final section, the researcher will conclude with limitations if any

related to the study with additional insight into any ethical issues involved with the proposed research.

Research Question
➢ How does OneNote impact the learning progress of students and prepare them for the unforeseeable and unexpected future conditions? Lessons learnt during the pandemic!

Theoretical Framework
Technology as a Strategic Tool to Support Student Learning:
Technology is considered a strategic learning tool today, as it comes with added advantages for students and instructors both who can use it to add value to their classes. It complements the teaching process in higher education rather than proving disruptive, as many educators might say (Branch 2020, p.43). According to Hildebrandt (2019) cited in (Branch 2020, p.43) online learning systems require learners and instructors to be digitally trained and qualified in relevant skills besides teaching them how to make the most of technology, they learn vital skills to incorporate other aspects, such as ethics, project management, and learning how to learn, into the process. It is evident from these skills that digital transformation in higher education is more than supporting learning systems or improving digital platforms. It makes them future ready for unexpected and unforeseen conditions, as the research question also points out. This research proposes to explore how does digital transformation impact student learning and prepares them for unexpected situations like the current pandemic.

Role of Technology During the Pandemic for Synchronous and Asynchronous Support to Students:
As Soni (2020) cited in (Edwards, 2021, p.53) all aspects of human life had to change dramatically due to the COVID-19 outbreak. Developing nations faced exceptional challenges. Specifically, education faced an unprecedented threat as nations and schools worldwide were confined due to deliberate efforts by governments around the world to contain the spread of the Coronavirus. Videoconferencing solutions were offered by several online platforms that helped teachers, instructors, and lecturers quickly learn e-teaching skills. Even though the solutions offered through technology weren't perfect, they enabled both learners and instructors to connect to learning spaces from the comfort of their homes. Learning quickly transitioned from traditional processes to technology-based, online-based learning. Technology played a key role in empowering education at all levels, leading to an explosion of online classes, seminars, workshops, conferences, and meetings.

Prior to the current pandemic, it was believed that the combination of face-to-face instruction and remote learning ensures the access to digital instruction for theoretical knowledge, as well as gives hands-on instruction for practical skills acquisition in classrooms. At least this was considered true pre-pandemic. However, the COVID 19 situation forced schools around the world to switch learners and teachers to virtual classrooms. With the advent of 100 percent online instruction, technology-aided instruction (TAI) took on a new dimension. Adapting quickly to new teaching and learning situations was a requirement for both teachers and students, an indication of the challenges learners will face in their career development (Edwards, 2021, p.21).

This research investigates how digital transformation during the pandemic played an important role in helping students cope with their learning challenges and allowed educators to track their progress through various digital tools, OneNote being one of them to be investigated through the

proposed research. The writer used digital tools pre-pandemic, but she applied them to their full potential during the pandemic to help students achieve success through digital transformation.

OneNote as a Digital Tool for Synchronous and Asynchronous Learning Support During the Pandemic:

Student perception towards the used technology plays an important role in his acceptance of e-learning and the resulting motivation to learn. During the COVID-19 pandemic, the characteristics of student learning like student motivation, collaboration, besides their acceptance of the technology influenced their willingness to accept e-learning. Students are motivated in online learning if they perceive their learning objectives are being met and if they are confident using technology and e-learning tools. And the e-learning's accessibility, and flexibility influence student motivation.

During the COVID-19 pandemic, universities and students switched to online learning. When students have paid for offline learning but are not ready to study online, motivation becomes an important factor (Baber, 2020). It may result in a negative perception of e-learning if students are forced to learn online when they are not ready to do so (Guglielmino & Guiglielmino, 2003). This could result in forming permanent attitudes towards a certain type of online learning. It has also been established that student motivation contributes to student performance, e-learning success, perceived quality learning, and retention in online learning (Vallerand & Blssonnette, 1992). As a result, motivation is a crucial part of online learning student characteristics. This study investigates how digital tools like OneNote improve student motivation during unprecedented situations like the current pandemic and thus contribute to improved student learning and retention online.

LITERATURE REVIEW

Technology as a Strategic Tool to Support Student Learning

Out of the three types of current learning environments, online and blended learning environments are the most versatile. They offer the much-needed flexibility to learners. Increasingly, learners have greater control over what, when, how, and where they learn. Students have the flexibility to learn at their own pace and instructors can watch over them both synchronously as well as asynchronously. Furthermore, a key aspect of online learning is the classroom environment created by the interaction of the stakeholders, in this case the learners and the instructors, and the relevant tools available. This interaction facilitates a positive learning environment for student autonomy (Edwards, 2021, p.8). The main objective of the proposed research is to investigate how digital tools like OneNote impact student learning and support them in becoming more independent and autonomous. The existing research does not provide enough evidence to show how any of these tools impact student learning. The proposed research intends to investigate how digital learning through OneNote provides synchronous and asynchronous support to students.

Additionally, the digital learning community traditionally consists of instructors, learners, and technology. Learning continues to take place more and more online due to advances in emerging technologies and unexpected situations like the current pandemic. This provides room for developing skills that are essential not only to make them future ready but also equips them with learning and workplace skills. With the current pandemic, these skills are quintessential for all learners (Edwards, 2021, p.8). The existing research discusses that technology helps learners develop certain essential skills but does not mention any specific tools and their impact on student

learning. There is little or no evidence to prove the stated claims. This further endorses the need to explore, investigate and establish the research question that online learning tools like OneNote provide both synchronous and asynchronous support to learners in terms of skills acquisition and availability of online resources which help them achieve the right progress they need. A limited amount of research exists on how OneNote impacts student learning and its role in helping them acquire certain essential skills for future success.

Furthermore, as Fleming et al., (2019) and Gravemeijer et al., (2017) cited in (Edwards, 2021, p.20) technology has facilitated many critical changes in human life in recent years, increasing our dependency on and our control over technology. There is also a strong correlation between these transformations and the future of work as well as to what constitutes an optimal learning environment. To provide learners with opportunities to experience and utilize these emerging technologies as part of the entire learning process, and all aspects of learning, teaching, and learning approaches must adapt. The changes involving these changes must also be considered by schools and teachers. Learners of all types, including those with disabilities, must be able to access these opportunities. There is no doubt that all educational stakeholders, including teachers, schools, and parents, are having to adapt to the inevitably changing nature of the learning environment.

As Fleming et al., (2019) and Tran, (2019) cited in (Edwards, 2021, p.21) with the technological advances, soft skills such as complex problem solving, critical thinking, and communication skills are becoming increasingly important. It is therefore essential that education adopts new approaches to learning that are based on an understanding of future job requirements, particularly for students with special educational needs. For special education to become effective, it is imperative that it includes e-Special education within a safe learning environment, including eLearning, and OneNote offers that safe e-Learning environment they need for learning.

The objective of the proposed research is to bring this point to the fore that the changing environment of education should include all stakeholders including students with special needs. There is little evidence from existing research to prove if digital tools offered to learners during the pandemic supported all stakeholders. This research proposes to investigate how OneNote offers special assistance to students with special needs. It comes with special applications that can assist and support them in learning not only language but also content. Besides, they can also be constantly monitored by teachers, both synchronously and asynchronously for any additional support they might need thus helping them achieve their maximum potential.

Despite the advantages that technology offers it is not free from drawbacks. Regardless of the continuing improvement in the connectivity of the internet, some emerging technological systems require very high broadband speeds to function properly. It is not uncommon for students to experience disconnected connections, or to experience lags in audio or video during lessons. Students and schools in poor communities are also challenged by the cost of setting up and operating the required technologies. There are also emerging concerns about safety when young learners interact closely with machines, as well as handle certain systems safely (Edwards, 2021, p.14). OneNote may experience syncing issues at times and requires high speed internet to function properly. Poor communities may not be able to afford OneNote, as it is a free tool, but it comes only with Microsoft Office 365 package hence not affordable to everyone. The proposed research will also investigate the accompanying limitations that may obstruct student learning.

Role of Technology During the Pandemic for Synchronous and Asynchronous Support to Students

Therefore, this research proposal aims to enquire as to how students were able to deal with these challenges during the pandemic with the help of OneNote and if it offered them any support synchronously and asynchronously in dealing with an unexpected situation that prepares them for future career developments. The research proposes to investigate and establish how OneNote offered students better readiness to deal with unexpected situations as compared to other forms of technology and allowed better learning environment during the pandemic.

Education is an ever-evolving process and has already been going through a change in incorporating new methodologies involving the use of technology, but the COVID 19 pandemic accelerated the process. It forced institutions towards considering a more sustainable model. It made them realize that to be sustainable they would have to adapt to digitalized transformations of education even in future times to come. This research proposal also aims to investigate if the use of technology during the pandemic made us aware of a need for future readiness in case of an eventuality like the current pandemic. Technology has paved a way for more sustainable education. Since there are not many research studies investigating the use of OneNote during the pandemic and its relevance during the pandemic, the proposed research proposes to investigate a personal experience of the researcher. The pandemic forced institutions like her institution to adapt to a situation which resulted in her utilizing digital tools like OneNote for achieving maximum potential out of the situation (Torres Martín, et al., 2021, p.1).

The use of technology in higher education plays a crucial role in the process of teaching and learning, especially since it contributes to the development of 21st century skills and abilities. For university education to maintain, improve, and update the digital competencies necessary for teaching and learning, it must continually embrace new scientific and pedagogical methods and keep abreast of the importance of ICT in its scientific and pedagogical evolution. It is highly recommended that a change in teacher profile is needed at all levels promoting an active methodological renewal in which the teacher can play a leading role in the teaching-learning process, increasing student participation, fostering collaboration, facilitating their learning autonomy, and developing their skills and competencies to be prepared for the demands of the 21st century (Torres Martín, et al., 2021, p.2). The current pandemic forced educators at the researcher's institution to do the same hence the need and necessity to study its impact on student learning for further research. They had to reconsider their approaches towards using technology more specifically in a situation where they couldn't be present in person to guide the students. This proposed research aims to provide sufficient evidence, to demonstrate how educators and the researcher in her institution tried to build student autonomy and successfully fostered collaboration using technology.

During the pandemic there was a constant challenge faced by educators in higher education in terms of discovering new methods to engage students and boost the effectiveness of the learning process. To enhance student learning and problem-solving effectiveness, teachers had to use constructivist approaches to enhance student understanding, motivation, and involvement. Further, it was equally crucial that teachers were able to facilitate the learning process, so that students were also able to gain their own knowledge as part of the process (Torres Martín, et al., 2021, p.3). Since the use of OneNote was specific to the researcher's institution, the shortage of enough evidence to prove its appropriacy as compared to other forms of technology establishes the need for the proposed research to come to any solid conclusions. This research also targets to

investigate how OneNote as a digital tool aided in enhancing the learning experience for students as they learnt during the difficult period of the pandemic. It allows full participation and involvement through its various digital tools.

Several aspects of a virtual educational environment distinguish it from traditional educational environments, including teachers becoming guidance counselors; students becoming more active and participatory; independence in space and time through digital tools, interactive multimedia content through digital resources; methodological diversity in the pedagogical design, providing self-instruction, collaborative learning, and gamification opportunities. A characteristic of online learning is the ability to control student learning, or to monitor student progress in real time with usually instant feedback; however, if such interactions are not provided, student appreciation and motivation decrease and online evaluation in areas requiring instant feedback becomes rather difficult (Torres Martín, et al., 2021, p.10). The researcher will have to provide evidence of student involvement and improved motivation to demonstrate how OneNote can keep students engaged through constant real time feedback much needed during unexpected situations like the current pandemic. Additionally, she would have to prove through enough evidence if the engagement created using interactive media in assignments and supportive digital tools like the dictation tool and immersive reader can make students' motivation flowing throughout the pandemic. There's not enough evidence to prove this through existing research hence the need to establish the role of OneNote in promoting student motivation through the proposed research.

OneNote as a Digital Tool for Synchronous and Asynchronous Learning Support During the Pandemic

Student perception towards the used technology will play an important role in his acceptance of e-learning and the resulting motivation to learn. During the COVID-19 pandemic, the characteristics of student learning like student motivation, collaboration, besides their acceptance of the technology influenced their willingness to accept e-learning. Students are motivated in online learning if they perceive their learning objectives are being met and if they are confident using technology and e-learning tools. According to the same study, e-learning's accessibility, and flexibility influence student motivation.

During the COVID-19 pandemic, universities and students switched to online learning. When students have paid for offline learning but are not ready to study online, motivation becomes an important factor (Baber, 2020). It may result in a negative perception of e-learning if students are forced to learn online when they are not ready to do so (Guglielmino & Guiglielmino, 2003). This could result in forming permanent attitudes towards a certain type of online learning. It has also been established that student motivation contributes to student performance, e-learning success, perceived quality learning, and retention in online learning (Vallerand & Blssonnette, 1992). The above-mentioned research doesn't not establish OneNote's role in improving student motivation to learn through technology. Motivation is a crucial part of online learning student characteristics. Thus, the proposed research intends to investigate the gap in research on how OneNote improves student motivation thus contributing to improved student learning and retention online.

Providing a forum for discussion and debate among students through online education encourages interaction and collaboration. Unlike the traditional method of teaching, students can gain a better understanding of topics if given the opportunity to collaborate. Bellamy (1996)

argued that collaboration leads to an increase in useful and comprehensible knowledge, which is necessary for learning to be successful and fruitful. An important characteristic of an e-learning student is the ability to collaborate. Nevertheless, course content should promote collaboration (Soong et al., 2001). The proposed research will try to prove how OneNote allows for the much-needed collaboration online thus improving learner experience and retention of knowledge. Through its collaborative tools it allows for students to collaborate in real time thus ensuring better and improved learning experience under unfavorable conditions like the current pandemic. Additionally, the attitude for acceptance of technology is also influenced by their perceived ease of use, usefulness of the tool and or the severity of the pandemic causing them to stay at home (Baber, 2021 p, 4). According to its definition, perceived ease of use (PEOU) refers to how easy it would be to use a particular system (Davis, 1989). As Davis (1989) puts it, perceived usefulness (PU) is how much someone believes that using a particular system would enhance their job performance. In a technology-oriented learning system, perceived usefulness is an important predictor of student involvement (Chen, 2011). According to some studies, perceived ease of use and perceived usefulness (PU) are positively correlated with behavioral intention to accept a technological system (Abdullah, Ward, and Ahmed, 2016). A technology acceptance model (TAM) describes how users accept and use technologies. People use technology at the endpoint, the actual end user of the system. It is people's behavioral intentions that lead them to use technology.

During the pandemic of COVID-19, the TAM of e-learning had a positive effect on students' intentions to accept e-learning. According to Saxena et al, (2020) students' satisfaction with e-learning was partially moderated by perceived benefits of maintaining social distance during the COVID-19 pandemic. Prior research studies showed that learners accepted e-learning before enrolling. Since the current pandemic forced the students to move to e-learning, the characteristics of students and instructors are likely to change. General public perception of online education during this pandemic was negative due to the gap between planned and forced online learning. Students and instructors responded differently to this pandemic based on their perceptions of its severity. The perception of the severity of the infection also influenced acceptance of the technology. PU and PEOU have both been found to be affected by external variables in past research (Abdullah et al., 2016). This study aims to examine the moderating effect of OneNote on improving student characteristics for online learning under an external variable, the current pandemic of COVID 19. It aims to prove that OneNote improved the acceptance conditions for TAM for students by providing them with the much needed synchronous and asynchronous support.

OneNote offers collaborative and group work. Teachers and students can communicate with one another and participate in classroom activities on an interactive platform through the Collaboration Space. While there are many applications available in the market that provide similar functions, there is something that makes the Collaboration Space the most unique. This is since it encourages collaboration between students and teachers, both when it is necessary to work in pairs or as a group. It can be used as a means of organizing group projects, facilitating project-based learning, as well as a means of co-creating between teachers and students. On this platform, students can discuss, develop new ideas and at the same time receive prompt feedback from teachers. Apart from that, it also offers digital inking capabilities which allow teachers and students to add handwritten notes and sketches. Video and audio notes can also be integrated anywhere on the page, providing users with extended flexibility (Asmuni, 2022). This research proposal also aims to investigate if OneNote can provide the much-needed collaborative support

through its platform Collaboration Space. Additionally, it would also try to find if it can provide the right opportunities for students to work together in groups and thus get the maximum benefit from the digital tool. OneNote also allows students to share important course documents with teachers through the Content Library that allows the storage and distribution of documents while maintaining privacy and security owing to its restricted functionality that only grants students read-only access (Asmuni, 2022). Teachers can exercise full control over another inbuilt section called the Teacher's Content that allows the teacher to control and maintain privacy on documents he/she would like to restrict access to. Besides, this creating a personal notebook or portfolio is easy with the Student Notebook. Teachers and parents are permitted read-only access while students can submit, maintain, and complete homework, assignments, and lecture notes on their own in confidence (Asmuni, 2022). This allows for organized approach to learning where students learn to manage their own learning through OneNote all in one class. This research will try to investigate how information flow and organization of content can promote organized and smooth management of information. This will further lead to an enquiry if it can enhance student learning experience and further add to their engagement both during the unexpected conditions like the current pandemic and in regular face-to-face classes.

METHODOLOGICAL APPROACH

The objective of this study is to find out if OneNote offers the much needed synchronous and asynchronous support to promote student learning under unexpected conditions like the current pandemic. Students will be observed during classes and qualitative data will be collected to take their feedback since the student sample is relatively small to employ quantitative methods. Focus Group interviews will be conducted to find out if OneNote helped them in their learning process while they attempted different tasks on it including group projects through collaborative and teamwork. The researcher will use longitudinal study method to verify her research in question.

Participants

The research will involve foundation program students who initially took classes and assignments with OneNote during the pandemic. The same set of students will be involved in a second semester with the researcher. Therefore, the same set of students would be using OneNote in a variety of settings during the remote setting as well as in a hybrid setting where they could use it at their convenience both in face-to-face classes as well as at home thus providing them the right balance of synchronous and asynchronous support. Additionally, the same set of students would use OneNote for different purposes. Initially they would be using it to study language and later they would use it for learning content with the same instructor.

Qualitative Methods – Focus Group Interviews

Qualitative methods play an important role in collection of data for any kind of research. They support and validate information collected through quantitative methods. Qualitative research methods do not only gather information but also help in analyzing the information, ideas, thought processes of the participating subjects. There are different types of qualitative methods for data collection generally used by researchers in scientific research that include observations, interviews, open-ended surveys, and focus groups. Focus group interviews are one of the most preferred and used methods in qualitative research for researchers today.

Definition – Focus Group Interviews

Focus group interviews are detailed and more focused interviews with the participants where a moderator or the facilitator explores a selected topic of research. The main objective is to provide

useful insights into the explored topic (Collins and O'Brien, 2003, p. 142). In other words, focus group interviews are methods to explore information where a selected set of participants are gathered to discuss one or sometimes more topics of interest (Barrows, 2000). Thus, focus group interviews are a carefully planned discussion to lead a discussion on a selected topic.

Organizing Focus Group Interviews

The sessions are usually best conducted in a room with adequate lighting and ventilation. Focus group sessions should be announced in advance so that participants can plan accordingly. There are various opinions about the number of participants in a focus group interview. They can vary from four to five to six to twelve depending on the nature of the topic. The moderator usually plans out open-ended questions beforehand. The moderator should be a friendly person with a good humor to get involvement from the participants. The involvement of the moderator may be high or low based on the intensity of discussion. Ideally the moderator should just facilitate and desist from getting too involved to collect data and hence arrive at accurate results from the explored topic (Gundumogula, 2020).

Participants for Focus Group Interviews

Careful selection of participants is equally crucial as it should be representative of the group and relevant to the researched topic. The participants may be selected on their background, gender, age, and experience and may also represent different categories related to the research study. However, it is important to organize groups with similar conditions to be able to compare data later. They should also be able to freely express themselves on the topic. For that purpose, it is highly crucial that they are comfortable and friendly to talk to the moderator and in a group. Each participant should contribute in some way (Morgan, 1988).

Importance of Focus Group Interviews

Focus group interviews are a very reliable source of getting information from group members more specifically when it is difficult to derive any information from one-to-one interviews. They can provide very accurate and reliable data for analysis and interpretation. They allow members to think in a group thus removing the bias of a single member. Therefore, focus group interviews make it possible for the researcher to explore the selected objectives and or hypotheses. They can be conducted easily at a relatively low budget as compared to other research methods (Júlia Leitão and Vergueiro, 2000). Focus groups are best suited for smaller sample sizes where it is difficult to use quantitative methods. They can also be used to support quantitative data. They are best used as qualitative methods alone, though to conduct research.

Limitations of Focus Group Interviews

There are limitations to every method. Participants' views may be biased and manipulated through leading and dominating them, and it is difficult to distinguish between individual and group views in focus groups. Since it is difficult to have a representative sample of the larger population, generalizing the results from a focus group is challenging. Furthermore, focus groups have additional limitations due to the difficulty of analyzing and interpretation of the results (Litoselliti, 2003).

Appropriateness of Focus Group Interviews

Focus Group Interviews are appropriate for this research study as the sample size is relatively small for this study. Additionally, this study is testing user experience and effect of technology and a specific digital tool for a group of students during the pandemic. It will be able to analyze

and assess the experiences of the subjects and derive approximate conclusions for further research. Since the sample size is relatively small, the research depends on qualitative methods rather than on quantitative methods for accuracy. The research will apply qualitative methods through focus group interviews in a longitudinal study to observe group of students and assess their experiences in using OneNote over a period. They will be interviewed for using OneNote for over almost a year starting from the pandemic to regular in person classes.

During the two focus group interviews students will be mixed from different backgrounds namely English language and Business to assess the user experience and its effect on their learning progress. This will eliminate possibility of any bias from students representing a group or discipline and improved probability of deriving accurate results and conclusions. However, the limitation of smaller sample size may still affect the results and findings of the study. Comparative Analysis method will be used to analyze sample data collected through focus groups.

Methods of Data Collection

Focus group interviews will be used for this research. Data can be collected by recording and transcribing the focus group interviews to analyze later. There are various transcription tools, but the most authentic tool is Office 365 transcription tool. It records participant responses while they are giving interviews. The responses can be later downloaded and analyzed using analysis tools recommended for the focus group interviews.

DISCUSSION AND ANALYSIS OF FINDINGS

Till date focus group researchers do not have an established framework for delineating their available qualitative analysis techniques. Since qualitative research has been around for over a period of 80 odd years, we can say analyzing focus group interviews is more challenging than analyzing individual interviews. Qualitative researchers have a wide array of qualitative analysis techniques at their disposal, and this is surprising (Cf. Leech & Onwuegbuzie, 2008). Focus group data can be analyzed using several qualitative analysis techniques suggested by Leech and Onwuegbuzie (2007, 2008). An analysis of focus group data can be undertaken using constant comparison analysis, classical content analysis, keyword-in-context, and discourse analysis (Leech & Onwuegbuzie, 2007, 2008).

Since the research sample is going to be relatively low in numbers, Constant Comparative Analysis technique is most appropriate to analyze the data and arrive at conclusions. Constant comparison analysis can be used to analyze focus group data, particularly when multiple focus groups are included within a study. This method makes it possible to assess saturation generally and across-group saturation specifically. Since focus group data are analyzed one focus group at a time, analyzing multiple focus groups is effectively equivalent to theoretical sampling in the sense that additional samples are taken to assess the significance of the themes and to refine or modify them when necessary (Charmaz, 2000). It will thus be possible for researchers to assess if the themes that are emerging from one group are also emerging from the other groups, by using the multiple groups.

Having done so, researchers will have the ability to reach data saturation and/or theoretical saturation because of doing so. Therefore, to have a broad range of focus groups from which to test themes, researchers design their studies with multiple focus groups. As a result of the design, we will develop. it is referred to as emerging-systematic focus group design, where emergent refers to the focus groups that are used for exploring issues and systematic refers to the focus

groups that are used for verifying issues (Onwuegbuzie, Dickinson, Leech and Zoran, 2009). In this research, the constant comparative analysis is appropriate, as two focus groups are being conducted to establish the hypothesis that OneNote is a digital tool that provided students with synchronous and asynchronous support during and after the pandemic.

Data Analysis Process

This proposal proposes qualitative research, as the research is about user experience. Additionally, the sample size is small that requires qualitative methods to investigate the relevant issues addressed under research. The research question is - "How does OneNote impact the learning progress of students and prepare them for the unforeseeable and unexpected future conditions? Lessons learnt during the pandemic!" The research data would need Comparative.

Collection and Analysis of Data

Collection of data and analysis can be a challenging task in focus group interviews. Collection requires the interviewers to have the right participants, relevant questions, and the right methods to record data. Effective analyzing strategy is crucial to arriving at accurate conclusions (Krueger, 1993; Morgan 1995; Morgan 1996). The moderator can record audio or video and transcribe them later. He can also take notes. However, the best method is to record the session and use various easily available transcription tools. To protect the rights of the participants, the moderator should announce and take permission from the participants. This is also needed to make them feel comfortable during the session. Note taking method is best resorted to when the participants are resistant to any recording of the session. Focus group data can be analyzed by qualitative summary/thematic analysis and content analysis (Gundumogula, 2020).

Office 365 offers recording software to record the sessions with transcribed reports that can be used later to analyze the responses from respondents. It's an effective tool and can eliminate any missed responses not recorded in note taking. The questions covered would be targeted at enquiring students' responses on use of technology in general and more specifically during unexpected situations like the current pandemic. Additionally, the questions would be focused on enquiring the role of a specific digital tool OneNote as to how it motivated students and influenced their learning progress. The study aims to investigate the effects of OneNote on students' attitude towards acceptance of the use of technology for future learning. It is extremely crucial that data analysis process is transparent, credible and analyzable to prove the research question.

LIMITATIONS AND ETHICAL ISSUES

Ethical Considerations

As a researcher, you are guided by a set of ethical considerations that guide your research plans and practices throughout the research process. While gathering data from people, scientists and researchers are required to always adhere to a certain code of conduct. Typically, human research is conducted to learn more about real-life phenomena, search for treatments that will work, investigate the behavior of individuals, and improve society in general. Ethical considerations play a critical role in the decision as to what research to conduct and how to conduct this research. By taking these points into consideration, we can ensure that the rights of participants in research are protected, can validate research in a more efficient and effective way and ensure that scientific integrity is maintained. Yes

It is imperative to make sure that research ethics, which are based on ethical principles, ensure scientific integrity, the rights and dignity of participants, and that the research process itself is voluntary, informed, and safe for all involved. The challenge of any research is to balance the pursuit of significant research goals with the right use of ethical research methods and procedures. In any research project, temporary or severe harm to participants needs to be prevented, whether they are hurt inadvertently or not. Furthermore, ignoring research ethics would result in the intended research losing some of its credibility, because morally questionable methods would render the data of marginal use.

The fact that a research idea may have value in the field of education does not justify violating the human rights or dignity of those students who would be asked to participate in the research. It should be ensured that they understand that refusal to participate will not have any negative repercussions or consequences, and that there will be no adverse consequences. It should be remembered that they are taking the time to help in the intended research. Therefore, it is only fair that their decision is always respected without trying to change it. To ensure the integrity of the study, it is essential to take special care to ensure participating students don't feel pressured or under any constraints to continue the study even if they wish to stop it.

To protect the rights of all participants, we should ensure that their personal data is fully protected, and their anonymity is maintained. This is for as long as we store and use their information. Although there are situations in which it is not possible to collect data anonymously, it is ethically necessary to ensure confidentiality. To obtain the consent of students to make suggestions in a group setting, it is imperative for them to be informed that anything that will be discussed will be kept strictly confidential and that every effort will be made to safeguard their privacy in every aspect. Additionally, it is also paramount that the participating students agree to respect and maintain the privacy of each other during the entire process. It is impossible to maintain strict confidentiality and privacy no matter what. This means that informed consent should become the main factor, and participants should be aware of the consequences of their actions before they agree to participate in a study. Furthermore, the confidentiality or anonymity of the data cannot be guaranteed to participants. This is because they are not informed about the risks involved in the study.

Limitations of the Intended Research

Although this research proposal has limitations, it addresses issues arising during the transition from face-to-face instruction to online education during the Covid-19 pandemic. Educators, schools, and higher education institutions worldwide struggled to select the best platform for delivering lessons and activities in the classroom. The research highlights several research studies that exhibited similar challenges due to school suspensions and suspension of classes due to outline issues relating to student participation and teacher readiness. There are several digital platforms, educational tools, and apps available in the market to help teachers boost students' engagement in the classroom. The research aims to prove the utility, resourcefulness, and effectiveness of OneNote, as a digital tool that provided synchronous and asynchronous support from instructors to students to establish a more sustainable model of learning.

Therefore, OneNote's effectiveness and usefulness is being investigated through this research. The research will explore if it provided the much-needed support during the pandemic. Its feasibility will also be examined with the under-privileged sections of the student community who might not be able to secure it for their classroom learning support online. There are multiple tools

available online which could be as effective as OneNote. A comparative analysis needs to be made to prove its worth over other digital tools. The research proposal investigates how online learning can be effective and collaborative to enhance learning experience for students just like in person classes? The research should probe and further validate the question how OneNote provides students with that much needed synchronous and asynchronous support from the instructor? Not only this, but the research should also draw a comparison between OneNote and other tools to confirm the findings and the results from the research.

There have been relatively few studies done on Microsoft One Note's effectiveness. It is prudent to and advisable to exercise caution regarding the study's sample size, since it is relatively small to draw significant conclusions. A participant's choice of device and the quality of the Internet connection will also influence how effective the device is. Since most of the students used their mobile devices while online and in person classes, its efficacy is doubtful and might suffer. Teachers may encounter difficulties monitoring students' activities when working with larger groups because the software is constantly changing during group work and collaborative activities. Similar findings might not transfer to a much larger class. It may be possible for the platform's effectiveness to be limited by connectivity issues related to unreliable internet services and app compatibility issues with device configurations.

The sample size might affect the results and the findings. The sample size limitation should be compensated with more rigorous measures to investigate its usefulness over other digital tools. A comparative analysis with other digital tools might also be helpful to verify the claims made in the research proposal. Students would have to be offered an engaging and interactive environment to learn through graphics and multimedia embedded assignments as part of the learning experience to see if it did provide the much-needed learning experience. Students will learn and acquire essential academic and technical skills they would need for their later academic and professional lives as part of the research objectives.

Lack of sufficient research is also a serious limitation that needs to be taken into consideration. It is this lack of enough evidence to prove the research questions that increases the importance of this research. The research proposal will try to address potential concerns related to online learning and try to establish some conclusions with the help of this research. As a part of the investigation, Microsoft OneNote would be explored to demonstrate its usefulness as a digital tool as to how it can effectively engage students' participation online and in person. Additionally, the study will try to explore whether by providing students with individual attention and carefully selecting tasks, can they easily reach a satisfactory level of participation?

Students in the researcher's institution turned a favorable attitude towards the digital platform after being introduced to the application during the pandemic. In classes, students initially seemed reluctant to interact with the platform due to its synchronous nature allowing instructors to monitor their progress. All the same, they responded positively shortly thereafter when they realized that it is in their interest to be monitored for valuable feedback during the online classes. Nevertheless, this paper recommends further research to confirm its hypothesis. For an accurate interpretation of the application's effectiveness online as well as in person, participants from different sample sizes can be observed both in an online and in person class setting. A flexible classroom management technique is necessary for teachers to see improvement in student performance. Teachers can design synchronous and asynchronous activities by utilizing the OneNote application to accommodate a variety of learning abilities.

POTENTIAL FINDINGS

The potential findings from two focus group interviews could provide evidence for the usefulness of the digital tool in question OneNote, both during the pandemic as a model, and later for more sustainable form of learning post pandemic. The students in the first focus group A (FGA) and the second focus group B (FGB) would be mixed to come to a standard conclusion from the findings. The researcher will try to analyze data to prove the research question that investigates how OneNote supported students synchronously and asynchronously during the pandemic and has proved to be a more sustainable model for future learning as an online learning tool. Students would be asked questions to interrogate about their experiences with the pandemic. On being asked as to how they would describe their overall academic experience during the semester taken during the pandemic, they are expected to respond differently, individually differing in their experiences and responses. Most of the students showed positive responses while using technology more specifically OneNote and felt that it saved them from getting deprived of information even during the pandemic. This is going to reflect in their responses to the focus group interviews.

Students would be asked questions in the second phase of the interviews about their experiences with OneNote how it helped them deal with the stressful experience during the pandemic. Students were quite positive in most of their experiences. They are expected to share their learning experience based on student autonomy, enhanced engagement, acquisition of essential academic and professional skills, special needs assistance and more collaboration to make learning meaningful.

On questions promoting student autonomy and teacher feedback, students seemed quite positive and content in online as well as in person classes. They are expected to observe that OneNote supported them in becoming more autonomous in their learning, as the instructor could send them learning material which allowed her to track their progress. Students could practice collaboratively in groups working independently using grammar tools and other supportive applications allowing them to work asynchronously while the instructor could provide them feedback both asynchronously and synchronously in online classes.

Finally, on being asked about any challenges or gaps that OneNote could address as a supportive tool, students might report on possible issues on technical breakups or glitches related to syncing. OneNote has syncing issues and it can be a limiting factor when it comes to looking at live documents. It can restrict your work and create confusion among collaborators. Students might report syncing issues which constantly bothered them. They also might report the limited window space that constricted their writing movement. Some of the students felt uncomfortable about someone changing their work during collaboration. However, all these limitations do not override its benefits and the research would prove its utility.

OneNote is a more sustainable mode of online learning that could be applied to in person classes due to its synchronous and asynchronous support. Students have responded well in classes to OneNote as a more sustainable mode of future learning both in person and online, synchronous, and asynchronous. It is a very effective program and can prove beneficial especially under any unexpected and unforeseen future conditions. Since online learning is here to stay, and they might need OneNote in the future it is sustainable mode of learning to survive and sustain, irrespective of any future pandemics. It might foster a more viable and sustainable tracking of

student progress. Student performances through OneNote have indicated a consistent, improved, and enhanced collaborative environment.

SCHEDULE

The research study would be delivered over a period of more than one semester where students would be interviewed after each semester. It's a longitudinal study and intends to observe student responses to the researched digital tool over a period and for delivering different types of content. The research er initially used it to teach language and later used it for delivering business programs. It started during the pandemic and will continue post pandemic to study the efficiency of the tool to support student learning and track their progress.

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Toward Eternal Peace in the Universe

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Abstract:

This study is concerned with the origin of war and way to eternal peace in the world. The origin of war is our fighting instinct accompanying with any weapon including iron bar and/or gun, and as long as it exists, in principle it is impossible for human society to avoid the war. In other words, since war is caused by fighting instinct that exists in the hearts of human beings, the first step to root out the war among us is to abandon all weapons at all. It is inferred that this is the start for eternal peace in our society and world, all of us are children of the God, there is no reason to fight each other with weapons. Let's regain the Paradise on the Earth by establishing the Upper House in United Nations consisting of religious and/or saint leaders. To achieve eternal peace in the world, it is essential to harmonize discrepancies regardless of size among religions and to make disarmament until no weapons. Finally, but not least, proposed is quasi-war, in which people having strong fighting instinct play certain sports game between two conflicting countries instead of war using bloodshed weapons. It may be possible for us to solve the problem by fighting the sports games such as soccer, rugby and so on, under the strict rules. In this way, anyone could control fighting instinct adequately but peacefully. Accordingly, all of us can contribute to build up the Paradise where we live in luxury and in harmony.

Keywords: Origin of War, Fighting Instinct, Way to Peace, Mathematical Modelling, Weapon

INTRODUCTION

Nothing can perhaps prevent from breaking out firing war in our society or world, because we human beings possess 'fighting instinct', the ultimate origin and some weapons such as hostile feeling and words, knife, gun, missile and/or atomic bomb playing a vital role in its driving force. In general, these weapons have been used for defending each of the nations, and at the same time, they have been often adapted to establish stronger ones. Because anyone possesses passions in Buddhist and/or original sins in Christian, it is essential for us all to create the peace resiliently by overcoming the great difficulty with every possible effort. Therefore, human history might be even considered as a long succession of uncountable number of wars among people since the first appearance of our ancestor on the Earth, viz. about four billion and six hundred million years ago.

Modelling war phenomena have been extensively explored by using differential equations (Burghes & Borrie 1990, and Keane 2011), operational research (Deitchman 2011, Buvanesh &Pasari 2021) and/or informatics (Daras 2012): Burghes & Borrie(1990) have introduced several methods of modellings with differential equation to solve social problems such as management(Hull et. al. 1976), life science (Olnick 1978), infectious disease (Bailey 1979), economics and dynamics (Gandolfo 1971), marketing (Murdick 1971), pollution (Rainey 1967), foreign politics (Richardson 1939), together with warfare. Scientific modelling and simulation in warfare started in the paper entitled "Aircraft in Warfare" by Lanchester(1916) and since then this

is still an active research field(Mack 1975, May 1981, Pillar 1983, Wagner 1984, David & Rothery 1993, Massoud 1996, Bellany 1999, Mishra & Prajapati 2013).

Table 1 illustrates a typical example for the history of defense budget in France, Russia, German and Austria-Hungary from 1909 to 1913, which is only one year before the outbreak of the World War I in 1914. Before the war, France and Russia were one group, while Germany and Austria-Hungary were another group. However, UK and Italy were neutral until the outbreak, but then these two countries joined in the former group eventually. Referring to Table 1, it is evident that the amount of the budget for each of the countries is increasing for the four years before the World War I continuously, for the two groups of countries were conflicting against each other. At the stage in 1913, the former group consisting of France and Russia got already some advantage in the military force against the latter group consisting of Germany and Austria-Hungary, though the balance of power between the two groups had changed dramatically by the new participation of UK and Italy to the former group in 1914.

Table 1: History of defense budget in France, Russia, German and Austria-Hungary from 1909 to 1913. (unit: million pounds) After Burghes & Borrie(1990)

Year country	1909	1910	1911	1912	1913
France	48.6	50.9	57.1	63.2	74.7
Russia	66.7	68.5	70.7	81.8	92
Germany	63.1	62	62.5	68.2	95.4
Austria/Hungary-	20.8	23.4	24.6	25.5	26.9
Total	199.2	204.8	214.9	238.7	289

Main purpose of the present paper is to illustrate mathematically how to break out the war, if any effort towards the disarmament of weapons is not done. In addition to this, some ideas to mitigate war have been proposed. On the basis of the theoretical results, it has been argued on the way to eternal peace in the universe.

THEORETICAL

In this section, we describe a mathematical model of bilateral conflict. Every country is trying to defend itself against the other, and each assumes the possibility of an attack from another country. To formulate a mathematical model of military expansion, x(t) and y(t) are first defined as the force potential of countries A and B, respectively. Here, the force potential is defined as the armament level, and is dependent of the time t (Burghes & Borrie1990).

Let us assume that the time derivative of x is proportional to y. That is, suppose $dx/dt = k \cdot y$, where k is a constant. In addition, it is assumed that dx/dt has a certain inhibitory−effect on the force potential such as $ky - \alpha x$, *where α is another constant*, and another force potential needs to be added by a constant term g to represent the anxiety caused by the potential threat that Country A poseses against its neighbor Country B.

Consequently,

$$dx/dt = ky - \alpha x + g. \qquad (1)$$

Similarly, to x, we obtain with respect to y,

$$dy/dt = lx - \beta y + h, \tag{2}$$

where l, β, and h are constants, respectively.

The following conclusions can be drawn immediately from the above mathematical model.

If there is no anxiety about potential threats between the two countries, then in this case since k=$l = \alpha = \beta = g = h = 0$, dx/dt =dy/dt=0, Nonetheless, the both strength potentials for countries A and B will take certain values of constant, respectively. However, in this case, even if these values are positive, a peace may be maintained between the two countries: Typical example exists on the U.S.A.-Canada border since 1817.

When both countries are unarmed, and thus k $= l = \alpha = \beta = 0$, (1) and (2) become as follows, respectively.

$$dx/dt = g, \tag{3}$$

$$dy/dt = h. \tag{4}$$

Thus, if both A and B have a potential threat or distrust of each other, then the values of g and h are both positive, so x and y both continue to increase.

Finally, in the case of an arms race between the two countries, such as Japan and North Korea, even $\alpha = \beta = g = h$ in (1) and (2) are expressed as follows:

$$dx/dt = ky, \tag{5}$$

$$dy/dt = lx. \tag{6}$$

Now, from the above two expressions, (5) and (6), we have

$$d^2 x/dt^2 = kdy/dt = klx. \tag{7}$$

If we solve this equation, it becomes as follows.

$$x = A \exp[(kl)^{1/2} t] + B \exp[-(kl)^{1/2} t]. \tag{8}$$

After substituting (8) in (5), we solve for y as follows.

$$y = (l/k)^{1/2}\{A \exp[(kl)1/2 t] - B \exp[(-kl)^{1/2}t]\}. \tag{9}$$

The above results, (8) and (9), show that if A is positive, then the force potentials x and y of the two countries, A and B, respectively, approaches to infinity with time. In other words, it clearly suggests that A and B will eventually reach at a state of war. Of course, this conclusion holds that relation among citizens in U. S. A., a gun society, ultimately ends up in a state of struggle among people with guns. On the other hand, in (8) and (9), if A is 0, the force potentials x and y of A and B, respectively, are both zero, and a peace between the two countries may be maintained by an exquisite military balance. Furthermore, if A takes a negative value, it indicates that the two

countries, A and B's force potentials x and y, respectively, asymptotically move toward minus infinity with time. In this case, it may correspond to the result of an ideal disarmament negotiations between the two countries. Note that in the case of A$\leq$ 0, it can be realized as a result of the steady and sure progress of disarmament negotiation at international organizations such as the United Nations and major powers, and it will be achieved only through sincere efforts by countries around the world toward incessant peace building effort. In brief, the origin of war is our fighting instinct and weapons are its driving force, and as long as they exist, it is impossible in principle for human society to root out the war. In other words, since war is caused by fighting instinct that exists in the hearts of human beings, the only way to avoid war is for everyone to abandon all their weapons at all.

Let us be back to the original question based on (1) and (2) again: Firstly, the one equilibrium point may be obtained by setting dx/dt=dy/dt=0, and then solving the remained two equations with respect to x, and y. Accordingly the coordinate of the equilibrium point is found to be

$$x_0 = (kh+g\beta)/(\alpha\beta - kl), \quad y_0 = (\alpha h + gl)/(\alpha\beta - kl), \tag{10}$$

where $(\alpha\beta - kl)\neq$0.

Now let us enquire the stability of this point, and so put

$$x=x_0+u, \quad y=y_0+v, \tag{11}$$

where u and v are infinitesimal deviation from x_0 and y_0, respectively. After substituting (11) in (1) and (2), and then by arranging them, we obtain

$$du/dt=-\alpha u + kv, \tag{12}$$

$$dv/dt=lu - \beta v. \tag{13}$$

As trial solutions, let us assume

$$u=Ae^{rt}, \quad v=Be^{rt}, \tag{14}$$

and substituting (14) in (12) and (13), respectively, we obtain

$$A/B=k/(r+\alpha), \quad A/B = (r + \beta)/l.$$

Thus,

$$k/(r+\alpha) = (r + \beta)/l.$$
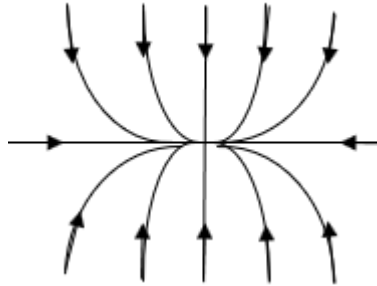
Or

$$r^2+(\alpha + \beta)r + \alpha\beta - kl = 0. \tag{15}$$

Solving (15) with respect to r, we have

$$r = -(\alpha + \beta)/2 \pm [(\alpha + \beta)^2 - 4(\alpha\beta - kl)]^{1/2}/2. \qquad (16)$$

It may be evident that two roots are real. Moreover, when $(\alpha\beta - kl) > 0$, both of the roots, r_1 and r_2 are negative, so that they are stable as depicted in Fig. 1.

Figure 1: Asymptotically stable knotted point.
$r_1 < r_2 < 0$

On the other hand, if $(\alpha\beta - kl) < 0$, one root is positive, while the other root negative. This results in the unstable saddle point, as depicted in Figure 2. The above results suggest us that war would depend on the combination among four values, $\alpha, \beta, k \text{ and } l$ in such a way whether $(\alpha\beta - kl)$ is positive or negative in (1) and (2), but it is independent of the two constants g and h. Referring (1) and (2) again, when inhibitory effect due to α, β, and $\alpha\beta$ is dominant over the armament one due to $k, l, \text{and } kl$, $(\alpha\beta - kl)$ becomes positive, and so the equilibrium points (x_0, y_0) is no more than a stable knotted point, as depicted in Figure1. This clearly infers that to maintain the peace between two countries A and B, or say Russia and Ukraine, both countries are required to increase their inhibitory effects, respectively. Note that the inhibitory effect on the war intervene into the power balance between two countries as the form of multiplication of the two constants $\alpha \text{ and } \beta$ expressing inhibitory effect for two countries, respectively.

On the other hand, when the armament effect is dominant over the inhibitory effect, since $(\alpha\beta - kl)$ becomes negative, so the equilibrium point becomes unstable saddle point. This results in war between two nations.
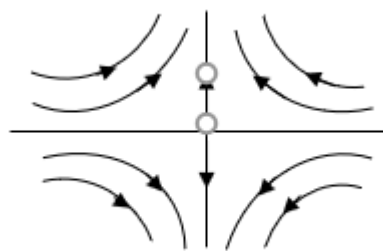
Figure 2: Unstable saddle point.
$r_1 < 0 < r_2$

DISCUSSION

One Family Under the God
One single pair created by the God, is our common ancestors and so everyone is a descendant of the God's children: Because all of us are children of the God, there is no reason for us to fight with

each other, which has been proposed by Moon (1985) in 1950s for the first time (Jin, 2006), though a rigorous scientific review based on the existing literatures in genetics has been done by the junior author (Nakagawa 2023c) very recently. This means that we are at present confronted with the fight within members of our family with weapons in Ukraine, and in Gaza. It has been reported that many people including babies have been killed by weapons indiscriminately every day. Let 's change a sword into a spade, and a spear into a sickle right now to regain the paradise on the earth and to stop the current slaughters. It is clear that we have no reason fighting each other.

Peace Organization

In order to accomplish the substantial reformation for United Nations, proposed is the establishment of the Upper House in United Nations, for currently United Nation has no potential to sustain the peace mainly due to vetoes by the five countries, viz. USA, Russia, UK, France and China at the United Nations Security Council (UNSC). The members of the Upper House must be religious and/or saint leaders in the world, while those of the Lower House would be political delegates sent by each of countries. The veto right held by the 5 countries at UNSC should be abandoned by the general assembly at United Nations right now.

In parallel with the establishment of the Upper House in United Nations, we must promote every possible project to make us easy to achieve the peace in this world by harmonizing some gaps among religions: The following efforts proposed by Moon (1985), must be useful for the purpose, viz. united wedding ceremony, and tunnel net-work combining continents and islands. The former is effective to integrate all of the races, while the latter can connect every country directly by the roads, resulting in abandonment existing borders of nations. Note that Moon (1985) has often proposed similar ideas during his speeches and in his books. In another words, one single pair created by the God, is our common ancestors and so everyone is a descendant of the God's children: Because of this fact, there is no reason for us to fight with each other.

Disarmament Until No Weapons

In theory, it is possible to eradicate armed struggle in human society unless any part of the body, including our hands and/or feet, is used in the struggle against others. On the other hand, as long as each country possesses its own weapons, there always exists a risk that it will develop into a tragic armed struggle like the war between Russia and Ukraine. It is hypothesized here that armed people (not only a relatively large number of Americans carry guns, but also even Japanese gangsters), and the military force of each of the countries are driving the war, and thus the endless armament race may be a natural state in this world. As a Japanese philosopher in Meiji era, Choumin Nakae (1847~1901) pointed out, the military buildup of one neighboring country A provokes that of country B on the other, which in turn leads to the additional military buildup of country A, and thus the chain of armament expansion between two countries A and B will never stop. It is fate that this chain would be expanded and reproduced by fostering suspicion among nations, and eventually develop into an all-out war in which both countries use the latest advanced weapons. Such a process from peace to war between neighbors has been clearly explained by a simple mathematical model in the previous section. So, one of the critical questions is whether there is any frame to cut out the unwanted fate that leads to such a nightmarish war. In fact, it is suggested in the previous section that disarmament is the very first step to save human beings from the war, and the requisite process is to accomplish the complete renunciation of the possession of weapons. It was Japanese government in South-East Asia that was defeated in World War II, had promulgated an ideal peace constitution in 1947 under the order by the director, Douglas MacArthur at the Headquarter of the Allies Force, and was forced to

abandon all of the weapons and troops, but it was Costa Rica in Central America that voluntarily stipulated the renunciation of the military force by the constitution with reference to the peace constitution of Japan. The decision by the people in Costa Rica has a historical value, but that by the Japanese people is not. From the above considerations, it is clear that the reduction or abandonment of military force is always accompanied by the danger of aggression by neighboring countries unless it is kept pace with them. In fact, both Japan and Costa Rica are currently at risk of such aggression from their neighbors. However, the abandonment of military force is the only and final choice for the survival of human beings, and thus all of the countries in the world should move towards such a glory goal.

Already, as may be clear from the above discussions, the arguments advocated by Japan's politicians at present, such as nuclear sharing, the possession of missiles to attack potential enemy bases and export the jet fighters to the other countries, are outrageous arguments that go completely against noble actions that we, human beings should work for world peace. On the other hand, an increase of military force in Japan must result in that of the tension with neighboring countries, viz.

China, Russia, or North Korea

Severe fighting between Russia and Ukraine is still continuing. However, the war itself is not peculiar, but is normal, for fighting instinct exists in everyone's mind naturally. Therefore, because the origin of war is the fighting instinct of human beings, a peaceful world might not be realized as long as persons exist, even though this premise is rather contradictive. However, if peace is redefined as a state in which there is no armed struggle among nations, this is still possible.

Quasi-wars

The most critical barrier to be broken through by us to achieve the eternal peace in the world must be the differences in religious belief among people or the kind of religions that are believed by the people. Comparing with the religion, country, race, skin-color, language, wealth and poverty, ideology, and so forth may be much easier to overcome each of the differences. For example, country barrier can be broken by constructing road, bridge, and/or tunnel as the countries belonging to European communities. To unify countries among different races, it must be possible to enhance marriages among different races, for example.

It may be much easier to overcome the barriers of skin-color, language, wealth and poverty, and/or ideology than to overcome those of religion and country. Hence, the authors would like to propose you an idea how to judge either win or lose in the game between the two conflicting nations, if any, by fighting sports such as soccer, rugby, and/or baseball, for we could avoid unnecessary deaths of soldiers as well as civilians during the war in terms of weapons. The war game between two conflicting countries is not necessary to the existing sports, but it can be such a united game, in which the rules including number of team member can be arbitrary so as to be satisfied by the countries concerned. Those quasi-wars to lead the peace among countries have great merits in human loss, and economy, for fighting spirit being possessed by the people in the both countries must be peacefully consumed. Note that official referees for the quasi-war must be selected within representatives in the Upper House, United Nations.

Secondly, let's discuss how to settle down the possible conflict among people in different countries after completing the disarmament for military weapons.

Actually, this is no more than the critical discussion about the way to eternal peace. The key words may be that all of us are 'One family under the God, so each of us is the God's child' which has been proposed by Moon (1985) in 1950s for the first time (Jin, 2006), though a rigorous scientific review based on the existing literatures in genetics has been done by the junior author (Nakagawa 2023c) very recently. This means that we are at present confronted with the fight within members of our family with weapons in Ukraine, and in Gaza. It has been reported that many people including babies and seniors as well have been killed by weapons indiscriminately every day. Let 's change a sword into a spade, and a spear into a sickle right now. Otherwise, the current slaughter must continue without end.

During the years while Hegel (1770~1831) worked actively, a better conclusion can be obtained only after the hot dispute between two persons or two groups. It is, however, realized that we are not always necessary to dispute against others, but the corporation and harmonization among opponents are more important to achieve our common aim.

War and Peace are examples for conflict and corporative movements, respectively. It may It is clear that war would bring human losses and economic loses, but peace results in our happy lives and economical merit. The present junior author has already demonstrated such a situation by introducing the case during the war (Nakagawa 2023b).

CONCLUSIONS

In this section, new findings and insights obtained through the present study have been summarized.

- It is realized that the origin of war is our fighting instinct, and weapons including arms and/or feet are its driving force, and as long as these exist, in principle it is impossible for human society to root out war. In other words, since war is caused by fighting instinct that exists in the hearts of every human, the only way to avoid it is to abandon all weapons first of all.
- The reduction or abandonment of military force is always accompanied by danger of aggression by neighboring countries unless it is kept pace with them.
- It is concluded that the abandonment of military force is the most critical choice for the survival of human beings, and thus all of countries in the world should move towards such a glorious goal.
- The nuclear sharing, possession of the ability to attack military bases of neighboring countries and/or the export of the jet fighters are outrageous argument that goes completely against requisite action that we, human beings should work for the world peace.
- Keeping in mind the scientific fact that we, human beings are one family under the God undoubtedly, there is no reason to fight each other at all. In another words, one single pair created by the God, is our common ancestors and so everyone is a descendant of the God's children. Thus, let's not kill each other, but let's harmonize among all of us.

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Note added during the proofreading

One of Japan's ordinary politicians, Shinzo Abe who was the prim-minister twice in Japan, and had proposed the nuclear sharing with USA and the possession of the independent ability to attack potential enemy bases, was killed by a gunshot in Nara, Japan on 8 July 2022 during the election campaign for the Upper House of Representatives. It is said that the terrorism is caused by some conflict between Abe and the terrorist, T. Yamagami regarding the difference in religious belief, but not political one. The terrorism may be considered as one kind of war, in which a handmade gun is used as the weapon resulting in death of Abe. This incident might illustrate again that any war, or conflict is caused by our struggle instinct, and the result depends on weapon used: Because of the gun, as the weapon, a human's life was lost.

At present, there still exists a serious conflict in our society regarding to the topic whether we should not hold a state funeral on 27 October, 2022 for the late Abe or not. This is because he had not respectful statesman, but resulted in various drawbacks in politics and economics, though he was the prime minister who was happened to remain its position for the longest period. It is believed that this is only caused by the balance among factions in his party, but not by his own intelligence and/or virtue. In fact, he is a typical politician-born politician: his grand farther, Nobusuke Kishi was the prime minister, and his father, Shintaro Abe was the minister for foreign affairs. Thus, Shinzo Abe had succeeded his grandfather's and father's election districts to become the statesman without any objection apparently.

Distributed Leadership: A Panacea or Epistemic Injustice

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Abstract:
Distributed leadership has been a topic of discussion for more than two decades now. scholars define it as a new form of leadership that is inclusive and epistemically just, as it is based on social interactions of leaders and followers rather than on their roles (Spillane and Sherer, 2004). These social interactions, however, may be constrained due to the situations in which they take place. Distributed leadership if not exercised in controlled conditions with regulated and clearly specified guidelines, may lead to marginalization and epistemic injustice. In this paper, distributed leadership has been examined and investigated with a critical lens to highlight the ensuing epistemic injustice that prevents individuals, from certain disadvantaged backgrounds, to contribute to knowledge sharing and co-creation. They are marginalized and professionally bullied into accepting unsolicited roles and responsibilities without any acknowledgement of their true worth (Hargreaves, 2008). This paper uses a personal narrative to support the claims raised in contradiction of some existing distributed leadership theories. The author examines distributed leadership critically drawing comparisons from her narrative while emphasizing on the importance of further research to establish its significance and true worth. The author concludes with a note that distributed leadership is not a panacea for all leadership problems. It needs to be strengthened in a congenial environment and culture with collective responsibility from all.

Keywords: Distributed Leadership, Epistemic injustice, Testimonial Injustice, Hermeneutical Injustice & Systemic Injustice

INTRODUCTION AND BACKGROUND OF THE RESEARCH

During the last decade or so, the concept of Distributed Leadership has transformed from a heuristic tool to a recommended theory of practice to be adopted by many schools and higher educational institutions. The concept was first coined in the 1960s and was theorized around the 1990s. It was however, brought into light by Gronn in 2000 and Spillane in 2004 who presented it as a lens to see educational practices in a new workplace ecology. Spillane proposed it as new form of social interactions that promote more diverse, inclusive, and interactive roles as leaders. He observed, distributed leadership is about interactions among leaders, followers, and situations and how leadership can shift between and amongst individuals. A distributed perspective on leadership focuses more on leadership practices rather than leaders or their roles, functions, routines, and structures. No institution can count on a single leader to lead it to its greatness. Leadership is about individuals stepping up to take on different roles expected of them from time to time (Spillane and Sherer, 2004).

According to Spillane, (2005) leadership practices are not just about the 'what' of leadership rather the 'how' of leadership. As he puts it: "Rather than viewing leadership practice as a product of a leader's knowledge and skill, the distributed perspective defines it as the interactions between the people and their situation. These interactions, rather than any particular action are critical in

understanding leadership practice" (Spillane, 2005, p.144). However, the situations in which these interactions take place are equally important, as they define the relationship between the leaders and their followers (Spillane, 2005). Situations can be influenced by social and cultural backgrounds of individuals and thus enable or constrain leadership practices that can transform the entire situation.

The aim of this paper is to apply the lens of distributed leadership on educational practices critically and not to discount the formal leadership roles as they are indispensable for an all-encompassing success of educational institutions. Without the active support of formal leaders, the distributed leadership approach wouldn't be feasible (Harris, 2013). According to Harris, (2013) "Formal and informal leadership are not incompatible or oppositional, as some have suggested, but rather are different parts of leadership practice" (Harris, 2013, p.5). Therefore, distributed leadership certainly doesn't discount these influences rather channels them into more organized and entrusted roles.

While considering distributed leadership as a shared responsibility, we come across two dimensions of distributed leadership as put forth by Robinson. Robinson suggests that distributed leadership comprises of two main concepts: task distribution and influence processes (Robinson, 2008). One emphasizes on task distribution and performance as core process achieved by leaders and the second focuses on distributed leadership as an influence process that works on how people think and act under a leader's influence (Robinson, 2008). It is evident that all authority and power flows from the formal heads of leadership and the responsibility to take decisions also lies with them (Harris, 2013). However, shared responsibility is considered as one of the contributing factors to improved and enhanced professional learning for teachers. Multiple reasons have been assigned in this context one of them being that engagement of a wider members of staff can affect change. Furthermore, it is stressed that skills and experiences of diverse professionals are essential for successful leadership (Lumby, 2013). Therefore, distributed leadership is facilitating and supporting leadership of others. However, it doesn't mean that everyone becomes a leader rather a dynamic approach is adopted to delegate power and create an environment of innovation and change within organizations, through influence and direction, by formal leadership.

Nevertheless, distributed leadership may lead to social and or epistemic injustice and bullying in professional spaces if not managed carefully. As stated by Hargreaves and Fink (2008) distributed leadership may turn out to be another agreeable way of forcing gullible teachers to do more work resulting in their exploitation. Furthermore, in the name of distributed leadership, institutions and leaders may force individuals into forced responsibilities without acknowledging their contributions. Professionals and educators are hence exploited under the guise of distributed leadership. Under the pretext of leadership roles, they could be overburdened with additional responsibilities without any relief on teaching duties. (Lumby, 2013). Additionally, educators and professionals from a certain background are essentially discredited and their credentials are highly underrated as compared to certain other nationalities. They are faced with such oppressive work culture that doesn't allow them to achieve their highest potential and thus stultifies their academic and professional growth

This paper will discuss distributed leadership in context of the social interactions which depend on the racial background, ethnicity, and gender of those who are interacting. Such differential treatment may lead to epistemic and social injustice. Miranda Fricker in her seminal work, "Epistemic Injustice: Power and the Ethics of Knowing," demarcates two species of epistemic injustice: (i) testimonial injustice and (ii) hermeneutical injustice. Testimonial injustice arises when

"prejudice causes a hearer to give a deflated level of credibility to a speaker's word while hermeneutical injustice occurs at a prior stage when a gap in collective interpretative resources puts someone at an unfair disadvantage when it comes to making sense of their social experiences" (Fricker, 2007, p.1)

The paper discusses educational context where social interactions between leaders and followers may take an unjust turn. The research is centered around in the MENA (Middle Eastern North African) region in a higher educational setting. This study is crucial, as the author is based in one of the countries and has experienced discriminatory work culture. There is a preferential attitude towards nationalities, races and or gender. In the name of distributed leadership, instructors are exposed to academic and professional bullying. Professionals from certain backgrounds enjoy privileged status while some others face discriminatory and unjust treatment. Members of certain groups are granted more opportunities, allowed more chances to contribute than members from certain disadvantaged groups.

This assignment uses a vignette to research the topic being discussed. It consists of mainly five parts. The first part presents the introduction and background of the concerned research. The distributed leadership theory is discussed and introduced briefly. The gap between educational theory and practice is also revealed to further highlight the significance of this research. The second part, the literature review investigates and reviews the relevant literature to support the background of this research. The various articles related to the concerned research are critically investigated. In the third part, the author uses a vignette to describe personal experiences as empirical illustration to support her claims. The fourth part applies distributed leadership lens to cross examine her experiences and reveal the gap between educational theory and real practice in her context. The author concludes by making recommendations to build trust and make structural changes for facilitating distributed leadership. Last but not the least, the concluding part also discusses limitations related to the study and makes recommendations for improved leadership practices that can contribute positively for more responsible roles and balanced opportunities for all irrespective of their race & gender.

LITERATURE REVIEW
Distributed Leadership for Improved Social Interactions
As Spillane (2005) puts it, distributed leadership is mainly concerned about social interactions between leaders and followers. It can be defined as leadership practices and situations that guide the interactions between leaders and their followers. Generally, there are leaders in educational institutions who form the power flow and assign roles and responsibilities to teachers. With distributed leadership perspective, "What" is achieved and "how" it is achieved is more important than "Who" achieved it. According to Spillane, (2005) leadership is not about who exercises knowledge and skills rather it is about what kind of knowledge and skills are exercised, and the social interactions in which it is encouraged and promoted that is important (Spillane, 2005, p.144)

No educational institution can achieve successful results singlehandedly. Success happens when individuals work together as a team and take on leadership roles resulting from situations. According to Spillane (2005), leadership is about practices that involve multiple leaders hence they do not take instructions rather they are a part of the whole equation. Therefore, they need to be given equal importance and credit for their actions. For that reason, we need to look at leadership resulting from interactions which are defined by situations. These situations could be routines structures, guidelines or tools that define interactions between multiple leaders in an organization

(Spillane, 2005). Distributed leadership, however, can be misused by formal leaders in the researched region, as individual members under such circumstances can be marginalized by formal leaders or by institutions themselves based on their cultural, racial, and linguistic background.

As pointed by Jose Medina (2013), where there is oppression of marginalized members, epistemic justice can get severely damaged. There is no sharing of knowledge when social inequality incapacitates you. Any form of social injustice can play negatively against any kind of information sharing, as there is lack of trust and credibility of the marginalized sections of the educational sector. This can lead to hermeneutical injustice, as marginalized members lose confidence and self-trust owing to this epistemic injustice and oppression. Such groups are systematically marginalized as inferior and less credible in comparison to the more privileged and elite sections of the educational society. This not only prevents the underprivileged members from sharing their knowledge but also prohibits and obstructs any learning from others (Medina, 2013).

Distributed Leadership for Improved Organizational Performance

Distributed leadership is not an anti-leader practice as many might like to believe and preach. It doesn't promote a negative approach towards formal leaders. Without formal leaders there wouldn't be any accountability. Furthermore, distributed leadership needs formal leaders to flourish and be sustained (AlAni, 2011). This paper therefore, doesn't disregard formal leadership but rather investigates critically if both traditional leadership and distributed leadership are more of complimentary and supportive leadership practices. As Harris puts it (2013), formal and informal leadership are not opposed but rather complementary to each other, as many authors might like to suggest. Actually, they form and evolve into different forms of leadership roles. (Harris, 2013). Therefore, distributed leadership aims at channeling these roles and responsibilities into more positive and organized roles.

Additionally, it has been observed that distributed leadership is needed for improved organizational and performance levels in schools or higher educational institutions. It also goes without saying that active involvement of formal leaders would be indispensable in structuring the distributed roles (Harris, 2013). Therefore, we may assume that there is a positive correlation between distributed relationship and improved organizational performance. Formal leaders, generally, re-structure, re-organize and re-distribute leadership continually to achieve better results and high organizational performances. Furthermore, it is stressed that skills and experiences of diverse professionals are essential for successful leadership (Lumby, 2013). Therefore, distributed leadership is facilitating and supporting leadership of others.

Distributed Leadership for Trust Building

Distributed leadership to be successful, depends on mutual trust without which there would be gaps between formal leadership and individual followers. One of the most important challenges affecting change is trust building between the two forms of leadership, as Harris points out, school leaders have an immense responsibility to build and sustain trust between followers and leaders.

In absence of trust there is little or no hope for improvement in organizational performance (Harris, 2013). Additionally, though it is believed that distributed leadership facilitates and actively supports other roles, it doesn't necessarily mean that leadership is given to everyone. Trust building between leaders and followers is selective while certain other individuals are potentially discriminated for their credentials and qualifications based on their background.

Distributed Leadership Promotes Heterogeneity in Leadership Roles

It has been widely observed that the failure to maximize the diverse potential lies in the inability of the leadership to capitalize the diversity by accepting heterogeneity in leadership roles. The truth is they avoid heterogeneity in practice, resulting in much negativity at different levels of distributed leadership. The concept of heterogeneity has been prescribed as a practice in which more and more staff can be empowered with different leadership roles depending on their diverse abilities and potential. The truth is however far from the picture portrayed by the supporters of distributed leadership (Lumby, 2013). In the context of the researcher, leadership is distributed on basis of gender, language, ethnicity and or racial background leading to much negativity instead of the desired organizational performance.

Lumby goes on to rightly argue in her article, "Distributed Leadership Uses and Abuses of Power," that distributed leadership has been altered from a heuristic tool or a lens to be applied on educational practices to a recommended practice. Additionally, she tries to prove that distributed leadership has been repackaged to misguide educators. Lumby further observes in her article, that under the banner of distributed leadership, educators are generally exploited when they are assigned the same work as additional burden which constitutes their existing work. In other words, their existing duties are increased under the guise of distributed leadership, and they are not given any additional powers that would otherwise be impossible for them to exercise. (Lumby, 2013).

This practice is reflective of Asian cultures where accountability rests entirely on the leaders, though some of the leadership functions can be delegated. In lack of delegation of appropriate powers, the marginalized sections of leadership cannot make any decisions. There is little or negligible literature available on the referenced context from the region, but a study done by Hairon and Goh in (2015), in Singapore points out that trust is often lacking in such delegation of duties, as the decision-making rests entirely with the school leaders. So, heterogeneity of roles and leadership may be encouraged, but a lot of caution is practiced, and it is totally deprived of any trust in delegating decision-making powers to the developing distributed leadership. It is essential, therefore, for proper development of shared or distributed leadership that school leaders encourage shared goals, and involvement of group members not only in taking initiatives but also in decision making functions (Hairon and Goh, 2015).

Hence school leadership may consciously or unconsciously discourage shared responsibility and accountability among co-leaders. They may share only limited powers and authority with the leadership roles. Murphy et al., (2009) points out that school leadership development should include building distributed leadership skills focused on fostering strong relationships among teachers, shared goals, knowledge, skills and rethinking organizational structures and power distribution (Murphy et al., 2009)

Few studies have shown interest into the role of gender, race or ethnicity in distributed leadership that may lead to discriminatory practices. Therefore, the picture that supporters of distributed leadership present seem to create gender free and un-embodied mythical "empty slot worker" who doesn't carry a race gender or ethnicity. The inequalities of race and gender that exist under the surface of distributed leadership have been generally ignored. As Acker mentions, the promise of inclusion that distributed leadership makes is possible only when the system itself believes in a disembodied worker and doesn't differentiate based on race or ethnicity. In reality however, instructors are not disembodied, as they have to work under complex structures of power and race which are constrained and prevent the promised inclusion (Acker, 1990).

Distributed Leadership Leads to Professional Bullying and Additional Responsibilities
There are examples of distributed leadership leading to additional work for teachers who are bullied under the pretense of distributed leadership. As Lumby observes, this kind of professional bullying breeds pessimism, for there is no relief on teaching duties (Lumby, 2013).

Organizations can force gullible teachers into doing more work under this notion and hence it needs to be carefully put into practice. There are examples where it has been used with caution and care but that is not always the case. The staff is overburdened with work leaving no time for teaching or for their own professional development (Hargreaves, 2008). Individual teachers are given additional roles that just add to their existing overwhelming schedules. This kind of professional bullying may eventually lead to burnout and demotivation among teachers for any kind of academic excellence.

Distributed Leadership and Epistemic Injustice
Additionally, this paper aims to prove that distributed leadership may result in epistemic injustice owing to discriminatory practices under the guise of inclusion and diversity. Inclusion and diversity are never practiced while it encourages people to believe that inclusion and diversity are being followed. As stated by Lumby, the concept of distributed leadership makes its followers assume that there is an openness in operations and equality is practiced. The literature on distributed leadership doesn't even come close to reality. In reality, however, there is a big gap between educational theory and practice (Lumby, 2013). As is evident from the practice in the researched region, the practicing leaders and followers are made to believe that they are being democratic and inclusive when they are far from that. This study proves how epistemically unjust situations may arise out of distributed leadership.

Distributed Leadership and Testimonial Injustice
As Fricker has rightly pointed out epistemic injustice can result from two situations of testimonial injustice and hermeneutical injustice. Both forms of injustice result from discriminatory practices followed by leaders not only at individual and personal level but also at structural and institutional level under the guise of distributed leadership. She demarcates two forms of epistemic injustice and states the conditions leading to them. According to Fricker (2007), testimonial injustice may take place when a speaker's words are not given their due credibility owing to a pre-existing prejudice. Hermeneutical injustice, on the other hand, could result from a situation where someone is at a loss to interpret their social experiences, as a consequence of a gap in their interpretive resources or due to their being in an under-advantaged situation (Fricker, 2007). Testimonial injustice is widespread in the researched region where teachers belonging to a certain race and ethnicity are discriminated based on their accent linguistic, cultural, and educational background. They are either left out when assigning leadership roles or overburdened with work owing to their ethnicity, assuming they wouldn't be able to refuse or say 'no.'

Distributed Leadership and Hermeneutical Injustice
As Dunne (2020) puts it, this type of epistemic injustice can "depending on the situation, undermine, undercut, disvalue, curtail, exclude, outright dismiss, or, in some cases, gaslight a person/or persons in their capacity as potential knowers" (Dunne, 2020, p.1). The instructors of certain backgrounds in the researcher's context are targeted and treated with closed-mindedness and prejudice and given insufficient credibility for being potential knowers. They are mistreated with disbelieving stares and dismissive smiles to marginalize them. This kind of marginalization is

nothing but a mockery of distributed leadership where individuals are made to work under its name but not given sufficient credit for their achievements.
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This may typically lead to hermeneutical marginalization where the person is marginalized owing to resources being out of his or her reach. This kind of marginalization is based on a person's socio-economic or cultural background. As Dunne (2020) puts it, such marginalization deprives the potential knower from knowing and stultifies his growth while impeding effective inquiry. Such kind of discrimination and marginalization can be more harmful than individual testimonial forms of injustice as hermeneutical injustice occur more at structural or institutional levels (Dunne, 2020). There is enough evidence from the practices in the researched region that distributed leadership is causing more harm than good in its current practiced and distorted form.

Distributed Leadership and Systemic Injustice
Additionally, epistemic injustice may also take form of systemic injustice where leaders may form their own inner circles protecting the favored individuals and their interests. These inner circles of followers and leaders benefit each other. If the agendas of the institution align with that of the teachers, then there's no power struggle, or else the micro-politics can take an unfortunate turn. The resources are allocated selectively and may restrict the access of a certain community or background of people to these resources (Lumby, 2013). Hence teachers are silenced, alienated or discriminated on the grounds of distributed leadership as they struggle with deflated credibility and systemic injustice (Tian and Nutbrown, 2021).

Distributed Leadership Analyzed Through the Lens of Epistemic Injustice
Tian and Nutbrown (2021) researched distributed leadership in their latest research article, "Retheorizing Distributed Leadership Through Epistemic (In)justice," based on five most practiced models. The lens of epistemic injustice was applied to explore the justification of the concept so widely recommended. They explored leader-plus model, practice centered model, socio-cultural model, school improvement model and knowledge power model (Tian and Nutbrown, 2021). In the leader plus model, they revealed that majority of pedagogical or informal leaders were exploited by formal leaders. Their knowledge and resources are utilized without giving them due credit thus harming their interests epistemically (Spillane, 2005). This kind of epistemic injustice is highly practiced in the researched region as formal leaders may take advantage of the vulnerability of teachers from certain backgrounds and present ideas and concepts that do not belong to them as their own.

In the practice centered model Tian and Nutbrown (2021), pointed out that the social interactions are selectively initiated by formal leaders and that there isn't enough evidence to prove that they are always fair to the followers or informal leaders (Tian and Nutbrown, 2021). It is also not clear what will happen if multiple people possess the necessary expertise. Who decides who interacts and with whom? What if the formal leaders give resistance? These are certain issues that might complicate situations and give rise to epistemically unjust situations with power finally resting in formal leaders' hands (Tian and Nutbrown, 2021). This is quite frequent in the researched region where formal leaders pull the strings and do not allow teachers from certain ethnical, linguistic, cultural, or educational backgrounds to demonstrate their skills or prove their expertise as they do for the preferred category.

The socio-cultural model too is not free from vice. It was evident in various school studies representing different cultures, that distributed leadership practices reflected socio-cultural

expectations of the respective cultures hence varied from culture to culture. This could change the entire situation, as Hairon and Goh (2015) point out, the schools cannot be free from socio-cultural influences and hence the leaders have limited space to exercise within those limitations. Most of the leadership theories have evolved in the west and hence are culturally bound and may embody some of their consumerism and related vices like individualism and self-sufficiency. (Hairon and Goh, 2015). These socio-cultural influences may eventually lead to corrupt and unscrupulous practices and manipulations within school leadership. If there is no similarity between respective cultures, it is bound to create conflicting environment because there is lack of transferability of the cultural values (Collard, 2007; Goh, 2009). No doubt, certain leaders are extremely cautious in implementing such universal concepts as distributed leadership that may lead to cross cultural tensions in schools (Collard, 2007). Therefore, leaders should be cognizant of cultural issues as such leadership theories may pose hindrance in successful implementation of local policies and practices across culturally diverse countries (Leithwood, K et al., 2009).

The school improvement model too is effective only if the teachers' goals and leaders' goals align with school goals (Leithwood, K et al., 2007). It has been noticed that whenever leadership is distributed in a planned way rather than in a random or ad-hoc manner, it can lead to target achievement and success for all involved parties. Therefore, formal leaders should try to incorporate and align teacher goals in their plans to ensure performance targets are achieved. This however, is not the case, as formal leaders in the researched region neglect teacher professional development which leads to academic lethargy and breeds negativism (Hargreaves, 2008).

The knowledge power model as proposed by many scholars can be discriminatory too, as members in lower levels of the hierarchy may feel disempowered. They may not contribute to knowledge accumulation thinking they do not possess enough skills as compared to people who are more established and have powerful positions (Gunter, 2013). Additionally, it has been observed that in flatter structures, fair distribution of resources is not always ensured leading to epistemic injustice (Tian and Nutbrown, 2021). Therefore, this form of distributed leadership, as observed in the researched region, may lead to conditions where formal leaders may 'depending on the situation, undermine, undercut, disvalue, curtail, exclude, outright dismiss, or, in some cases, gaslight a person/or persons in their capacity as potential knowers' (Dunne, 2020, p.1).

A whole new approach, therefore, is needed to implement distributed leadership if at all to benefit the teaching community. The concept of distributed leadership in its current guise is doing more harm than good as is evident in the researcher's context. It exploits underprivileged groups of teachers who refrain from contributing to knowledge or actively participate in decision making measures for the fear of being ostracized for their creative ideas. Based on her knowledge of certain incidents, the researcher would like to describe her experiences with distributed leadership and how it may lead to epistemic injustice. The primary data based on her experiences will be supported by secondary data from other people's research and an attempt will be made to establish a relationship between the two.

EMPIRICAL ILLUSTRATION: A PERSONAL JOURNEY
A vignette has been used in this assignment as an empirical illustration to discuss and investigate pre-existing research on distributed leadership theory and reveal gaps between the educational theory and practice.

A vignette is a short story that is presented by a participant to collect information regarding his or her qualitative or quantitative research. It is usually developed on previous research which can connect to local research of the participant researcher. Vignettes can be used for different purposes while conducting research mainly to explore the actions in the researched topic, to seek clarification on the judgement of the people about a researched topic or to find a less threatening way of exploring sensitive issues. In nutshell, a vignette is a technique in research where opinions, beliefs and perceptions can be drawn based on real life situations and scenarios of participants (Gourlay et al., 2014).

Vignettes can be used in three different versions to research a particular topic. They could be used as

- a written or pictorial version of a short scenario where a response or a perspective is created based on the concerned scenario
- Distinct and definite examples of people and their certain behavior that can be used to construct an opinion or a judgement on their behavior
- Narratives about individuals and situations related to them which can help in building certain perceptions and or beliefs regarding a researched topic (Gourlay, 2014)

As stated by Gourlay, et. al., (2014), there are limitations to using vignettes as empirical illustrations because there is always a risk of people establishing a relationship between their beliefs and actions. That can influence the opinions and concepts derived and concluded from them. However, this can be avoided with careful disassociation between beliefs and actions by individuals conducting research, as they intend to ascribe certain meanings and conclusions to actions and scenarios in real life (Gourlay, 2014). This assignment uses a personal narrative as empirical illustration to reveal the true implications of distributed leadership in actual situations.

As a non-native teacher of English in Middle East, teachers frequently face discrimination while teaching language to students. From the perspective of an Asian teaching in the Middle East, they experience low self-esteem due to lack of respect for cultural differences and undue recognition given to teachers with native background. They must prove their abilities and credentials to reach a certain point in their teaching careers where they can look back and realize that it has not been an easy journey. This could be relatively an easier accomplishment for a native speaker with lesser credentials. In this article, the author reflects on her experiences and draws some conclusions based on her assumptions on distributed leadership which created conditions for the epistemic injustice she experienced during this difficult journey.

The author started her career as an adjunct in various foundation programs and taught English language to EFL (English as a Foreign Language) students for several years before getting her first break to work as a full-time instructor. This was a reward after several failed attempts despite her previous teaching experience and meeting the required credentials. For a long period during her professional life, it appeared that teaching English language as a full-time instructor is a prerogative only for a privileged few. Eventually, her hard work and persistence paved way for the job, she deserved and needed. While she reveled in her achievement, she had no cognizance of the colonial ideology lurking around her in those hallways.

Her first encounter with her new colleagues was not a pleasant one. Her new colleagues stared at her in disbelief and scorn, wondering how could a non-native speaker teach English language? This was the beginning of a new discriminatory and racial profiling of her existence where she was

constantly reminded that she was unfit for the job. Nonetheless, she didn't give up and stayed defiant and determined not to accede in. Despite their scornful and scathing attitude, she went ahead and offered her full cooperation to the academic and administrative staff who did not spare any single opportunity to exploit her cordial and collegial attitude. She was overburdened with additional duties with no regard for personal and or social emotional well-being which is a due right of every educator.

The author's academic pursuits outside her workspace gradually won her accolades. Her success with local TESOL (Teaching of English to Speakers of Other Languages) affiliate and the parent body internationally started getting her the due acclaim she deserved as an academic achiever and a professional. These accomplishments went unnoticed initially, as they came from an insignificant non-native speaker. Had they come from a native, they would have received due recognition. She suffered from low self-worth at times and doubted her hard-earned achievements. The resulting epistemic injustice could have destroyed her, had she been not supported by the just and equitable treatment from the international TESOL (Teaching of English to Speakers of Other Languages) and TEFL (Teaching English as a Foreign Language) organizations. She cannot but extend her deepest gratitude to the inclusive, just, and equitable approach and treatment, she received from TESOL.

Her academic and professional achievements attracted the attention of institutional leaders who started noticing her for her academic accomplishments. The attention from leadership became a cause for further outrage amongst her unrelenting colleagues who couldn't see anything worthy in her to deserve it. Under the guise of distributed leadership, she was handed over multiple roles with no due compensation or a dedicated title for recognizing her efforts. Her authority extended only as far as taking decisions related to student matters. When it came to bigger and important decisions, the authority was vested in individuals with more credible background. Formal leadership can be biased when it comes to extending justice, as they have preferred followers in their inner circles who according to them, deserve higher and more responsible roles and access to resources.

Defiant and persistent, she kept up to the reputation and insisted on proving her mettle through perseverance, hard work and achievements. In due time, the much-deserved position for the coordination of foundation unit was to be conferred on her. Distributed leadership can lead to hostilities and conspiracies in work environments if formal leadership is not just and responsible enough. A native colleague of hers who apparently was disgruntled with her academic pursuits used his prowess and managed to get her off the list for candidates to be chosen for her academic growth. Had the leadership been responsible in their approach and aimed at distributing leadership to get the most out of the diverse potential, they should have paid heed to these unethical practices which led to such petty scheming against vulnerable communities of teachers.

Sincerity, dedication, and hard work doesn't go unnoticed for long, so the long-awaited title was awarded, for which she had waited long enough. However, that too came with a cost. Under the guise of leadership, she was overburdened with different kinds of activities and administrative work that prevented her from focusing on her teaching and coordination duties. The responsibilities could come anytime and anywhere leaving no space and scope for personal and professional growth. In contrast, other local colleagues, and native teachers in the unit with preferred backgrounds could afford to miss classes and had more access to desired resources.

Her new role attracted more hostilities. This kind of a situation gives rise to questions - How do we deal with the tension between limited financial/material/human resources and school members' diverse (sometimes competing) interests and priorities? This may cause conflicts, as happened in her case. A senior native colleague made some disparaging remarks questioning her leadership. Living in the middle east, teachers are exposed to such behavior quite often when certain members of a privileged race not only override certain important decisions but are also allowed to get away with misconduct towards colleagues. Her professional growth earned the author further animosity from her native colleague. She was never comfortable with the idea of a non-native teaching English. Now she had no option but to follow the author's supervision, an idea she could not come to terms with.

Author's native colleague kept her hostility known through her rude and impolite behavior which the author preferred to ignore, as multiple attempts earlier failed to earn her colleague's respect and appreciation had gone unnoticed and unappreciated. Her native colleague kept creating hurdles and continued with her uncooperative attitude until one day, she could take it no more. She barged into the author's office and told her, that she shouldn't consider herself equivalent to a native speaker, as she cannot be one. Her native colleague threw scathing remarks on how nonnative speakers are different, incomprehensible and unintelligible. She made humiliating remarks on accent and pronunciation of non-native speakers. The author pretended to maintain her calm and poise, but this incident hurt her self-respect and pride. What is unfortunate is that leadership in the concerned institution preferred to ignore the entire incident instead of bringing the aggressor to book. It is very unfortunate but true how institutions promote cultures of racial and gender discrimination. Conversations on distributed leadership would be incomplete without a discussion on these issues!

Applying the Distributed Leadership Lens Critically on the Author's Personal Narrative
The above narrative can be critically analyzed through the distributed leadership lens to investigate if it is the recommended solution, as prescribed by many scholars or is there a gap between educational theory and practice? Since it is a unique experience there's not much research/data available, and the unique cultural context may impose certain cultural restrictions. However, the research data from other regions discussed earlier in this article can be used to support author's experiences and research questions and establish a relationship between them.

Distributed Leadership Might Encourage Hostilities Rather than Social Interactions
Distributed leadership as defined by Spillane (2005), is about social interactions between leaders and followers and arises from leadership practices and situations between them. However, is it applied in real professional life in educational institutions? If we look at the above narrative critically, we will find that the interactions are not at all important, nor are the achievements. All of the author's academic accomplishments could have benefitted the institution through shared knowledge, but they went unnoticed due to a toxic culture and a lack of platform to raise concerns about such issues. This kind of shared knowledge can lead any institution to success, and individuals can benefit from mutual information. This however was not the case in the above narrative. There is a big gap between educational theory and practice.

Additionally, formal leadership has a responsibility to define guidelines and regulations to guide and control these kinds of social and educational interactions or situations that lead to exchange of knowledge (Spillane, 2005). In lack of such guiding structures or tools, much hostility and chaos may result among the members of the school or institution. As the above narrative portrays a

situation where in absence of proper guiding instructions, other faculty members might start competing for positions or resources leading to much hostility and resentment against each other Hostilities and resentment may reign supreme instead of an amicable environment to support exchange of knowledge and information.

Distributed Leadership May Stultify Academic Growth and Lead to Unsupportive Conditions
Unlike the popular belief, formal leadership may not be supportive of distributing and channeling responsibilities into more organized roles for the benefit of the institution. In many cases, they may hold the power in their own hands with little or no access to the followers who are assigned these roles. As is evident from the given narrative, the decision-making powers rested with the formal leadership permitting only limited access to resources or powers to take decisions. Lumby (2013) points out, that such delegation of roles is biased and may be dependent on certain selective ethnicities and racial backgrounds (Lumby, 2013). In the above narrative, distributed leadership, merely acted as means to assign more tasks rather than empowering followers or emerging leaders

Furthermore, in the support of distributed leadership it has often been said that it creates a pool of diverse potential within a community of teachers and leads to improved organizational performance (Lumby, 2013). It is also true that formal leaders have a tremendous responsibility to restructure and reorganize leadership from time to time to benefit from the diversity present in their schools (Harris, 2013). Nevertheless, it might be far from true, as the narrative indicates. The leadership in question didn't utilize the academic potential presented through the author's academic pursuits rather she was overburdened with many unrelated and unsolicited responsibilities that stultified her academic growth. Distributed leadership was only used to achieve personal gains by the formal leaders and for exploitation of teachers. Racial and cultural bias is hence rampant in educational practices. Individual teachers are given additional roles under the distributed leadership pretext which already constitute their existing work descriptions. These additional duties only add to their woes leaving them overwhelmed with extra workloads.

Distributed Leadership: Lack of Trust and Heterogeneity Might Result in Marginalization
Distributed leadership have hardly been able to prove itself as a trust building measure between the leaders and followers, as claimed by many scholars. Lack of mutual trust may result in much resentment not only between leaders and followers but also among the different groups of followers. It may even lead to inner circles being created to promote vested interests. Therefore, distributed leadership can prove to be very challenging in absence of proper trust building measures (Harris, 2013).

The given narrative amply suggests that there was complete lack of trust not only with the author but also with other teachers. Additionally, leadership is selectively awarded to individuals based on their ethnicities or racial backgrounds. These teachers belong to a certain background and are considered privileged based on their ethnicity as natives. They are given a preferential treatment and assigned leadership roles. In the author's case, she was discriminated for quite long, only to be rewarded with a leadership role that gave her only limited powers. These restricted leadership powers could be exercised only relating to student matters and had no additional benefit on resources both educational and or financial. Evidently, credentials and academic accomplishments do not matter, and cultural background and ethnicities play much larger and important part in getting leadership roles.

It has also been observed that formal leadership may be reluctant to make the most of the heterogeneity of teachers present in any institution. This may lead to failure in maximizing the diverse potential present in their followers. Empowerment results when followers are assigned or allowed to take on leadership roles based on their unique abilities and potentials. On contrary, the leadership may sometimes totally overlook or disregard this heterogeneity based on their prejudice towards certain nationalities or ethnicities (Lumby, 2013). The narrative substantiates this argument. It is evident from the author's example where leadership was selectively awarded to individuals based on their linguistic, cultural, or racial backgrounds. As is evident from the narrative, the author was prevented from taking on the role of coordinating the unit because the leadership believed that she didn't fit in the role owing to her background.

Heterogeneity can bring about much positivity and empowerment for individual teachers giving them the right tools to improve the organizational performance associated with distributed leadership. However, individuals work in different work environments that are constrained due to their gender, racial and or cultural bias (Acker, 1990). Furthermore, distributed leadership doesn't assign individuals with new roles but delegates the same responsibilities but under a new pretense.

Repeatedly, the author was deceived to take on new roles which were just added responsibilities with no adequate compensation or title for her academic growth. She was not given any additional powers, but the same roles were reassigned with restricted access to power or resources. Also, the gender, race, or ethnicity free institutions, that supporters of distributed leadership present, do not exist. The author was repeatedly discriminated on these grounds.

Distributed Leadership and Professional Bullying and Academic Exploitation
There is evidence of distributed leadership leading to professional bullying and unaccounted responsibilities for teachers. Teachers aren't given any relief from additional responsibilities leaving them overloaded and overstretched to their maximum capabilities. This can be emotionally draining and mentally taxing, leaving no space for personal or academic growth or for teaching duties. In the author's case, she was completely overwhelmed with unsolicited roles which kept her busy even off campus. Such roles were unaccounted for and not a part of the teaching contract hence unpaid. This is an example of organizations forcibly pushing gullible teachers into accepting roles that are not credited with any financial or academic compensation. Hence caution needs to be taken while implementing distributed leadership (Hargreaves, 2008).

Such conditions of professional bullying and academic exploitation can lead to epistemic injustice. Supporters of distributed leadership forget that inclusion and equality are principles that need to be exercised in schools and institutions to authenticate the principles of social justice that accompany distributed leadership (Lumby, 2013). This however is not the case, as is evident from the author's narrative where she had to struggle for years before securing a full-time job. Besides, epistemic injustice may take the form of testimonial and hermeneutical injustice. The narrative confirms how individuals and followers of leaders can be discredited for their knowledge because it comes from a certain background. The prejudice is too strong to accommodate heterogeneity in leadership roles. Persistent professional bullying can be damaging to self-worth and self-confidence of involved teachers.

Distributed Leadership and Accompanying Epistemic Injustice
The above-mentioned episode where a colleague humiliated the author with rude comments about her nonnative status should have been attended by the leadership. On the contrary, little or no

action was taken against the mentioned colleague for being rude to a fellow colleague. This deserved attention of the leadership according to the policies of the institution, too. The author was attacked for her nonnative accent and pronunciation making it look like a native prerogative to teach or communicate in English. This is far from true, as there's no one accent even among native speakers of English. Today, there are more nonnative speakers of English than native speakers. It is all about intelligibility rather than accent or pronunciation. However, through this incident the author's native colleague tried to devalue her existence and credibility by making such disparaging remarks. As Miranda Fricker asserts that testimonial injustice may result from a prejudice that could be caused by a deflated credibility given to a speaker's word or knowledge (Fricker, 2007). Such an episode stemming from testimonial injustice is not a lone case, as these incidents are quite unchecked and widespread in the region.

Distributed Leadership: Accompanying Hermeneutical Injustice and Systemic Injustice
Distributed leadership may cause hermeneutical injustice to individuals in the researched region where they are constantly exposed to such discriminatory and humiliating behavior that may cause low credibility being assigned to them as potential knowers (Dunne, 2020). In the above narrative, constant exclusion from leadership roles in the beginning of the author's career made her suffer from deflated credibility and low self-esteem. Lack of access to resources may lead to marginalization as was evident in the author's case where she was overburdened with additional roles but deprived of resources or restricted from taking decisions. This, as Dunne (2020) points out, can be damaging and stultify academic and personal growth of an individual forcing him or her to undermine their educational background, credentials and academic knowledge.

Epistemic and systemic injustice may also wreak havoc and thrive under the protection of distributed leadership. It may give rise to the inner circles that promote and protect individuals favored by formal leaders. This kind of situation arises when certain individuals are promoted or given undue access to resources as compared to more eligible candidates. The author was marginalized for being a nonnative and belonging to a certain ethnicity that couldn't be assimilated into the privileged community of teachers. Additionally, the agenda of the institution might have a conflict with individual followers under systemic injustice. This may lead to silencing and alienation of a certain community of teachers due to the internal politics of inner circles (Lumby, 2013). The above mentioned narrative is an example where the conflicting agenda of the institution may lead to marginalization of individuals due to differences in their cultural or educational backgrounds not aligning with institutional agenda (Tian and Nutbrown, 2021).

Distributed Leadership: Gap Between Educational Theory and Practice
The knowledge and resources of teachers can also be exploited by formal leadership, as mentioned by Meng Tian and Graham Nutbrown (2021) in "Retheorizing Distributed Leadership Through Epistemic Injustice". When leaders create informal leaders, it is not clear who will get an opportunity to demonstrate their expertise and whether they will be given a fair treatment (Tian and Nutbrown, 2021). Too much power is vested in formal leadership that constrains the informal leaders in preforming to their maximum potential. Epistemic injustice may stem from such unjust and inequitable situations where teachers are awarded leadership roles but are restricted and constrained owing to their cultural, linguistic, or educational background. Also, a situation may arise where too many informal leaders have conflicting interests leading to an unhealthy work environment. Additionally, informal leaders may have restricted access to resources and can take decisions only related to student related matters (Tian and Nutbrown, 2021). Teachers in the researched region, as is clear from the narrative are usually not allowed to take any decisions except

related to students or teacher relevant issues, with very strict supervisory control from formal leaders (Tian and Nutbrown, 2021). This form of distributed leadership then may turn into a farce.

The narrative described situations where formal leaders felt insecure and restricted the informal leaders or individuals from demonstrating their professional skills and academic expertise. The conflicting interests of fellow colleagues for leadership positions created unhealthy and uncomfortable situations leading to much hostility rather than collaboration. The episode where a native speaker humiliated the author, as she couldn't accept leadership role from a nonnative owing to her bias and prejudice, was allowed to happen because the school leadership was not aligned and awakened to teacher goals for self-esteem, self-actualization, and professional growth. The long-term planning of the institution did not include teacher goals leaving individual teachers demotivated to strive for success and achieve goals set by the school. There was no alignment whatsoever between teacher goals for professional success and the school set targets.

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

Distributed leadership is not a panacea for all problems despite the vast literature available that points in that direction. Distributed leadership if followed in essence, can contribute positively for creating more responsible roles and balanced opportunities for all followers irrespective of their race & gender. According to Alma Harris, 'Distributed leadership is not a panacea; it depends on how it is shared, received and enacted' (Harris and DeFlaminis, 2016). It needs to be explored under the lens of epistemic injustice.

In this assignment, the author has examined and investigated various studies on distributed leadership critically. The supportive literature has been carefully selected to reveal the gaps between educational theory and practice and contributes to the perspective being explored in this paper. Through a reflection on various events in her professional life, the author explores distributed leadership with a critical lens. Distributed leadership and its implications have been explored in practical educational settings to reveal the gaps between theory and educational practice in the leadership practices and work culture in her region.

There were some limitations to the study, as the researcher depended entirely on personal narrative to prove the context of the study. There are limited or restricted resources and research findings available in the mentioned region and on the concerned topic. Additionally, there is restrictive culture that prevents discussions on the concerned topic. As is the practice in the researcher's context, achievements of professionals from certain ethnic backgrounds are discredited, and they are thus wronged for knowing. This kind of epistemic injustice prevents educators to come out with their social experiences and further impedes relevant research in the mentioned region. Additionally, instructors are overburdened with additional duties without due compensation under the guise of distributed leadership. Many times, such practices are supported at institutional and or systemic level and could thus hamper responsible and effective enquiry and impede critical thought and reasoning. As Dunne puts it "Epistemic injustice denotes two distinct yet related forms of injustice which, depending on the situation, undermine, undercut, disvalue, curtail, exclude, outright dismiss, or, in some cases, gaslight a person/or persons in their capacity as potential knowers" (Dunne, 2020, p.2)

We would have to reset the theoretical background of distributed leadership to align it with educational practice to achieve the maximum potential derived from it. It can be employed effectively if followed in true spirit as a heuristic tool rather than as the 'only recommended

solution'. There's no denying that distributed leadership offers a great potential for organizational change and development (Stoll and Seashore, 2007). It can help organizations achieve their current and future goals if there is alignment of these goals with those of the academic staff. Also, it promotes for democratic set up of an organization.

However, as discussed earlier, distributed leadership should be exercised with great caution. There is enormous responsibility on the formal leadership to create conditions in which distributed leadership can flourish, thrive and facilitate the accomplishment of the diverse potential to meet the goals of the organization (Harris, 2008). There are considerable challenges in its implementation, as schools or organizations can be quite inflexible in their approach and may hinder or create obstacles in the implementation of distributed leadership and the new ways of order it brings (Harris, 2008). With due diligence formal leaders can restructure, realign, and reorganize leadership roles to maximize the diverse potential present in individual teachers.
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Implementation of distributed leadership calls for a major change, as it means there will be a big shift from one person leadership to group or social leadership. In addition, distributed leadership needs a lot of caution from the formal leaders to build the required cultural conditions and major routine structures that will facilitate smoother functioning and implementation of distributed leadership. Positive environment would have to be created to exploit the diverse potential existent in the future leaders of the schools. And for this a flatter structure would be the need of the hour rather than the top-down model where there is a leader-follower relationship. Finally, it is important that organizations are ready for this kind of change before implementing it (Harris, 2008).

Although the formal leaders have a heavier responsibility to ensure the marginalized community of teachers feel secure, but it is also a collective responsibility of all the individuals to ensure and provide a healthier environment for epistemically marginalized leaders (Medina, 2012). The hermeneutically marginalized communicators too need to understand that their failing is not due to subjective failing rather it is owing to the bias of the hearer. This would be possible only if the right structures and tools are in place to ensure such hermeneutically just conditions prevail. Therefore, the school leadership has a responsibility to investigate and find out if there are teachers who are hesitant to share knowledge owing to hermeneutical marginalization or those who face testimonial injustice (Tian and Nutbrown, 2021). Equally important are trust building measures to ensure individual teachers feel safe while contributing to shared knowledge. Mutual trust will also guarantee equal access to resources for all irrespective of their cultural, racial, linguistic, or educational background.

Regulations and guidelines to support decision making on matters of relative importance will guide whether decision making should be dependent only on solo leadership or group leadership. This will not only promote more democratic system of sharing knowledge and resources and decision making but also encourage alignment of school goals with the academic and personal goals of the concerned and marginalized group of teachers. It is crucial and important to mention that communication barriers should be eliminated if decision making is to be collectively shared by all. It will allow for epistemic justice and ensure a fair involvement from all the contributing groups (Tian and Nutbrown, 2021).

We can conclude with this knowledge that distributed leadership is not a panacea or a "one size fits all" form of leadership practice (Fletcher, 2003). It can be the transformation that will improve

organizational performance but not without evident challenges of epistemic injustice that need to be taken care of if we do not want marginalization of teachers in the name of social leadership. With due diligence of formal leadership and change in school culture, the evils of testimonial and hermeneutical injustice can be eliminated to ensure fair involvement and contributions from all. Distributed leadership does offer a positive change and a new way of thinking that can guarantee social justice but not without the potential risks of epistemic injustice lurking around (Spillane, 2005). Hence the distributed leadership model needs further research before it can be considered an ideal model to offer us a new beginning and start for a transformative change. The role of formal leadership will be crucial and play an important role too if distributed leadership is to be considered a recommended practice in times to come.

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