ARTICLE

Resiliency of the Architects in the Academe: A Qualitative Focus on the Virtual Architectural Design (AD) Studio in the Philippines

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ABSTRACT

The widespread impact of COVID-19 greatly affects the deployment of higher education. In the Philippines, with the current physical restrictions, academic institutions have shifted to online learning. However, with limited technological resources compounded by one of the poorest internet connections in Southeast Asia, online learning is a constant challenge to educators in the Philippines. Even more so in architectural design, a studio culture in which creativity and mentorship are the main thrusts.

Current literature on online learning in the country is mainly focussed on general subjects. This paper seeks to define the ways in which the architecture studio culture adapted to the challenges of conducting education online. This research employs qualitative methods that focus on the educators' shift to the online format when it comes to handling architecture studios in the Philippines. In particular, it examines the resiliency and resourcefulness of educators as well as the tools and techniques used. The study hopes to produce a framework for the continued improvement of the online architectural studio that will benefit educators and students alike.

Keywords: Resilience, human capital, virtual design studio, architecture education, Philippines

BACKGROUND

When the news of a novel coronavirus was first announced in early January 2020, very little was known about the disease. It was not long before COVID-19 spread from Wuhan, China to other countries and territories and was declared a "public health emergency of international concern" (PHEIC) (WHO, 2020).

In March 2020, guidelines were issued by WHO, UNICEF, and the International Federation of Red Cross and Red Crescent Societies (IFRC) regarding considerations for keeping schools safe for the benefit of students, parents, caregivers, and school staff. Following this, many countries decided to suspend classroom teaching and shift to online learning.

Following this, face-to-face educational instruction was disallowed in the Philippines from late March 2020 by the Commission on Higher Education (CHED, 2020), and flexible learning was encouraged. At this time, most schools were either in the latter part of the school year (from primary to senior high school levels) or in the middle of the second semester (tertiary level). Some schools chose to end the school year early, while those with online learning management systems (LMS) in place shifted to online learning until the end of the academic year (AY) 2019/20. During the summer break, technologically capable higher education institutions (HEIs) geared up towards adopting a fully online learning format for AY2020/21, whereas others considered modular programmes.

Although the use of e-learning has long been lauded as an important tool for the delivery and enhancement of the learning process (Navani & Ansari, 2016), the shift to a fully online education was still a challenge for numerous institutions and students. This was even more so for courses that required hands-on mentorship and experience such as medicine (Baticulon et al., 2021) and engineering (Khan & Abid, 2021). The study of architecture, in particular the architectural design (AD) studio course was likewise affected by the shift to online learning (Ceylan et al., 2021). Thus, this study investigates how architects in the academe, particularly those who teach at the undergraduate level, have adapted to online teaching and what problems were encountered. This is done with the goal of seeing how online architectural studios can be further enhanced and what support can be offered to architecture professors.

REVIEW OF RELATED LITERATURE

The architecture design (AD) studio

The AD studio is a unique learning environment that is at the core of architectural education. The rationale behind the studio dates back to the atelier and craft-guild systems (Salama, 2015), wherein a mentor oversaw the training and education of the mentees under his care. The system was adopted in Jacque-Francois Blondel's Ecole des Artes (1743), and in the Ecole des Beaux Arts (1817), both located in Paris. Although the Beaux-Arts model has been called outmoded (Deamer, 2020), it remains the basis for many architectural programmes all over the world, including those in the United States.

Architectural education in the Philippines[1] formally began in 1925 with the establishment of the Mapua Institute of Technology by Tomas Mapua. A Cornell University graduate, Mapua was the country's first registered architect and a beneficiary of the Pensionado Programme[2] instituted by the American colonial government. Thus, it can be said that the educational systems established in the Philippines are indirect by-products of the programme at the Ecole des Beaux Arts.

Physical design studios encourage socialisation and motivation, highlighting the significance of these qualities on the ideation and development of the final design of a product (Saghafi et al., 2012). Within the design studio, students learn by developing concepts through active discussion and the exchange of ideas, contributing to further iterations of the original idea. Thus, the architectural studio's pedagogy involves creativity and design-thinking (Emam, et al., 2019). It highly depends upon an interactive environment and creative stimulation. It involves learning by creating and doing—real-time reactions to constructive feedback based on the perception of the formal and spatial elements that are presented.

Issues due to the COVID-19 pandemic

The COVID-19 pandemic necessitated the shift to a purely online-based educational system. The suddenness of the shift to online classes in March 2020 caused most educators to struggle (Alibudbod, 2020; Barrot et al., 2021; Baticulon et al., 2021). Institutions with an existing LMS in place used those platforms, while others scrambled to find other means of communication. Zoom and Google Meet were platforms often employed in communicating with students. Institutions and educators who were not prepared turned to social media channels such as Facebook Messenger to communicate with their students.

It may be argued that distance learning has long been employed as a strategy for continuing architectural education (Tayfun & Arzu, 2012). Likewise, in their paper, Masdéu and Fuses (2017) argued that architectural pedagogy should adapt to societal and technological changes. In particular, they advocated a reconceptualisation of the AD studio to incorporate both distance and blended learning. They added that these methods would promote a more participative approach toward design and help delocalise learning spaces (Masdéu & Fuses, 2017).

The virtual AD studio is an approach which has been implemented before the pandemic. Kvan (2001) wrote about the virtual design studios (VDS) that were conducted by the University of Hong Kong from 1994-1997 in cooperation with other foreign schools. Here, he foresaw that VDS could be an advantageous strategy for architectural education in the future (Kvan, 2001). In their paper, Saghafi et. al. (2012) provided comparative analysis and recommendations on how to maximise both VDS and face-to-face (F2F) learning environments.

Given these precedents, the shift to an online architectural studio should not have been too difficult. However, Tayfun and Arzu (2012) maintain that online studio systems are more beneficial to graduate students[3] and there is no data on how this approach would work with students at the undergraduate level. In addition, the visually creative and collaborative nature of the architectural studio was likewise affected. Undergraduate architecture students require more training and exposure, thus the lack of peer-to-peer learning is one of the biggest challenges in distance learning (Silva & Lima, 2008). To supplement this, online canvases such as Miro, Google Jamboard, and other interactive boards were utilised to share ideas online. However, because of the sudden occurrence of the COVID-19 pandemic and the abrupt shift to online learning, most people found themselves to be under-equipped with the necessary gadgets, applications (apps), and skills to share ideas in real time. Moreover, due to intermittent internet connection, most HEIs in the Philippines advocated a combination of synchronous and asynchronous delivery of lessons. The latter involved an offline instruction method that greatly hindered the spontaneous creative nature of the design studio.

RATIONALE OF THE STUDY

In the Philippines, there is sparse literature that discusses online learning in HEIs. Tria (2020) presented the policies and strategies instituted by the country's academic regulatory institutions to continue education during the pandemic. He discussed the necessity of online learning alongside issues such as limited access to gadgets and financial resources. The poor internet connectivity in the Philippines that lags behind its Asian neighbours (Salac & Kim, 2016) topped these concerns on online learning (Tria, 2020).

There has been discussion on the students' challenges regarding online learning (Barrot et al., 2021), which includes mental health concerns (Alibudbud, 2021). Baticulon et al. (2021) likewise reported that technological, individual, domestic, institutional, and community barriers stand as hindrances when it comes to implementing online learning for medical students in the Philippines. Issues related to the learning environment and learner control were some challenges that were cited by Reyes et al. (2021) in their paper. The latter was brought about by the difficulty in separating online learning with the responsibilities at home, as well as a lack of motivation and distractions stemming from non-academic activities and social media (Reyes et al., 2021, p. 7). A few discuss the difficulties and challenges experienced by faculty members, and mostly highlight the uncertainty of online education (Moralista & Oducado, 2020).

Specific literature on the difficulties in online architectural education examines the situation from the students' perspective (Ceylan et al., 2021; Khogali, 2020). In their study, Ibrahim et al. (2021) reported that although students and faculty were relatively satisfied with how theoretical lecture courses were delivered in an online setup, they were less satisfied in how the AD studio was handled. In particular, they reported that the faculty complaints included lack of privacy as well as extended working hours. Khogali (2020, pp. 56–57) recommended that the online programme be further improved for better absorption of knowledge during online lectures.

To date, there have been no studies that examine e-learning from the perspective of architecture instructors in the Philippines. This paper analyses the factors and issues that are of concern to local architecture instructors in order to develop a framework to improve online architectural education.

RESEARCH FRAMEWORK

Resilience is a well-known theme which etymologically evolved two centuries ago, from the context of mechanics to psychology and to the 21st-century concepts of disaster risk reduction as well as climate change adaptation (Alexander, 2013). The United Nations Office for Disaster Risk Reduction (UNDRR) provides its formal definition as "the ability of a system, community or a society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner" (UNDRR, n.d.). It is a broad concept which occurs in complex systems and can be viewed at different levels, social contexts, and disciplines, such as but not limited to eco-social, organisational, and individual resilience (Visser, 2021). In the context of education, resilience can be coined as institutional, instructional or academic continuity which is defined as the "capability of institutions and academics to continue delivering learning and teaching following a disruptive event" (Dohaney, 2020). Although it is defined as such, most literature either puts its focus on the learners' resiliency, or on community or organisational scales of resilience. Literature that focuses on human capital resilience is very scarce, particularly on the academics responsible in delivering the AD studios, who are the subject of this research.

In an attempt to qualitatively measure and assess the resiliency of the architects in the academe in the Philippines, the authors of this paper explored a limited number of frameworks that look into the individual

and organisational levels of human capital resilience. Although it can be said that organisational resilience is only a result of the collective capacities of individuals (Douglas, 2021), one framework which can simultaneously assess both levels through a multi-level index stood out and was chosen for this research. It is by Visser (2021), in collaboration with the Antwerp Management School and the human capital firm Randstad, who formulated, for the first time, the theoretical foundations of human capital future resilience comprising 10 elements:

1. **Dynamic employability**–having a culture of adaptability and lifelong learning.
2. **Technological empowerment**–technological know-how that affects or supports services.
3. **Creative adaptability**–ability to improvise and be inventive when coming up with solutions to problems.
4. **Emergency preparedness**–economic preparedness of employees when dealing with emergencies affecting the workplace.
5. **Participative governance**–this is when employees feel that they are heard and respected.
6. **Diversity cultivation**–paying attention to cultural diversity that is more likely to produce creative solutions.
7. **Systemic responsiveness**–refers to the awareness and ability to respond proactively to changes.
8. **Resource efficiency**–effective management and sustainability of a healthy environment.
9. **Well-being orientation**–good and effective application of work-life balance.
10. **Purposeful motivation**–level of employment satisfaction and self-realisation

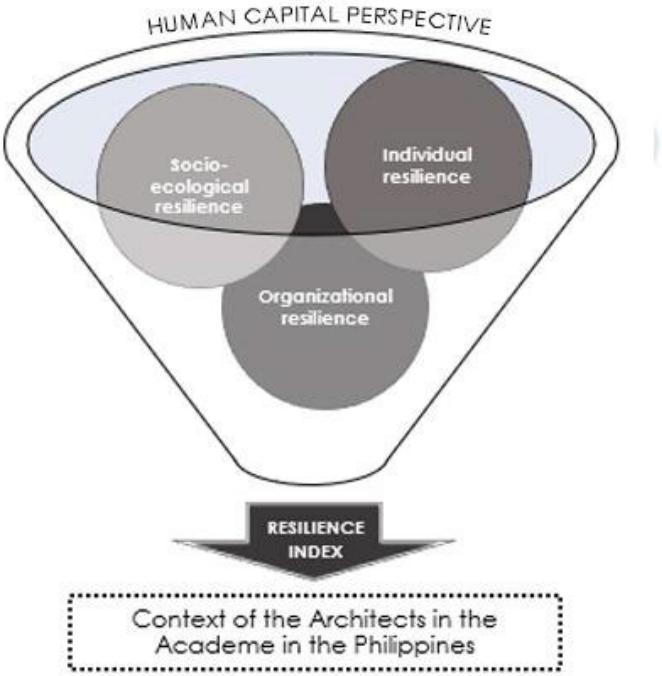

Figure 1. Research framework adopting the Human Capital Future Resilience Index (Visser, 2021) applied in the context of online architectural design (AD) studios in the Philippines.

Figure 1 shows the framework for this research, a representation of Visser's (2021) index which came from an exploration of various related resiliency concepts at the socio-ecological, organisational, and individual levels from a human capital perspective. This future resilience index comprising 10 elements was then applied

in the context of the architects in the academe in the Philippines. They were translated into statements that measured resilience at the individual and organisational levels, which were then incorporated into the survey instrument.

SCOPE, PARAMETERS, AND LIMITATIONS

This research is an attempt to measure human capital resilience and identify the capacities of architects in the academe, especially during the pandemic. This research is timely because in today's knowledge economy, human capital is considered the most important asset (ADB, 2014). Thus, teachers and professors are considered frontliners in the education sector.

This qualitative research was limited to a survey of architects teaching tertiary-level architecture in the Philippines. In reference to the CHED (2006) guidelines, there is a requirement of 10 AD studio courses within the five-year Bachelor of Science in Architecture curriculum. This is in clear cognisance that the heart of academic architectural training lies within the AD studio course. In particular, this study focuses on instructors who have taught at least one AD studio course while fully utilising online platforms during AY 2020/21.

This study does not take into account the semester that required an emergency shift to online learning. In addition, this study does not cover those architects in the academe who held AD studio courses that were conducted through offline delivery modes. These studio courses failed to be delivered online due to limitations of resources and technology. Rather, this study focuses on how institutions and educators have adapted to online learning for AY2020/21. These parameters ensure that the response to online learning is institutionalised, rather than individual. It therefore seeks to holistically define the proactive responses of academics in the field of architecture.

The target sample size is calculated with the formula used for a finite population. It is calculated with the confidence level of 90%; marginal error of 5%; population size of 1,214; and population proportion as 25%. With this, the target sample size for the survey is 175.

METHODS

The study employed qualitative survey questions in order to capture the individual respondent's unique experiences during the online architecture education (Yin, 2010). Each of the 10 elements of human capital future resilience by Visser (2021) were translated into 20 statements (Table 1) to which respondents had to agree or disagree. Half of the questions focused on the individual's capacities for resilience, and the other half touched on their respective organisations' support for resilience. We made sure that different aspects of the online AD studio were assessed—from syllabus adjustments and materials preparation, to technological skills development, as well as the physical and mental wellbeing of faculty members. The respondents were shown the statements and rated them using a scale, ranging from "Totally Agree", "Agree", "Neither Agree nor Disagree", to "Disagree" and "Totally Disagree".

We utilised an electronic survey that ran from 20 September to 2 October 2021 through the Typeform platform. The survey material was pilot tested with a small group before it was released through different social media platforms and e-mail to the Deans of the different architecture institutions in the country. Aside from the 20 statements, the first part of the survey gathered information such as the respondent's age, location, institutional affiliation, and teaching background. The respondents' identities were kept anonymous (they were only asked

to give a pseudonym) with the intention of getting their honest opinions about the topic. In the latter part of the survey, respondents were invited to share their perceptions about online AD studios in the country.

A total of 212 individuals from 48 architecture schools in the Philippines participated in the survey. The survey results were then analysed qualitatively with the intention to "search for patterns, make comparisons, produce explanations, and build models" (Gibbs, 2007, p. 78).

Table 1

Qualitative survey questions

Index category	**Survey question**
Dynamic employability	My professional career as an architect (design, construction, research, etc.) is my key source of knowledge which I share with my students
	My school supports and conducts continuous professional development through webinars and training on a regular basis.
Technological empowerment	I have mastery of the learning management systems (Blackboard, Google Classroom, MS Teams, etc.) used by my school and/or computer programmes useful for online learning.
	My school has a good system for managing big-data files (videos, large format drawings, etc.) and an efficient learning management system.
Creative adaptability	I have well-prepared learning modules and materials that allow me to shift easily from synchronous to the asynchronous method of instruction in case of power and internet interruptions.
	After a year of conducting online learning, our college has established a well-planned syllabus/course programme that is flexible in promoting academic freedom.
Emergency preparedness	I am equipped with the necessary technical tools and equipment, as well as a conducive workplace (at home or personal office) for conducting the online AD class.
	I am receiving technical support from my school whenever I need it.
Participative governance	I can freely express my thoughts and concerns regarding the syllabus content for the online AD class.
	Our college administration consults us on the improvement of the delivery of the online Architectural Design class.
Diversity cultivation	I am able to consult with other faculty members teaching allied professional courses for the alignment of course content.
	Our online faculty meetings and gatherings cultivate a culture of mutual support and consultative leadership.
Systemic responsiveness	I adjust my AD course requirements according to pressing circumstances (reported COVID-19 cases, typhoons, etc).
	I believe that my school can readily cope and conduct the online AD programme amidst the existing pressing circumstances (reported COVID-19 cases, typhoons, etc).

Resource efficiency	I am satisfied with the resources and physical setup that I use to conduct online learning. My school readily provides resources (internet, electricity, medical allowance, etc.) to help me conduct my online AD classes.
Wellbeing orientation	I maintain positive physical, mental, and spiritual health while engaging in online teaching during the pandemic. My school supports its members in maintaining a positive physical, mental, and spiritual outlook while engaging in online teaching during the pandemic.
Purposeful motivation	I believe that the online AD class is still meaningful during the pandemic. I think that the online AD programme is still aligned with the mission and vision of my school.

*The first statement of each category tests individual resilience; the second, organisational resilience.

DATA PRESENTATION

In this section, data gathered from the survey will be presented as graphs illustrating the percentage of responses per criteria. They are then followed by a table that summarises the individual and organisational resilience of Filipino architects in the academe.

Individual resilience

Individual resilience is characterised by acceptance and the favourable perception of an unfavourable reality; having a positive outlook that the endeavour is meaningful; and the ability to improvise with problem-solving abilities (Visser, 2021, p. 254). A strong individual resilience brings positive job satisfaction and avoids mental and physical health problems.

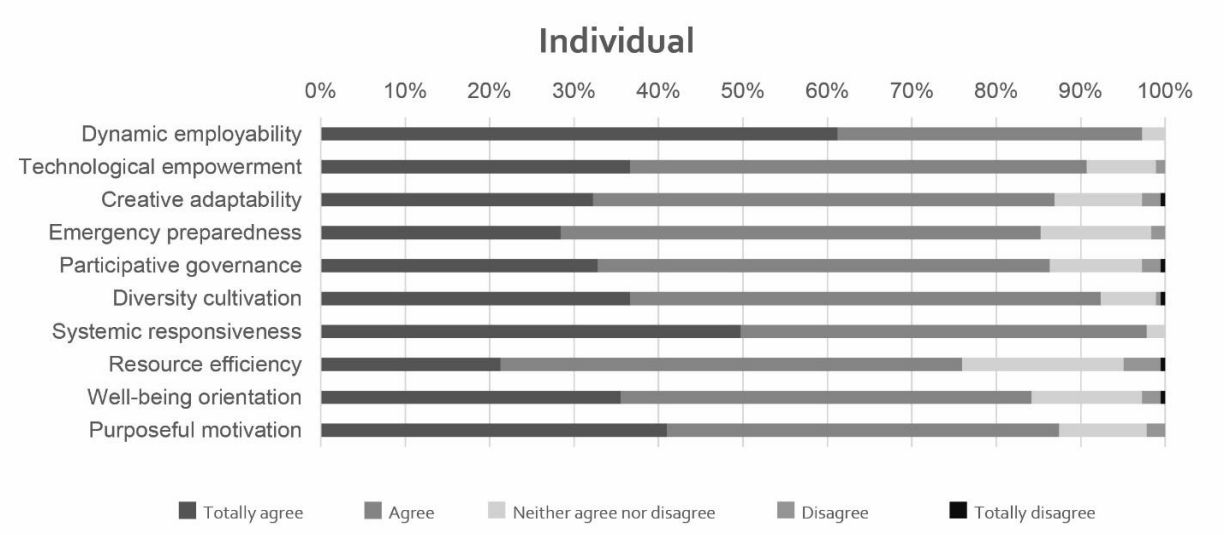

Figure 2. Summary results that show the individual resilience of architects in the academe.

The survey shows that the individual resilience of architects in the academe is high. Most responded that they "Totally Agree" ($\bar{x}$=37.54%) and "Agree" ($\bar{x}$=50.87%) while "Disagree" ($\bar{x}$=1.64%) and "Totally Disagree" ($\bar{x}$=0.27%) remained relatively low.

Among the factors pertaining to future resilience, some stood out as having a positive reception (Figure 2). These are dynamic employability (Totally Agree=61.20%; Agree=36.07%), diversity cultivation (Totally Agree=36.61%; Agree=55.74%), and systemic responsiveness (Totally Agree=49.73%; Agree=48.09%). Dynamic employability shows that faculty members relate their professional practice to the knowledge they share with their students. Diversity cultivation reflects the positive relationship among colleagues and co-mentors with the intention to improve the lessons being delivered. Lastly, systemic responsiveness talks about the sensitivity of the mentor towards the ever-changing pandemic situation, and environmental conditions in the country.

On the other hand, some factors of future resilience received significant negative responses. Resource efficiency (Disagree=4.37%; Totally Disagree=0.55%), participative governance (Disagree=2.19%; Totally Disagree=0.55%), and well-being orientation (Disagree=2.19%; Totally Disagree=0.55%) received relatively high negative remarks. Resource efficiency reflects the mentors' level of satisfaction regarding the resources available to them. Participative governance reflects the mentors' feelings towards affecting academic change in the AD studio programme. Finally, wellbeing orientation shows their individual condition and personal outlook when engaging with and facilitating the online classes.

Furthermore, there are statements that did not receive "Disagree" and "Totally Disagree" from the respondents. These came under factors pertaining to dynamic employability and systemic responsiveness.

Organisational resilience

Organisational resilience is characterised by the way institutions deal with the changes and challenges brought by the pandemic. The respondents were asked about the actions and programmes of their school/university that directly affected the online AD studio. Having a resilient organisation would encourage its members to practice competence, aspire towards efficacy, and achieve and sustain growth (Visser, 2021, p. 254).

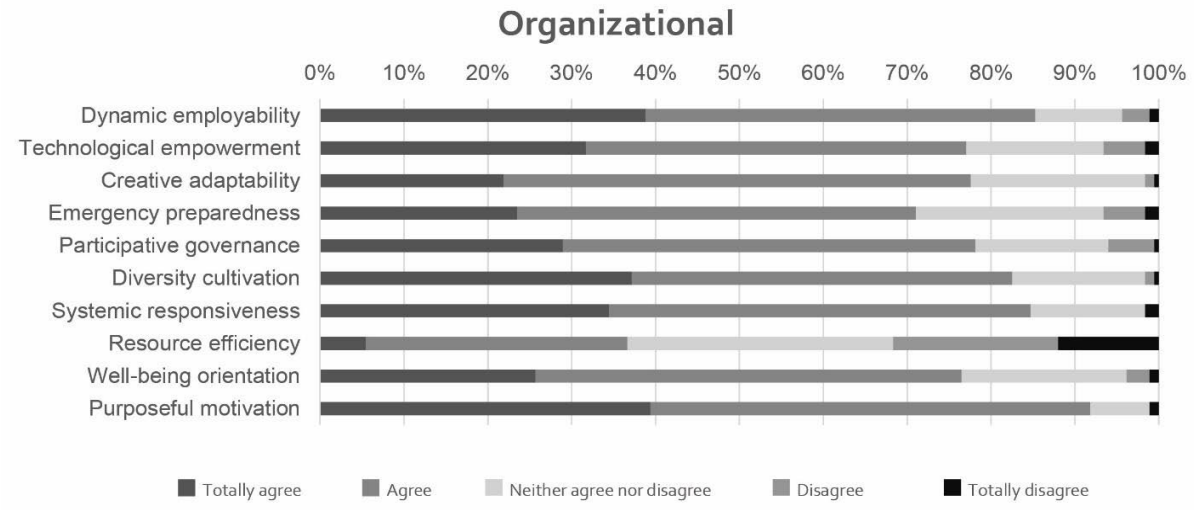

Figure 3. Summary results that show the organisational resilience of architects in the academe.

The survey shows that the organisational resilience of architects in the academe is also high. Mostly responded with "Totally Agree" ($\bar{x}$=28.69%) and "Agree" ($\bar{x}$=47.43%) while "Disagree" ($\bar{x}$=4.32%) and "Totally Disagree" ($\bar{x}$=2.19%) remained relatively low.

Among the factors of future resilience, some stood out for having above average positive responses (Figure 3). These are dynamic employability (Totally Agree=38.30%; Agree=46.45%), creative adaptability (Totally Agree=21.86%; Agree=55.74%), and purposeful motivation (Totally Agree=39.34%; Agree=52.46%). Dynamic employability refers to the continuous professional development the mentors receive from their respective institutions to conduct online learning. Creative adaptability reflects their level of satisfaction regarding the established syllabus/course programme that supports academic freedom. Lastly, purposeful motivation shows the faith that the online AD studio is still significant and aligned with the school's mission and vision.

On the other hand, two factors of future resilience are noted for receiving above average negative responses. These are participative governance (Disagree=5.46%; Totally Disagree=0.55%), and resource efficiency (Disagree=19.67%; Totally Disagree=12.02%). Participative governance reflects their level of satisfaction regarding their involvement with programme improvements for the online AD studios. Lastly, resource efficiency reflects the level of satisfaction regarding the resources provided by the school as a support for conducting the online AD studios.

ANALYSIS AND DISCUSSION

The data collected provided an insight into the online AD studios conducted in the Philippines during AY 2020/21. To further understand the situation, the information shall be compared with one another, in line with the pilot index done by Visser (2021). Furthermore, they will be triangulated with the respondents' comments and insights during the data gathering process.

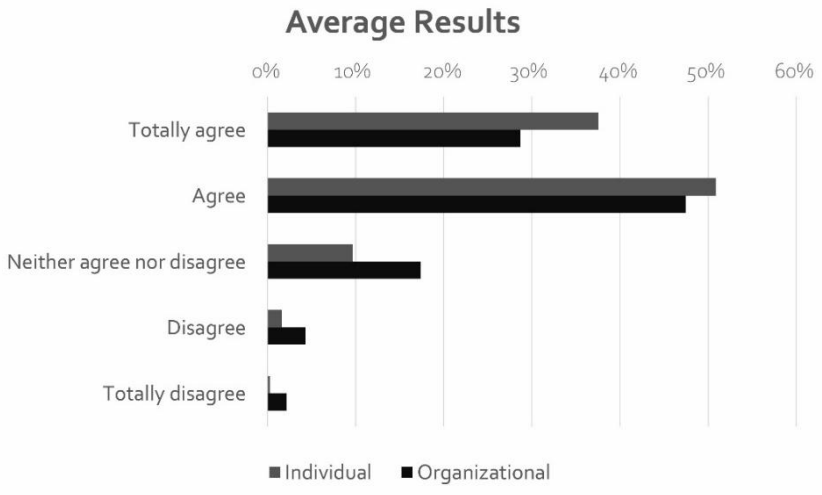

Figure 4. Average results.

Figure 4 shows the average results on the responses between individual and organisational resilience. It shows that the positive responses ("Totally Agree" and "Agree") are higher on individual resilience, while the neutral and negative responses ("Neither Agree nor Disagree", "Disagree", and "Totally Disagree") are higher on organisational resilience. It shows that the resilience of architects in the academe is not dependent on the institutional level, rather it mostly lies with the individuals themselves. This is consistent with findings from

Visser's (2021) pilot study. Furthermore, Table 2 shows that the individual resilience factors are perceived higher than organisational resilience factors, with the exception of purposeful motivation.

The highest consistency between Individual and organisational resilience is on purposeful motivation (4%). Interestingly, organisational resilience is higher on this factor as compared to individual resilience. It shows that respondents still find online AD studios relevant even in the midst of the pandemic. As mentioned by a respondent, "It [online AD studios] is challenging yet fulfilling." Furthermore, another respondent finds it consistent with the main idea of an AD studio where it "demonstrates students to learn in their own manner with self-discipline." This aspect also demonstrates the individual's gradual mastery of the use of online platforms during the first fully online academic year. Individuals and institutions were able to adapt and devise strategies and tactics to work both synchronously and asynchronously while preserving the creative nature of the AD studio.

Table 2

Resilience index findings

Index category	Individual (Totally Agree + Agree) (%)	Organisational (Totally Agree + Agree) (%)	Individual-organisational Differential (%)	Average of Combined Individual and Organisational
Dynamic Employability	**97**	85	+12	**91**
Technological Empowerment	91	77	+14	84
Creative Adaptability	87	78	+9	82.5
Emergency Preparedness	85	71	+14	78
Participative Governance	86	78	+8	82
Diversity Cultivation	92	83	+10	87.5
Systemic Responsiveness	**98**	85	+13	**91.5**
Resource Efficiency	**76**	**37**	**+39**	**56.5**
Wellbeing Orientation	84	77	+8	80.5
Purposeful Motivation	87	**92**	**-4**	**89.5**

On average, systemic responsiveness garnered the highest positive response for both individual and organisational resilience (91.5%). The respondents recognise that, albeit challenging, online design learning requires adaptive changes to provide the best service and education, especially since there are few other options. According to one respondent, "It is [e]specially hard. But I made the necessary steps to make it [much easier] for my students to learn." Although the AD studio shifted to an online format, the content is still the same, albeit with a different mode of delivery.

Lastly, resource efficiency is the lowest on both individual (76%) and organisational resiliency (37%). The said factor also shows the greatest difference (39%), showing the disparity of the individual efforts against the contribution of the organisation on this resilience factor. Others mentioned that they would need more support from their institution on this aspect. According to a respondent, "[just] having a computer and internet connection doesn't make teaching architectural design easier, faculty members had to shell out from their own pockets to acquire other instruments (i.e. drawing tabs for illustrations) needed to make the course interesting." Furthermore, another mentioned that a teacher "needs extra financial support from the school."

CONCLUSION

Adapting to the online architectural studio

In the review of related literature, it was discussed how the AD studio forms the core of architectural education. The studio, being physical in nature (Saghafi et al., 2012), was naturally affected by the shift to online instruction during the COVID-19 pandemic. Instructors who were well-versed in the physical studio pedagogy naturally had difficulty shifting their mindset and strategies to an online format. It is for this reason that this study decided to focus on the resiliency of instructors as they adapted to an unfamiliar format.

Measuring resiliency of architects in the academe

Visser's (2021) framework for future resilience is an effective tool to measure the resiliency of human resources, in this case architects in the academe. With this framework, we were able to holistically evaluate their multifaceted conditions during the pandemic. In future, it is recommended to apply this framework in assessing other aspects of architecture education, such as face-to-face or blended learning.

The study shows that the individual resiliency of architects in the academe towards online learning during the pandemic is relatively positive. This is more visible on aspects such as dynamic employability and systemic responsiveness. Institutions should highlight these aspects as their strengths to be able to maximise them, especially if the school is looking forward to institutionalising online learning for architecture learning, even after the pandemic.

The lowest rating falls on resource efficiency as it reflects on specific factors such as internet connectivity, the mentors' available workspaces, and technological tools and resources. Hence, it is recommended that organisations support their faculty in this aspect since these are the primary tools on providing quality education to their students. Furthermore, institutions should not rely solely on the individual resiliency of its faculty, as this would eventually affect their satisfaction towards their institution.

The need for institutional support

Through Visser's (2021) index, we can say that individual and organisational resilience are equally important. While we say that human capital is an important asset in today's knowledge economy, organisations should recognise their role in supporting their faculty. Challenging conditions, such as the COVID-19 pandemic, promote the rise of latent resources (Jacobs & Visser, 2019) among organisations. It should be emphasised that organisations be proactive in identifying, activating, combining, and recombining these resources as a means of future learning. Organisations should likewise have a clear communication line with their employees to empower them and to discover best practices which can be shared among their members. Institutions should consider investing in the resiliency of the their faculty as this affects the efficacy and performance of the

mentors. The latter affects the mentoring of students, who are the main stakeholders of these educational institutions.

In addition, this research tried to demonstrate how future resilience is very timely especially during the COVID-19 pandemic, and how the lessons from this experience could prepare us for future challenges. The pandemic experience gave many institutions an opportunity to explore and manage alternative and potentially new channels to transmit knowledge. Although there are a lot of challenges, this sudden shift to online learning has also brought opportunities like the possibility of distance learning and creating linkages with foreign institutions using little resources. Moreover, this study highlights the need for institutions to develop academic continuity plans (Day, 2015; Dohaney et al., 2020) in case of disruptions due to crises or pandemics.

In the future, it would be advantageous to further investigate and delve deeper into the other factors that may have an effect or cause differences in individuals' levels of resilience, such as location, age, tenureship, etc. These would contribute to the continuous improvement of the AD studio in particular, and of the architectural profession in general. Finally, this data would greatly benefit from a quantitative analysis to gain additional insights.

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ENDNOTE

1. Technically, there were schools such as the Escuela Practica y Profesional de Artes y Oficio de Manila, founded by the Spanish government in 1880 which produced trained draftsmen. Likewise, the Liceo De Manila was established in 1900 and was the first private school to offer the academic title of Maestro de Obras (Master of Arts).

2. The Pensionado Programme, or Act 854, was passed by the U.S. Congress in 1903. It allowed Filipino students to study in the U.S. at the expense of the American colonial government. This was rooted in pacification efforts following the Philippine-American War.

3. Specifically, graduate students are more adapted to andragogy or independent learning.

ABOUT THE CORRESPONDING AUTHORS

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