

## ALPAS (ALleviating PAndemic Severity) Through Foresight: Capping the Digital Divide

Romeo B. Sotto, Jr. \*, April Z. Luzon , Seth B. Barandon , Jocelyn O. Jintalan ,  
Maria Joy I. Idian , Estelito R. Clemente , Marlon S. Pontillas , Harold Jan R.  
Terano , Juvy M. Bustamante , and Filmor J. Murillo

Camarines Sur Polytechnic Colleges, Philippines

### SHORT REPORT

#### Abstract

Everyone has lost their footing due to the pandemic. The academic community needed to be prepared, leaving professors and students without direction. The goal at the time was to overcome the calamity of educational discontinuity. Sustainable Development Goal (SDG) 4 – The education goal aims “to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” relative to this SDG. With the surge of the pandemic, the digital divide has become prominent, altering the educational landscape across public and private institutions at all levels. In the Bicol region, education was delivered in various forms and variability; predicting the future through strategic foresight could propel the region to a transformed future. This paper discusses in detail the status of education in the region and the possible scenarios using Jim Dator’s Future Scenario Archetypes, Causal Layered Analysis, and Scenario Planning Plus. Four plausible scenarios have surfaced in this paper: STUG-nation of Education, Unstable and Disarray of Educational elements, Flowing-restrained Education, and ORAGON Education. It requires multiple drivers, as examined through the PESTEL, including political, economic, social, technological, environmental, and legal aspects. This study proved useful in crafting and anticipating the future scenarios of Bicol Region’s education. Preliminary as it may, this study highlighted important building blocks of plans through foresight methods. Dator’s framework proved very useful in developing the four scenarios; using other future study tools will further amplify plausible scenarios for the education of the Bicol region and beyond.

#### OPEN ACCESS CC BY-NC-ND 4.0

\*Corresponding author  
rsotto@cspc.edu.ph

Submitted 18 March 2023

Accepted 27 March 2023

#### Citation

Sotto, R. B., Luzon, A. Z.,  
Barandon, S. B., Jintalan, J. O.,  
Idian, M. J. I., Clemente, E. R.,  
Pontillas, M. S., Terano, H. J.  
R., Bustamante, J. M., &  
Murillo, F. J. (2023). ALPAS  
(ALleviating PAndemic  
Severity) Through Foresight:  
Capping the Digital Divide.  
*Journal of Education,  
Management and  
Development Studies*. 3(1),  
13-18. doi:  
10.52631/jemds.v3i1.174

**Keywords:** Digital divide, Education, Foresight, SDG 4

**DOI:** <http://doi.org/10.52631/jemds.v3i1.174>

### 1 Defining Focus

The pandemic has swept everyone off their foot. The academe was caught unprepared, and teachers and students were caught in an abyss – lost and no direction. The hope of overcoming the catastrophe of educational discontinuity was time’s pursuit. Many, if not all, have shifted to distance and online learning. This has accentuated the third-level digital divide, which has disparate benefits of technology usage according to socioeconomic status (Lombana-Bermudez, Cortesi, Fieseler, Gasser, Hasse, Newlands Wu, 2020, p.11). Usage skills involve the frequency, duration, and types of activities performed. To overcome the digital divide, access to technology should be a fundamental human right (Sweidan Areiqat, 2020; Asher, n.d.; Azionya Nhedzi, n.d.; Ercikan et al., 2018; Mae Toquero, 2021; Rofiah et al., 2022; Sweidan Areiqat, 2020). The

digital divide is the access to knowledge regarding the availability of the necessary infrastructure to obtain information and knowledge resources by automated means without losing sight of non-automated means through human communication (Pagán et al., 2018). This definition focuses on the boundary between the availability of communication networks, the means of accessing them, and the elements of their connection to the Internet. The study of Sotto et al. (2021) has posited the possible scenarios of the research culture of a state college, highlighting the potential future of research alongside the digital divide. Further, the study has responded to the call for using a future lens to address factors in the institution and community.

The United Nations (UN) Sustainable Development Goals - 2030 Agenda for Sustainable Development is “a plan of action for people, planet and prosperity.” It comprises 17 Sustainable Development Goals or SDGs. These goals are indivisible and encompass economic, social, and environmental dimensions having the characteristics of being universal, transformative, and rights-based. Sustainable Development Goal 4 (SDG 4) is the education goal that aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” At the regional level, the Bicol region struggles with its coping mechanism of providing quality and affordable education. As cited in the report of Educo (n.d.), using its ‘Education for Human Dignity’ framework, Educo used the lens of education to analyze child rights. The situation of child rights in Bicol is organized in the three dimensions of education as a right.

1. Right to education (access): In Bicol, children are not able to fully enjoy their right to education because (1) there is a shortage of classrooms; (2) high schools are only in town centers; (3) there are indirect education costs; (4) young children are unprepared for formal schooling; (5) children engage in work; (6) schools are not accessible for children with disabilities, and (6) some gender dimensions are affecting access to education.
2. Rights in education (quality): Bicolano children are yet to acquire a kind of education that genuinely respects, fulfills, and protects all their rights as stated in the UN Convention of the Rights of the child because (1) teachers lack in number, training, and incentives; (2) many schools cannot provide a child-centered, conducive learning environment; and, (3) reforms in the curriculum have met challenges in implementation.
3. Rights through education (contribution to the achievement of other rights): (1) Philippine culture; (2) bullying and corporal punishment; and (3) lack of meaningful child participation in school governance and development are hindering education to be a means for children to realize all their rights.

The pandemic has magnified these alarming factors or drivers as it surged all the countries across the globe. With this, it is deemed proper that through a foresight lens, we can prepare the Bicol region for possible future scenarios of bridging the digital divide towards a shared future.

## 2 Environmental Scanning

Upon careful evaluation and focus group discussions conducted, several driving forces have surfaced that root in macro components of the society. These driving forces are significant to the development of possible scenarios. The PESTEL (Political, Economic, Social, Technological, Environmental, Legal) framework was utilized to scan possible drivers.

- **Political.** A political aspect includes government policies and government issuances concerning regulatory and statutory academic requirements; Change in governance due to new leaders (e.g., new administration) was perceived.
- **Economic.** Inflationary measures affecting access to equitable education, financial constraints (e.g., low income), and higher standard of living (e.g., adequate income) serve as the foreground of the current economic situation that the whole country is in.
- **Social.** Social considerations, including demographic data, cultural barriers, career attitudes, lifestyle attitudes, and readiness for technological advancements, were among the drivers

of the possible future education scenarios.

- **Technological.** As perceived, an increased connectivity/bandwidth speed; wider network coverage area of bandwidth services providers; availability of new hi-tech gadgets in the market; digitalization; automation; R&D activities, and technological change are the radicals towards a better future.
- **Environmental.** The Bicol region has a vast terrain. Thus, geographic location, Global warming, inappropriate infrastructure to address the effects of climate change (e.g., drainage system), and indirect environmental factors (e.g., social media) are important considerations.
- **Legal.** Circulars, Labor Laws, Copyrights, patent laws, and CMOs are some legal foundations of social norms and behaviors.

### 3 Sense-making

#### 3.1 Causal Layered Analysis (Reality)

- **Litany or Problem.** *Learning Gap in Digital Education*
- **System.** *Societal Inequalities. (Low-income, limited educational access)*
- **Worldview.** **World of Sana All** (*"Sana all – malakas ang net", "Sana all may gadget", sana all may access.*)
- **Myth/Metaphor.** *"hATING Edukasyon" (Broken Education)*

#### 3.2 Causal Layered Analysis - Transformed

- **Litany or Problem.** *ABC Education (Accessible, Best, Connected) Education*
- **System.** *"SURE-PLUS" Resources*
- **Worldview.** *ICON-nect*
- **Myth/Metaphor.** *ORAGON" Education*

### 4 Developing Possible Scenarios

The Four Future Alternative by Dator (2009):

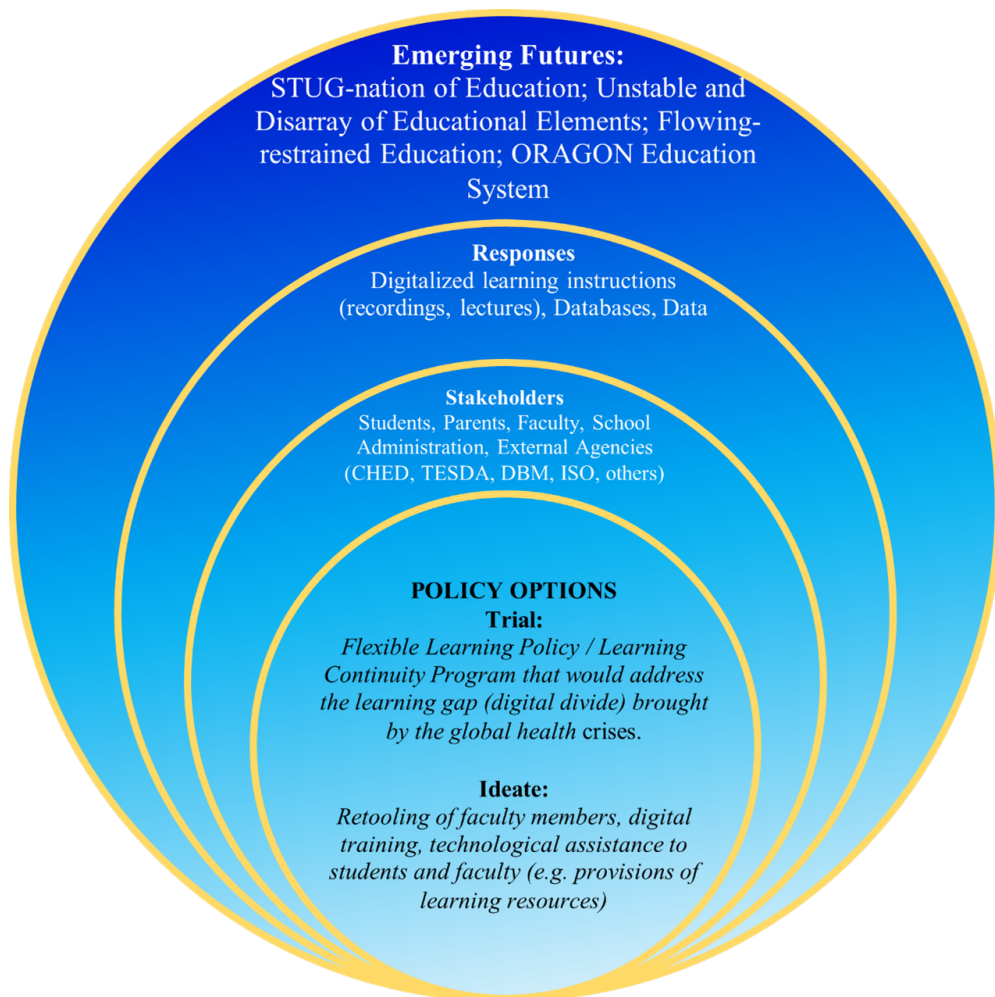
- **Continued growth** - the expected pace that the current development trajectory will continue roughly in the same direction as until now. This is the dominant view that policymakers, urban planners (and the general society) work with. Continued growth mostly refers to economic growth.  
**Digital divide – STUGnation of education.** Countries in the 1st world are now gearing towards Education 5.0. less competent learners, the same teacher quality. No innovation, no continuing professional development.
- **Collapse** - the expectation (or fear) that the current system will regress to a lower level of development due to some unforeseen external cause (or an internal implosion). This can be framed as a dystopian catastrophe but can also be imagined as a (desirable) return to a slower pace.  
**Digital divide – Unstable and Disarray of educational elements.** Line of communication; disruption of progress due to unforeseen events, e.g., calamities or disasters, communication between students and teachers becomes affected since the line of communication serves as the channel for learning to happen.
- **Discipline** - the expectation that continued growth will be either undesirable or unsustainable long term, leading the society to organize itself around a set of overarching values or principles (ancient, traditional, natural, ideological, etc.) to exercise constraint.  
**Digital divide – Flowing-restrained Education.** Prospering, yet we are left behind.

- **Transformation** - the expectation that current behavior, beliefs, or norms will evolve or be replaced by new norms to address some of today's challenges. This is often imagined to be achieved through high-tech developments or spiritual transformation.

**Digital divide – Oragon Education System.** The education system has met and satisfied all the needs of the faculty and students. Everyone has high-end technologies at par, gearing towards Education 6.0. Education resources are available; connectivity has no buffer. All resources are accessible to all.

## 5 Designing Strategies

The wind tunneling method was used to test the possible scenarios. The different drivers for the scenarios are given in Figure 1.



**Figure 1.** Wind Tunneling of the Four Futures

## 6 Monitoring

Using the PESTLE analysis, the following drivers may positively and negatively influence the preferred scenario.

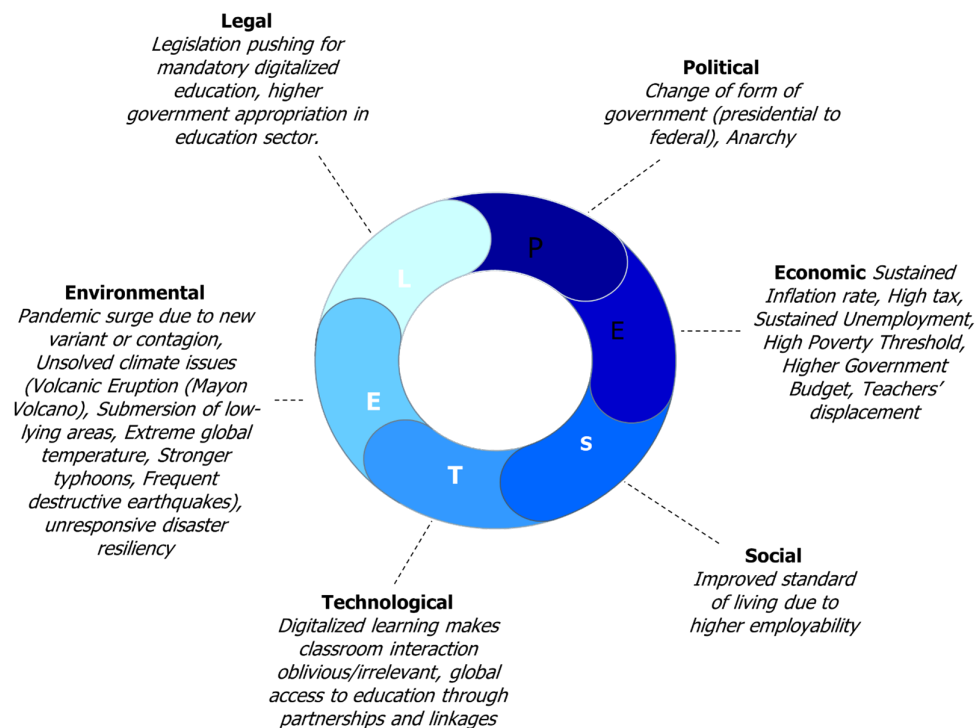


Figure 2. PESTLE Analysis

## 7 Conclusion

In conclusion, the Camarines Sur Polytechnic Colleges, as an institution of higher learning, shall serve as the compass as the region navigates the uncertainty of the future. Through foresight, the institution can determine and locate plausible futures and assess the different drivers that can alter the course toward the preferred future. Moreover, it is deemed necessary to take necessary actions to mitigate negative drivers and heighten positive drivers along the PESTLE Analysis to ensure the goal of the institution, i.e., providing quality polytechnic education for the Bicolanos and beyond.

## References

- Asher, S. (2021). COVID-19, Distance Learning, and the Digital Divide: A Comparative Study of Higher Education Institutions in the US and Pakistan. *International Journal of Multicultural Education*, 23(3), 112–133.
- Aziona, C. M., & Nhedzi, A. (2021). The digital divide and higher education challenge with emergency online learning: Analysis of tweets in the wake of the COVID-19 lockdown. *Turkish Online Journal of Distance Education*, 22(4), 164–182.
- Ballesta Pagán, F., Lozano Martínez, J., & Cerezo Máiquez, M. (2018, October). Internet Use by Secondary School Students: A Digital Divide in Sustainable Societies? *Sustainability*, 10(10), 3703. Retrieved 2023-03-28, from <http://www.mdpi.com/2071-1050/10/10/3703> doi: doi: 10.3390/su10103703

Corresponding author, School of Languages and General Education, Walailak University, Thailand, nr.lailatur@gmail.com, Rofiah, N. L., Sha'ar, M. Y. M. A., Dr., Faculty of Humanities and Social

Sciences, Nakhon Si Thammarat Rajabhat University, Thailand, mohammed\_moh@nstru.ac.th, Waluyo, B., & Asst. Prof. Dr., School of Languages and General Education, Walailak University, Thailand, budi.business.waluyo@gmail.com. (2022, January). Digital Divide and Factors Affecting English Synchronous Learning during Covid-19 in Thailand. *International Journal of Instruction*, 15(1), 633–652. Retrieved 2023-03-28, from [http://www.e-iji.net/dosyalar/iji\\_2022\\_1\\_36.pdf](http://www.e-iji.net/dosyalar/iji_2022_1_36.pdf) doi: doi: 10.29333/iji.2022.15136a

Dator, J., & Dator, J. (2019). Alternative futures at the Manoa School. *Jim Dator: A Noticer in Time: Selected work, 1967-2018*, 37–54.

Educo. (n.d.). Factors in Enabling Rights to, in and through Education: a Child Rights Situation Analysis (CRSA) of Bicol Region PSYCHOSOCIAL SUPPORT AND CHILDREN'S RIGHTS RESOURCE CENTER (PST CRRC) AND FUNDACIÓN EDUCACIÓN Y COOPERACIÓN (EDUCO) Member of ChildFund Alliance.

Ercikan, K., Asil, M., & Grover, R. (2018). Digital divide: A critical context for digitally based assessments. *Education Policy Analysis Archives*, 26, 51–51.

Sotto, R. J., Barandon, S., Bustamante, J., Luzon, A., Pontillas, M., & Terano, H. J. (2021, September). Possible Scenarios on the Future of Polytechnic State University of Bicol (PSUB) – Research Culture by 2030 using Jim Dator's Archetypes of Alternative Futures. *Journal of Education, Management and Development Studies*, 1(2), 40–51. Retrieved 2023-03-28, from <https://journals.cspc.edu.ph/index.php/jemds/article/view/26> doi: doi: 10.52631/jemds.v1i2.26

Sweidan, N. S., & Areiqat, A. (2020, November). The Digital Divide and its Impact on Quality of Education at Jordanian Private Universities Case Study: Al-Ahliyya Amman University. *International Journal of Higher Education*, 10(3), 1. Retrieved 2023-03-28, from <http://www.sciedupress.com/journal/index.php/ijhe/article/view/19546> doi: doi: 10.5430/ijhe.v10n3p1

Toquero, C. M. D. (2021). Academic silver linings in a Philippine State University amid the early stages of pandemic cases. *Journal of Learning for Development*, 8(2), 448–455.