



Teaching Model of Education Management through Google Classroom: The Trend of “The Kaizen Model”

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Abstract: The incorporation of technology in education, notably through platforms like Google Classroom, has prompted significant changes in teaching methods. This includes adopting the Kaizen philosophy, which prioritizes continual improvement through small steps. This article examines how this philosophy intersects with Google Classroom, highlighting its importance. This research explained the trend of “The Kaizen Model” by using bibliometrics mapping. This study aims to analyze students' perception of the technical, process, and evaluation learning of the Teaching Model of Education Management through Google Classroom. The research method used qualitative research. The research method was a qualitative approach through VOS viewer. The object of the research was students of *Philippine Women's University* who participated from various countries in the world. The instrument used questionnaires distributed via the website. The finding shows that students' perceptions of technical indicators in the Kaizen Model learning are positive. Students' perception of learning process indicators in the Kaizen model learning on average is positive. Students can understand the Kaizen model learning materials through discussions and communication between lecturers and students goes well. Students' perception of evaluation indicators in the Kaizen Model learning on average are positive. The intense participation was well received by the students in the pilot courses, which allowed for improvements in areas like course ideas, course content, presentation style, and topic or detail selection. The study contributes to science for developing the concept of Kaizen through the education management department.

Keywords: education, teachers, teaching, the kaizen model, students, technology

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INTRODUCTION

Higher education institutions (HEIs) now place a greater emphasis on quality management as proper practices are consistently required by educational rankings and accrediting criteria (Anzehaie & Bai, 2013). A strong management system is required in an educational organization to make sure students receive the support they require in an attempt to raise the standard of educational services that can keep up with the advancement of digitalization. The SNI ISO 21001:2018 standard was established by the National Standardization Body (BSN) (Kurniati, 2014). Therefore, every educational institution aspires to increase the caliber of its graduates and generate graduates of high caliber in the sense of having accomplishments, both academic and extracurricular. Schools are supposed to raise the caliber of graduates who attain high academic standards. The community will be satisfied with the educational process the school has set up, the public's faith in the institution will increase, and the school will be highly sought after by the community if it produces graduates of high caliber. Of course, people take into account a number of factors while selecting a school. One of them is how universities develop graduates of high caliber.

Many of the metrics that are given are measured and changed according to the Kaizen concept. It is challenging to come up with a precise scientific definition of Kaizen because it can mean "a change to being good or better." This ideology promotes shared awareness among workers in the production sector to continuously reflect on their individual activities and processes as well as the larger context (Arbaugh, 2008). Finding strategies to improve without regard to organizational structures or the development of improvement programs is the objective (Akyol & Garrison, 2008). This article outlines how the operational level of this philosophy of modest steps can likewise be used in university teaching. Going to the "place where the action takes place" (Japanese: "Gemba") for process assessments is one of the key challenges in establishing quality management and continuous improvements. So, the greatest place to assess teaching quality is in the classroom.

One of the main focuses of service operations management is the monitoring and control of service quality. These ideas can also be applied to institutes of higher learning. The Kaizen model, which is used to evaluate the effectiveness of service processes, is one of the most widely used tools in service operations management. Recently, it was modified to assess how students feel about university services. And then, a broad

perspective that takes into account various satisfaction factors besides course quality. Customer-centricity is an essential paradigm for the continual course improvement discussed in this essay. An alternative strategy sees students as clients of university operations (Alavi & Taghizadeh, 2013).

The era of globalization has begun, and in developed countries, there is now rivalry for the creation and application of new technology (Alavi & Taghizadeh, 2013). The best technology mastery strategy for developing nations is to increase absorption capacity through technological transformation initiatives—learning, adapting, and even upgrading the current technology—to gain a competitive advantage. One of the most effective ways to learn how to use technology is through education. Despite the positive potential of online learning, careful planning is always required. Because learning would undoubtedly not be as effective without proper preparation (Alsharbi et al., 2021). The ready category is shown by the examination of e-learning implementation readiness. However, there are still some areas that require improvement, such as in technology and innovation as well as in lecturers' and students' self-development (Adugna, 2014).

To boost the level of readiness to use e-learning, researchers also recommend that lecturers and students receive e-learning-related training. To keep their expertise current with the times, teachers should often participate in training connected to learning media. Education is the process of molding a person via lifelong training and proper guidance. The Philippine Women's University, or PWU, is a non-stock, non-for-profit, and non-sectarian educational institution that has received legal recognition under Philippine law. Francisca Tirona Benitez and six other women, including educators and civic rights activists Clara Aragon, Concepcion Aragon, Paz Marquez Benitez, Carolina Ocampo Palma, Mercedes Rivera, and Socorro Marquez Zaballero, founded the Philippine Women's College on June 9, 1919. Paz was the first president of the college. Women's rights and empowerment began to take hold in the public mind with the establishment of women's suffrage rights in other countries, particularly the United States. The institution previously exclusively offered primary and secondary education. Later additions included philosophy, trade, and education. It held the distinction of being the first private educational school to achieve so in 1922 thanks to the presence of a student council. It obtained official recognition as the first women's university created by an Asian in 1932. The essential values of the PWU are promoted by a curriculum that emphasizes comprehensive character development, cultural and national heritage preservation, family unity, ethical professionalism, and service to the country.

The shift in technology, existing legislative frameworks, the telecommunications infrastructure, and a lack of human resources are the main barriers to integrating technology-based education in the Philippines. We are all optimistic that this problem can be overcome with the development of more accessible, cutting-edge telecommunications (Balch, 2014). So, Teachers adopt a perspective that puts their interests and perspectives first, which causes them to put pressure on pupils to act, think, or feel a specific way. Teachers may use a variety of methods to exert pressure on students, including some that require external control, such as punishment, screaming, intimidation, and contingent rewards (Ateh & Ryan, 2023; Javier et al., 2023; Joya et al., 2023; Marone & Heinsfeld, 2023; Srirug et al., 2023). Few individuals in the Philippines use computers. For this reason, it is essential to take into account internet access without a home computer. It is important to increase internet connectivity in public spaces like campuses, schools, and internet cafes. If all technology requirements are completed, distance learning, also known as e-learning, is permitted at the Philippines Women's University (PWU). As a result, implementing Google Classroom is one way to overcome the difficulties in creating e-learning in the Philippines. The Philippines is presently lagging behind developed nations in terms of incorporating technology into education (Ames, 1992). Using Google Classroom in an island nation makes a lot of sense as it is currently one of the strategies to improve education in the Philippines. The disadvantage of using Google Classroom applications is that they require users to have a computer, tablet, phone, or other device with Google Classroom capabilities. Teachers should carefully consider adopting Google Classroom as a teaching tool because not all students have access to a laptop or an Android device. Students who own cell phones are expected to use them for academic purposes as well as social networking and gaming for learning. This paper is for bibliometric studies that use Google Scholar as a single database, aside from the well-established and substantial literature. To map bibliographical data on a particular issue, the researchers believe that bibliometric study is crucial. To achieve a fuller mapping, this article aims to augment other essential elements of the teacher and emotion study map (Abebe, 2013). This study, in contrast to earlier ones, focuses on a bibliometric of the flipped classroom educational model by referring to eight factors: publication trends, the most significant journals, citation patterns, author phrases, creator collaboration, cooperative institutions, and country data analysis from authors who publish instructional articles.

METHODS

This methodology makes reference to language that is actually being used, is located and contextualized, and seeks to offer interpretations that are believable and trustworthy. To enable readers to see the interpretative work in action and create understandings based on such effort, statements must be backed by data and instances,

and further developed by cogent and logical demonstrations. This method's definition of demonstration relates to demonstrating how statements and excerpt interpretations are supported by the text. The study aims to explain how discourse functions in contextual environments. The analysis also takes into account how discourse is structured and organized to serve various discursive functions in a variety of ways. This study conducted a descriptive examination using a qualitative methodology. In descriptive research, information was gathered from the supporting elements of the studied object, which were then scrutinized to ascertain their importance. This study employed a systematic and transparent mapping methodology utilizing a bibliographic approach. To gain deeper insights into the subject, a qualitative case study methodology was adopted. It is important to note that the case study serves as the object of research rather than a methodological choice, allowing researchers to utilize various research approaches, particularly in exploring teaching and emotion, including memos. A semi-structured interview was served as the instrument for data collection in this study.

This study was conducted utilizing Google Classroom with PWU students at 1743 Taft Avenue, 1004 Manila, Philippines. Techniques for gathering data included observation, documentation, and interviewing. The two types of data used in this study were primary data and secondary data. The principal's leadership plan to enhance teacher performance and the quality culture was the focus of the majority of the verbal and nonverbal data collected. Documents, images, and objects are sources of secondary data that can be used to enhance primary data. Following data collection, qualitative analysis methods are used to analyze the data. The various early codes might develop into major themes, while others might develop into sub-themes, and yet others might go unutilized. The codes categorize a feature of the data (latent or semantic content) that is interesting for investigation. The most important component of the raw data, or the information that can be evaluated in a meaningful way regarding the phenomenon, is coding. The analysis will take some time to make the data more insightful and interesting (Akhmadeeva et al., 2013). Regardless of how much time is spent researching, it is imperative to develop the habit of providing opportunities for reflection throughout the accessible information and the interpretation process. The data's description comes last.

To avoid too much overlap between themes, it is crucial to think about how it fits into the larger overarching tale that pertains to the research topic or questions. A clear, logical, compelling, non-repetitive, and engaging description of the story the data convey, both within and between themes, must be given (Blumenthal et al., 2005). The majority of the data collected for qualitative research is textual, and it is examined utilizing interpretive analysis. Determining the foundation-wise delivery of the study's E-learning research product is the main objective of the education (Bouton et al., 2001). To look into the publication authorship patterns in the area of literacy instruction. to look into the level of cooperation in publishing and research output; to look into the proportional growth rate and time needed for a digital literacy field to double; Identify the publication and study publication distribution document-by-document. to research the terms related to literacy in education. The publications in the Google Scholar collection are the exclusive subject of the current study. The study's keywords are equality and education literacy: Analysis of Publication Output from 1965 to 2023 using bibliometrics. The selection of the word key, data search, article selection, data validation, and data analysis are the five steps that need to be completed in this study. The selection of keywords is done following the goals of this research, which are equity and literacy in education. while the database continuously gathers and updates data, to prevent daily update bias (Dison & Moore, 2019). The data can then be examined and evaluated when the search results from international publications have been picked and validated. The distribution of themes that are the focus of the study on education literacy and equality, as well as selection and validation, are carried out in the form of diagrams and data tables that are classified into several types, including the development of publications per year, types of publications, core journals, most productive researchers, number of publications based on affiliation, and the country (Eck & Waltman, 2009). The category is then examined in light of how significant this article is. A summary of research trends in education literacy and equality in publications and contexts is provided by the bibliometric analysis. Stakeholders may find it easier to grasp the advantages of information gathering in the areas of equality and literacy in education. This study offers insight into the scientific literature on education literacy and equity and provides evidence of its use by interested parties in the observer community. This study uses the research taxonomy of education literacy and equality to introduce the key themes of the research community.

RESULT AND DISCUSSION

The result of Publish or Perish of the term of the Kaizen Model. The trend of publication in 1965-2023 is about the phases of the systematic process in the Kaizen Model.

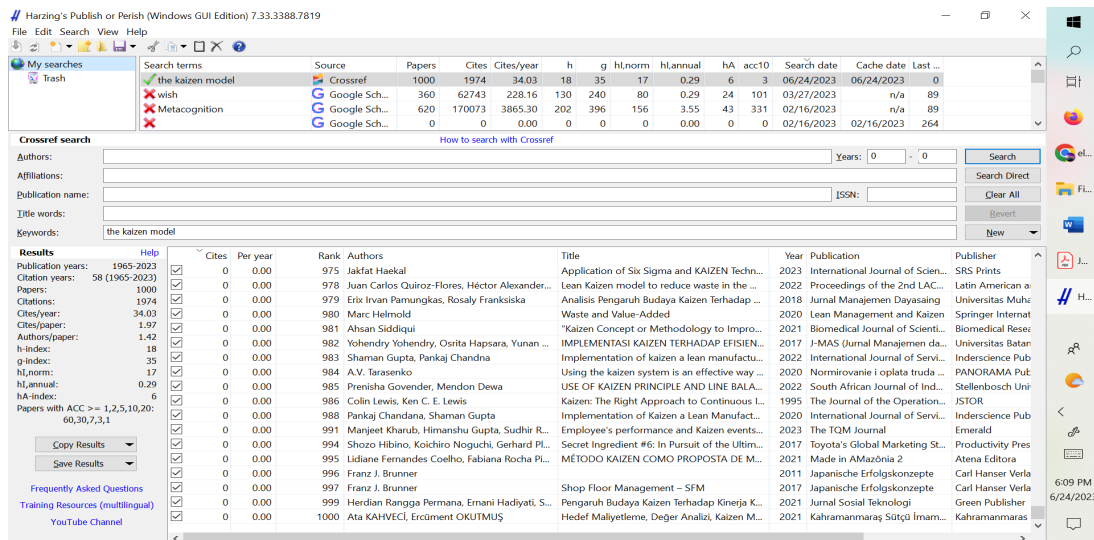


Figure 1. Publish or Perish (the Kaizen Model)

The original search results generated 1000 bibliographies, which were filtered into 980 chosen bibliographies using the publish or perish tool. 20 bibliographies were not chosen because they did not match the set criteria. Figure 1 shows the total number of bibliographies generated by the publish or perish application for each year. Citation 1974, h-index 18, g-index 18, hI, annual 0.29, hI, norm 17 and hA index 6.

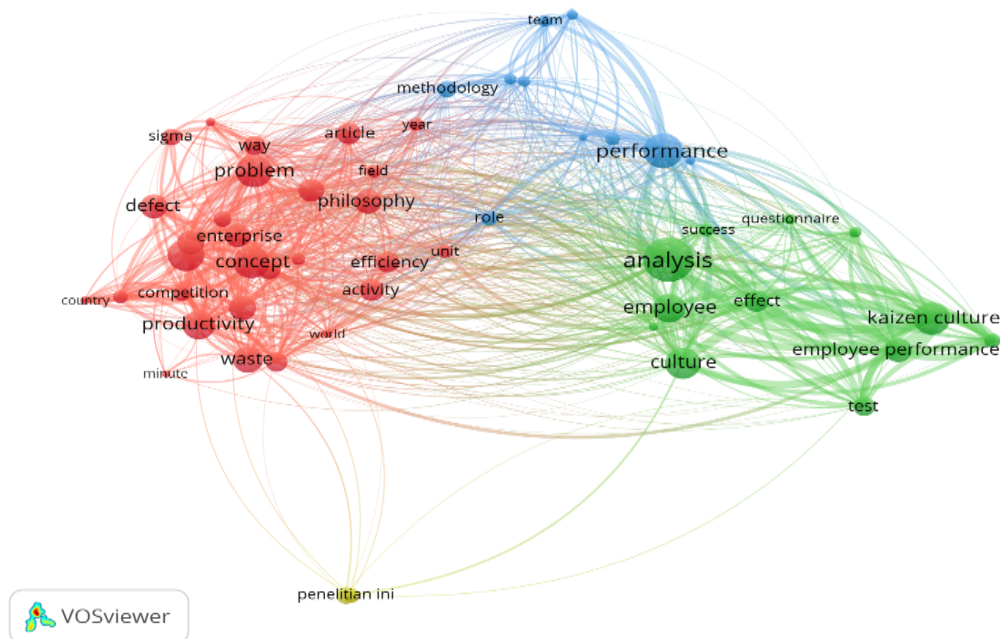


Figure 2. VOS viewer (Network Visualization)

Figure 2 shows the publication in 1965-2023. The construction of the clusters was based on the intersection of articles based on the topics "the Kaizen Model", ". The first cluster consisted of 29 terms. The second cluster consisted of 12 terms. The third and fourth clusters were composed of 10 terms. The fifth cluster consisted of 2 terms. By observing the map presented in Figure 2, it seems that the nine most mentioned topics are: "performance, culture, analysis, kaizen culture, employee performance, effect, questionnaire, test, and success.

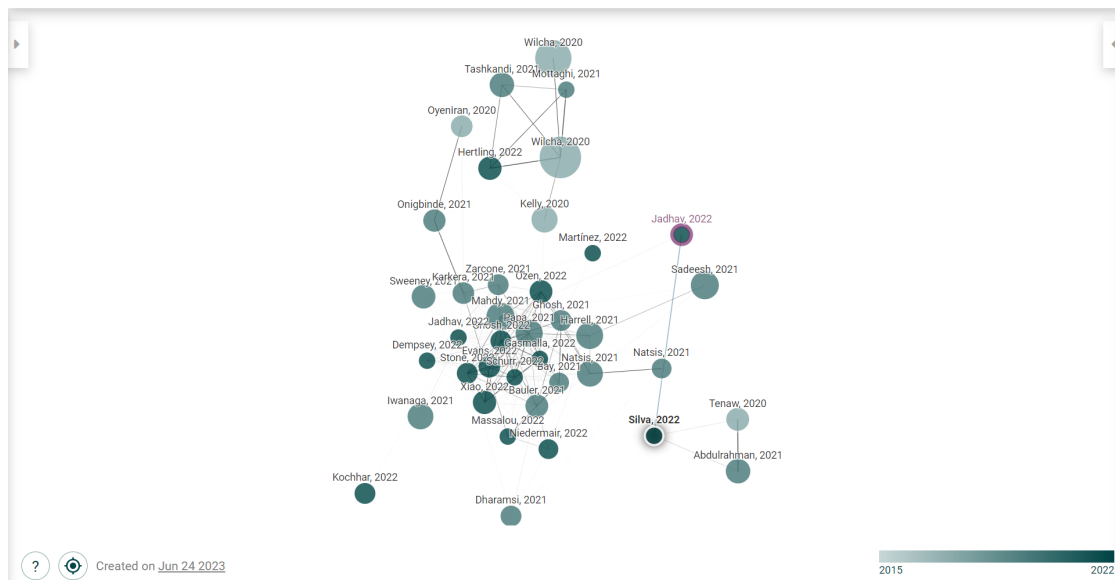


Figure 3. Connected Papers (Authors about Google Classroom)

Figure 3 shows comparable papers in the field based on the average paper entered. Delving into and creating additional graphs for intriguing papers related to the Google Classroom topic will gain a comprehensive, visual understanding of its dynamics, trends, and notable works. This process has helped uncover insights and connections within the subject matter. Figure 4 depicts the most frequently referenced publications about the Teaching Model of Education Management through Google Classroom in 2020-2023. The writings of N Pather which was published in 2020, received the most citations in the first sequence, with 284 citations, and the second place was George J Longhurst, with 281 citations. The third and fourth sequences had a significant number of citations since they were greater than 230 and less than 200, respectively. Meanwhile, the fifth through tenth places also had citations that were high enough by being greater than 54 and less than 100.

CONNECTED PAPERS				
Teaching Model of Education Ma				
Google Classroom as a Teaching Tool for Undergraduate Embryology				
Title	First author	Year	Citations	Graph citations
Forced Disruption of Anatomy Education in Australia and New Zealand: An Acute Response to the Covid-19 Pandemic	N. Pather	2020	284	14
Strength, Weakness, Opportunity, Threat (SWOT) Analysis of the Adaptations to Anatomical Education in the United Kingdom and Republic of Ireland in Response to the Covid-19 Pandemic	Georga J. Longhurst	2020	281	23
Cadaveric dissection as an educational tool for anatomical sciences in the 21st century	S. Ghosh	2017	224	17
Going Virtual to Support Anatomy Education: A STOPGAP in the Midst of the Covid-19 Pandemic	Darrell J. R. Evans	2020	217	20
The Impact of the Covid-19 Pandemic on Current Anatomy Education and Future Careers: A Student's Perspective	T. Franchi	2020	186	16
A review of anatomy education during and after the COVID-19 pandemic: Revisiting traditional and modern methods to achieve future innovation	J. Iwanaga	2020	157	13
An Analysis of Anatomy Education Before and During Covid-19: May–August 2020	D. Harmon	2021	85	18
Communication, collaboration and contagion: "Virtualisation" of anatomy during COVID-19	K. Byrnes	2020	78	14
COVID-19 and anatomy: Stimulus and initial response	C. Brassett	2020	65	11
Adaptations in Anatomy Education during COVID-19	Hyeiljung Yoo	2020	54	12

Figure 4. Top Ten Most Cited Articles

Six authors were significantly associated, according to the results of an author cooperation study using VOSviewer and at least one document from at least 1000 writers. Each donor received a document and five links. Only one cluster (red) of five items was created to represent author collaboration. The author's pattern of collaboration is shown in Figure 5.

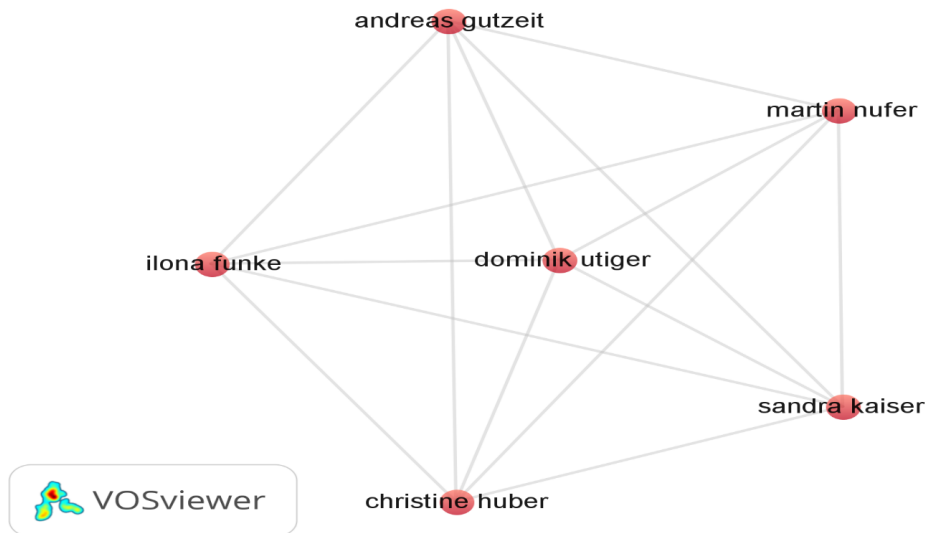


Figure 5. Authors Collaboration-based Analysis

To gauge the prevalence of information and communication technology (ICT), a Likert-style question on the typical frequency of internet access was included in the survey among the survey participants. There were five possible responses, as indicated in [Figure 2](#). A little bit more than (80%) of respondents use the internet several times every day, and nearly (20%) of them do so often. These indicate that every respondent is knowledgeable about using the Internet and web-based programs.

The Japanese word "kaizen" (which means "improvement" or "change for the better") designates a way of thinking or acting that emphasizes the constant improvement of processes in company management, engineering, game development, and manufacturing. It has been used in a variety of fields, including finance, governance, life coaching, psychotherapy, and healthcare. Kaizen, when used in a corporate context and applied to the workplace, is an activity that involves all employees, from the CEO to the assembly workers, and continuously improves all functions ([Mobbs et al., 2007](#)). This also holds for supply chain-spanning organizational processes like purchasing and logistics. Kaizen seeks to eliminate waste by enhancing routine tasks and procedures (see lean manufacturing) ([Richter et al., 2012](#)). After the Second World War, some Japanese companies began using kaizen, partly thanks to American quality management and business experts who traveled to Japan at the time. Since then, it has spread around the globe and is currently used in contexts other than business and productivity ([Abu-Rabia, 1997](#)).

Kaizen is a routine procedure with a more complex objective than merely boosting production. It is also a strategy that, when applied correctly, makes the workplace more humane, gets rid of excess work (leaving it "pure"), educates employees on how to experiment with their work using the scientific method, and teaches them how to find and get rid of waste in organizational procedures ([Lang et al., 2000](#)). The method, taken as a whole, shows a humanistic attitude toward employees and a desire to boost productivity: "The idea is to nurture the company's human capital as much as it is to praise and encourage participation in kaizen activities." It takes "worker participation in improvement" for implementation to be successful. Kaizen involves participation from all organizational levels, including the CEO and housekeeping staff when appropriate, as well as external stakeholders. Individual, system suggestions, small group, or large group formats are all possible for kaizen ([Lang et al., 2013](#)). At Toyota, localized improvements to the workspace or small-scale participation by local groups in enhancing their own working conditions and productivity are the norm. The line supervisor frequently serves as the group's guide during the kaizen process; in certain cases, this is the line supervisor's primary duty. Widespread implementation of Kaizen throughout all business units, resulting in total quality control and the liberation of employees through enhanced productivity efforts made possible by the use of technology and processing power ([Abebe, 2013](#)).

Even though kaizen (at Toyota) typically yields modest gains, a culture of consistently aligned modest improvements and standardization yields significant results in the form of compound increases in productivity ([Fanselow, 1994](#)). The "command and control" of mid-20th century upgrade initiatives is different from this mindset. The Kaizen process calls for making changes, checking the results, and then making adjustments. Small trials that can be swiftly modified as new improvements are proposed will replace complex project scheduling and substantial pre-planning. The ESS group had a training film called "4 Step Improvement" (Kaizen Eno Yon Dankai) that introduced the three TWI "J" programs (Job Instructions, Work Methods, and Labor Relations) before Mellen arrived in 1951. Thus, "Kaizen" was initially introduced to Japan. Dr. Deming received

the Order-2 Medal of the Sacred Treasure from the Emperor of Japan in 1960 for introducing, developing, and implementing Kaizen in Japan. The Japan Union of Science and Engineering (juse) established the Deming Prize annually to recognize contributions to reliable and high-quality products as a result. Florida Power & Light Co (FPL), a US-based company, received the Deming Prize on October 18, 1989, in recognition of excellent accomplishments in process and quality control management.

The Google Apps for Education (GAPE) suite of powerful productivity tools for teachers and students involved in online learning and collaboration includes Google Classroom. The use of this application is required even if it can be downloaded for free. In contrast to the many popular Google products that are available to everyone, such as Gmail, Google Calendar, and Google Drive, Google Classroom is only accessible at GAPE. implementation of network-connected Google Classroom-based e-learning in a single virtual class. Additionally, a teacher can pose queries and design tasks for pupils in Google Classroom (McCormick, 2008). Google Classroom is the platform used to distribute all educational content. The use of Google Classroom is evidence that education is online, or e-learning as it is more often known. Putting Google Classroom into use provides both potential and challenges. The readiness of pupils to engage in online learning is a frequent concern. One of Google Classroom's main advantages is its simple-to-use organizational and time-saving capabilities. Google Classroom is akin to a technological complement to conventional education. The initial phase entails creating classes and involving students. After that, the app's features are examined, including those for providing information, starting chats, sharing, and gathering duties (Arboledas, 2019).

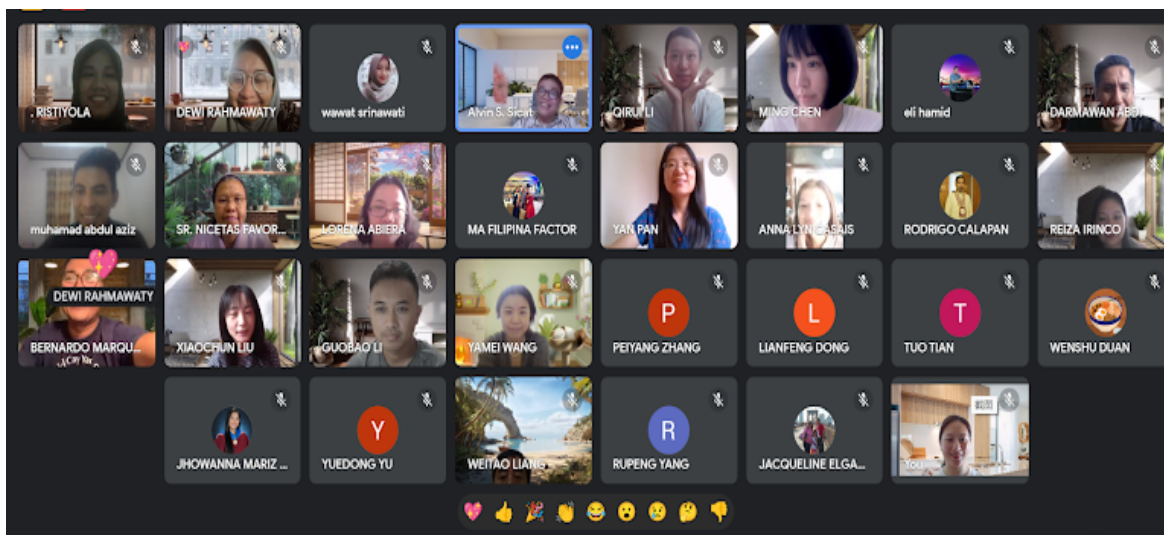


Figure 6. Google Meet through Google Classroom

Figure 6 shows that the best learning opportunities for teachers at Philippines Women's University (PWU) will come from adopting Google Classroom, which is used for computer-based learning in educational institutions. This is one of the e-learning-based innovative learning models since it would enable teachers at Philippines Women's University (PWU) to use Google Classroom to better stay up with scientific and technological breakthroughs. The instructor may use email to alert the students to the commencement of an online discussion or specific online learning assignments. On Google Classroom, students who are taking part in a conversation have the option of publishing directly to the other participants to provide feedback. Students can get fast feedback from their virtual classmates if they need help or want to learn more about a certain topic. The expertise of their online peers is mostly useful for students to obtain through Google Classroom, especially for boosting elements of the social learning education that this software provides. The initial number of course participants (38 instead of 28) and the reduced amount of one-on-one interaction between lecturers and students may be contributing factors. Another option is to modify this strategy to fit any changes or newly built courses. The number of questions was kept to a minimum because there could only be a maximum of 38 students per course to reduce the time needed to complete the assignment and concentrate on the most crucial elements. The one-minute surveys served as an inspiration for the weekly evaluation for this reason.

Most often, the threshold of 15 responses or more was not attained. The organizers acknowledge that their review did not meet the strictest formal requirements for evaluation research (Abdullah, 2006). However, the benefit for lecturers and students is judged to be extremely high and the representativeness is deemed to be high through the design of ongoing feedback and public debate of the quantitative and qualitative evaluation. Kaizen-inspired continuous improvement is also applied to the evaluation survey (Alsharbi et al., 2021). Simple questions utilizing the conventional German school grading scale were initially used, but later regular lectures,

courses, and exam evaluation surveys began to incorporate carefully chosen questions from prominent psychological researchers. The method helps edit text or slide errors and for controlling the level of detail for specific topics (Almomen et al., 2016). The idea of continual course improvement also fosters constant innovation because professors can experiment with new concepts, materials, and methods of instruction while still benefiting from the weekly evaluation process (Srirug et al., 2023). From an institutional standpoint, the lecturers' commitment and involvement are crucial to the success and application of continuous improvement (Yudintseva, 2023). They must be able to adapt to ongoing changes in their routine, be willing to respond each week to evaluation ratings and comments, and be able to persuade pupils to take part in the feedback circle (Srirug et al., 2023). The paramount significance of the material also supports the involvement and empowerment of process staff.

The educators conducting this study felt a particular responsibility to address the standard by integrating culturally competent practices throughout their courses, even though faculty in the teacher education programs are responsible for addressing the standard of cultural competence as the instructors for the classroom management course through Google Classroom (Sujannah et al., 2018). To increase the teacher awareness of their identities, implicit biases, and grasp of what it means to be respectful in the classroom, they purposefully involved them in activities such as an Identity Chart, IAT testing, and a respect matrix (Al-Emran et al., 2020; Alghazi et al., 2021; Almaiah & Alismaiel, 2018). These exercises increased the teacher candidates' self-awareness and exposed their favorable implicit biases. affiliation with particular organizations, which influenced their observations at the end of the course that were consistent with culturally sensitive classroom management techniques (Javier et al., 2023). Even though teacher candidates were wary of the implicit bias findings, they deliberately adopted strategies to address the educational requirements of all students, regardless of their cultural background (Joya et al., 2023). Teachers must be clear about the techniques that might help teacher candidates become more conscious of their identities and how these affect how they view respect and behave in the classroom (Ateh & Ryan, 2023). Given the various viewpoints on respect concerning identity and the significance of identity in cultural competency, they should also incorporate the construct of respect in teacher education courses (Marone & Heinsfeld, 2023). It is essential to involve teachers in activities that will increase their awareness of their identities, especially about the culture that is the root of many intercultural confrontations and the reason why historically marginalized kids often receive disproportionately harsh punishment.

CONCLUSION

The project successfully demonstrates that Kaizen can be applied to university teaching, and the majority of student comments on continuous evaluation have been good. The primary lecturer constantly reviewed the assessment results, the goal of the technique, and suggestions for how to improve the evaluation method with the students as part of the action research process. The students particularly emphasized the potential to affect the course's style and content. Fewer students engaged in the weekly evaluation in future cycles after there was a spike in activity in the first year. Additionally, the Kaizen methodology only considers the viewpoint of the students. A university, as was previously mentioned, is interconnected with numerous stakeholders who have various demands and standards for excellence. It might also be claimed that tangible learning or competency results are more significant than student happiness. Another instrument would be required to assess learning. The study found that teachers' awareness of their own identities and implicit biases as well as those of their pupils could influence their instructional and behavioral strategies for good classroom management. To effectively use Google Classroom, teacher educators must be deliberate in designing pedagogical practices that are likely to engage teacher candidates in reflecting on cultural conflicts that result from diversity gaps.

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