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A National Development Simulation Online to Teach Experiential Problem-Solving

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ABSTRACT
This teaching note outlines an innovative simulation game realized in response to post-pandemic experiential learning needs. The game introduces a fictional African country experiencing a series of political and financial shocks. Students are assigned membership in social groups and must implement the national policies that would improve outcomes for their group and the country. During weekly online interactive sessions, students debate these proposed policies before voting on a collective decision. In turn, that decision leads to the following week's scenario. The game's educational goal is to offer students a platform for analytical and engaged decision-making about real-world challenges through inclusive andragogy. The course is designed to empower self-learning and augment leadership potential for students from developing countries and serves as a meaningful step forward for decolonizing engaged political science education for students globally. Moreover, it transforms distance from a learning barrier to a valuable opportunity for collaborative problem-solving, with contemporary political and economic realities constituting the curriculum.

Introduction

COVID-19 forced university educators across the globe to shift to distance learning in the spring of 2020, seemingly overnight. At the same time that educators were trying to adapt their teaching strategies, the pressing need for inclusive and engaged development studies persisted more than ever in creating the citizens who will navigate and guide post-pandemic societies. International relations (IR), international political economy (IPE), and development studies were more hard-pressed than ever to answer an essential call for diverse ideas in these fields. How can we expose our students to foundational economic theories without inculcating them with Western-focused models? How can we respect varying local contexts and histories while encouraging socioeconomic growth that may be interpreted as exogenous? How can we intellectually equip students to explore development studies while ensuring they have practical and applicable knowledge to *do* development later?

This teaching note argues that the pandemic's unforeseen learning needs presented new obstacles and responsive avenues for growth in teaching development studies—and

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online role-play simulations incorporating contemporary political and economic realities may be a promising step forward in the evolution of inclusive and interactive andragogy. A newly-developed international relations course at African Leadership University in Rwanda, "From Poverty to Prosperity" (P2P), is a term-long online role play game in which upper-level undergraduate students collaboratively rebuild a fictional African country's economy after a series of financial shocks. The experiential simulation aims to bridge the traditional gap between economic and political theory and applied decision-making. Students navigate the complexities of economic theories that they have learned in a prior introductory course to guide this more advanced simulated problem-solving for the Global South. This original course showcases many of the best practices of online learning and innovative andragogy for upper-level undergraduate and graduate students. It fosters student-to-student discussions, individualized learning styles, spaces for diverse viewpoints, and a culture of questioning, while connecting political development content to students' lives, colonial history, and today's world. Importantly, it fosters dynamic analysis of the best real-world responses to social and financial shocks, such as COVID-19, from those best suited to implement lessons from development studies, the students who will be building post-pandemic societies in the future.

From the start of design, the driving question for the creators was not "How can we teach online political science with a less Western approach?" Instead, it was, "How can we teach leading-edge decision-making to help our students positively transform Global South politics and economies one day?" We knew that we needed to design from scratch to avoid common pitfalls in some political science simulations. First, a pressing problem in fields such as IPE is the tendency to promote Northern economic and developmental models unproblematically and, thus, analytically marginalize race and coloniality (Gradin 2016). Second, prior iterations of IPE courses described in teaching literature have attempted to decolonize the curriculum but did not do so with anti-colonialism as the driver; instead, it was more of a filter (Dei 2016). Third, a truly inclusive curriculum replaces colonial notions of "sage on the stage" learning with multimedia platforms for keeping students' voices at the fore. For this reason, P2P integrates the Universal Design for Learning (UDL) components of representation, engagement, action and expression to make the online learning experience and its outcomes more equitable (Kennette and Wilson 2019).

Simulation overview

For the first online meeting of P2P, students receive a background profile on their fictional country, "Anakirfa." Anakirfa is an amalgamation of salient political, economic, and social characteristics relevant in African countries–but these can easily be adapted to fit any regional context. Foundational development theories in P2P draw from African scholars and inform the thematic topic for each week. Each week first has a lecture-style introduction of the topic, and the second meeting is the interactive role-play simulation with a hypothetical scenario based on that topic. These essential concepts may include but are certainly not limited to unemployment, forced migration, environmental management, gender equality, and the UN's sustainable development goals (SDGs). Students share a single class aim starting from the first P2P session: *Determine*

Table 1. Scenario and voting outcomes.

Weekly scenario	Class voting decision
COVID-19 lockdown	Implement a universal basic income (UBI)
Rising poverty rates/worse HDI indicators	Build a major infrastructure project
Refugee crisis	Humanitarian training for refugee camp officials
Police brutality	Create a gender task force
Media censorship	Nationwide street protests
Attempted coup	Social media organizing
Symptoms of the resource curse	Joint-venture agreement for foreign investors

The column on the left shows examples of the weekly challenges to be solved, emerging from the prior week's voting. The column on the right shows which policies students voted for in reaction to those scenarios.

and then implement the best socioeconomic and political policies to achieve prosperity for all Anakirfans within the next 12 weeks.

Students are assigned membership in one of six imaginary stakeholder groups and work collaboratively to rebuild the post-COVID economy of Anakirfa. Students may be politicians in competing political parties, domestic business people, international interests, labor unionists, media outlets, or general population voters—each with conflicting or dovetailing interests. Following the guidance of Asal and Blake (2006), students were also assigned individual role sheets to provide them with information on their particular backgrounds and interests to clarify that social groups are dynamic and heterogenous. The respective roles are crucial to understanding how each student group approaches solving the weekly scenario at the start of each interactive session and the more significant socioeconomic or political challenges Anakirfa faces. For example, Anakirfans proposed solutions to workers' strikes, police misconduct, refugee spillovers, increasing foreign debt, and media censorship during the term-long narrative. The class then voted on which proposed policy to implement (Table 1).

Students debate policy, make persuasive speeches to garner allegiances, and negotiate among themselves in breakout rooms to earn the support of their peers during the voting segment at the end of the 90-minute session on Zoom. Students first enter a breakout room with only the other members of their assigned social groups. Then, after public speeches of policy recommendations, the intriguing segment begins—"wheeling and dealing" in various breakout rooms named for imaginary locations in Anakirfa. For a class of 30 students, there were two public sector rooms (the capital building and a ministry office), two private sector rooms (a telecommunications headquarters and a mining company), and two neutral rooms (a hotel room and a coffee shop). The beauty of this portion is that the students were free to come and go from any room they wished and use any form of communication with their classmates, including private messages. Thus, each week was a fascinating natural experiment to see all the students clustered in one room to hear a charismatic speech or, conversely, silently paired in rooms as they privately exchanged their written plans for Anakirfa (see Appendix 1 for a session guide).

The interactive session culminates in an online poll. First, students vote for politicians to keep in office for the following week and which media sources they trust to release statements that could influence Anakirfan public opinion. Next, the winning political party has its policy recommendations "implemented." This implementation means the facilitator applies the most current understandings of political economy and development studies to predict what the outcomes of these chosen policies would have meant
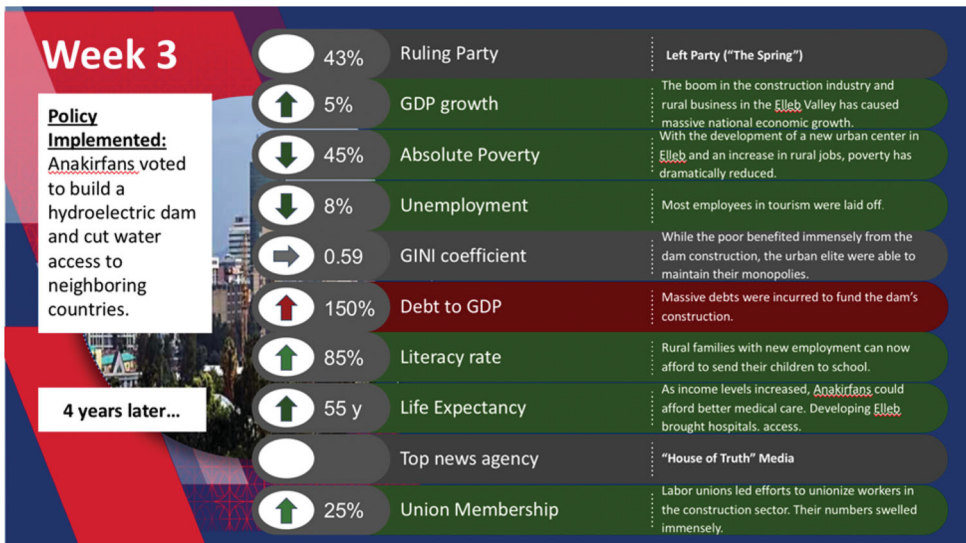
Figure 1. Weekly indicator outcomes. A prior week's policy votes determine indicator outcomes. Thus, every other session attempts to solve political and socioeconomic challenges arising from students' previous voting behaviors the week before.

in Anakirfa based on typical development patterns in prevailing scholarship. Then, the next week, students see these outcomes represented by indicators and have a chance to ask the facilitator why the previous week's decision would have these anticipated effects. In this course, students asked, "Why would raising the national minimum wage increase literacy rates?" and "Why would a buy-back clause in selling a mining concession improve GDP?" This portion of the class was vital for linking theory to practice and case study application (Figure 1).

P2P's dynamism lies partly in the secret instructions each student may receive privately via email from the facilitator. Some students have instructions that they may change political parties, act as a whistleblower, attempt to capture the state, act as a foreign spy, or even disengage from political action completely (see Appendix 2 for a communication guide). Students are also allowed to negotiate informally outside of class time. After voting, they explain their decisions in their weekly rationale assignments. In their written rationales, students clarify *why* they did what they did. They outline why they chose to be a perfectly rational actor in their self-interest or prioritize the social good, or why they emphasized short-term rewards or long-term sustainability. The rationales position them to think critically about why other actors approached the goal differently from them. At the end of the game, there are "winners" and "losers" in the game (an idea that the students seem to love).

Assessments

Raymond and Usherwood (2013) have cautioned against treating assessments as secondary in simulation design, and accordingly, assessment criteria remained vital during all design choices for P2P. Admittedly, assessments were one of the more significant

challenges in creating the game. The pressing concern was how to assign grades to individuals based on participation, critical thinking, creativity, and mastery of content while still encouraging collaborative peer-to-peer learning that felt difficult to quantify. In addition, grades needed to be based, at least in part, on game outcomes to ensure students felt invested in Anakirfa's narrative. Simulation assessments must ensure not only reliability and validity but also accountability in which learning is making sense of new experiences in relation to others (Dolin et al. 2018).

Ultimately, students received two formative grades and a summative one. One of the formative grades (35% of the overall score) was not based on individual submissions but on voting outcomes. Each of the six groups had a single aim—win elected office (political parties), raise GDP (domestic business), create a healthy level of Anakirfan debt (international interests), increase labor union membership (labor unionists), be voted the preferred news source (media outlets), or lower poverty rates (general population). This weekly formative grade depended on whether a group's relevant indicator score went up, remained the same, or down. Thus, all students in a single role play group received the same indicator score each week. The second formative grade was based on the abovementioned rationales, which also served as a debriefing tool. In addition to the rationales, students debriefed after the interactive session ended and during social role-specific office hours with the facilitator. Still, the rationales served as the most critical platform for self-analysis. Importantly, students needed to be in attendance to know the decisions and outcomes arising from the session to complete the rationales, and perhaps because of that, attendance and engagement in this course was quite high.

The final summative assignment was for students to write a white paper proffering an improved economic policy for a week of their choosing. The key was that students had to propose an approach *different* from those offered and debated in class. For example, if the class decided to accept a World Bank loan, the white paper needed to argue against receiving foreign aid. The white paper interrogated evolving and static variables within the Anakirfan context, comparative models of national policies and lessons learned from those, clear goals and a cohesive direction, pros and cons, financial and political feasibility of actual implementation, potential pushback, and how to ensure adherence to the proposed policy. The white papers drew from experienced events and course material, e.g., theories and case studies, in Anakirfa during the simulation. The summative was also an opportunity for students to also demonstrate their mastery of the weekly readings which drew from contemporary IPE, IR, and development studies. Over half of the readings were authored by African scholars—Dambisa Moyo, David Ndii, and Leonard Wantchekon, for example—and students proportionately cited scholars from the Global South in their white papers.

Outcomes

P2P focuses on the middle and top of Bloom's taxonomy by evoking the dramatic narrative of the fictional country. Rather than moving gradually upwards in the taxonomy during the term, P2P galvanizes all the levels each week in an iterative manner. Of the learning outcomes, the most salient was to *describe and critique* current approaches to socioeconomic development in Africa, *evaluate* the advantages and disadvantages of

development approaches, *select and integrate* reliable information from various sources, *formulate* coherent socioeconomic policies to improve individual and collective well-being, *communicate* informed preferences, and finally, *predict* social, political, and economic effects. These learning outcomes were relatively easily achieved because the students were highly invested in Anakirfa's histrionics, with their classmates as the actors driving those outcomes. Ben-Yehuda (2021) found in his Syrian Civil War Simulation (SCWS) that introducing emotions into the learning process requires participants to cope, and, thus, psychologically and academically invest. He finds that "for many students stepping onstage to role play is an exciting experience they happily join. Others find it especially relieving to function on cyber platforms that allow them to express themselves more freely behind screens." Students could "live" Anakirfa's political economy through the degree and mode of communication that best fit their learning needs.

Students identified three "glows" and one "grow" of the course in their course feedback. First, they found that the analytical was social and the social was analytical in their discussions with classmates. They said creative problem-solving did not feel like an academic endeavor in this simulation but one that arose organically out of their structured conversations. Solutions arising indigenously and endogenously is the definition of decolonized thinking. Secondly, the course catered to students' different learning and interaction needs on a broad spectrum of introversion. Some students who prefer not to speak in front of their peers contributed by making video and audio recordings for social media or designing slide decks, a powerful tool for empowering students (Settembri and Brunazzo 2018, 70). Third, most students reported that early in the term, they anticipated being able to solve Anakirfa's socioeconomic challenges through rational application of best practices in the Global South. However, debriefing sessions revealed the unforeseen challenges in development efforts. One third-year student wrote:

> I have come to realize that, by design, the simulation is meant to frustrate me and mirror the real world. In my personal dilemma, I realized that the simulation is teaching me a lot about people and [development leaders] you pointed out to me earlier on. African leaders must have given up their sources of income and power sources (in my case, my indicator grades dependent on my peers voting for me were my "income"). Yet, they persevered. The simulation also demonstrated the current problems with the economic systems of some African countries. We talk a lot about change and dismantling systems, but that is almost impossible sometimes [and now I have experienced why]. African members of the elite political class have traditionally profited from unfair trading with foreign governments, and for them to develop the system of the state, they have to first break themselves down. And they are not willing to commit that 'class suicide,' as Cabral put it. This all is harder than it seems from the outside (personal communication, 2021).

This lesson on the challenges of development was both the strength and weakness of the simulation. Indeed, learners must understand the multifaceted and dynamic terrain they will navigate as social and political leaders. However, a successful course must never leave its participants feeling defeated (Beeman 2015). To ensure a note of optimism as a takeaway, the final summative assessment allowed students a "do-over" on a scenario outcome; the final question in all debriefing sessions was always about formulating and implementing solutions; students engaged in a stand-alone policy debate at

the end of the simulation to share their best practices they had developed. Together, these solutions-oriented activities ensure that the simulation provides learning tools for political science mastery, group collaboration skills, and leadership growth.

Conclusion

In the age of online learning, interactive simulation games like P2P are more crucial than ever across the globe. They help educators and learners overcome "Zoom fatigue" by requiring meaningful engagement. Distance instructors cannot rely on natural energy or intentional use of physical space; their lessons must now compete with unlimited online content to keep their students present. More introverted students may feel even more isolated when learning online with unknown classmates. Moreover, this role play game supports online intellectual, cognitive, and verbal learning outcomes. It fosters strategies to identify variables, relate them to each other, and make immediate decisions with imperfect information. Students examine lessons learned in real-world successful and failed national policy cases and apply those in the fictional country. Students demonstrate policy-planning mastery free from logical fallacies and identify which policies are most promising across regions today. The course offers a portable model adaptable to any classroom to enrich online learning and makes development studies more inclusive.

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Ethical approval

This manuscript was granted written Ethics in Research (EiR) Committee approval by African Leadership University and obtained informed written consent from the cited student. Documentation of approval and consent is available upon request. This manuscript did not require national-level IRB approval in Rwanda. This author adheres to the 2020 "Principles and Guidance for Human Subjects Research" from the American Political Science Association (APSA). She has followed the research ethics guidelines of her university and APSA, including adequate human subject protections.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix 1. Session guide for 90-minute interactive session online

Instructions for students

1. **Presentation of scenario (5 minutes):** You will be provided with a written scenario the day before the simulation and may plan accordingly with your group. Your facilitator will present it anew during the simulation and answer any questions. Group statement participants will be announced.
2. **Analysis and brainstorming in role-specific breakout rooms (15 minutes):** You will spend the first breakout room time discussing the scenario in-depth with your roleplay partners (if you have any) and making notes on your policy response. If you have no role play partners, you will take notes on your own.

3. **Group statements (20 minutes):** Each session, each political party, one member of the general population (GP), and one member of any one of the other groups aside from the media (international interests, domestic business, or labor unions) will give a 5-minute response to the scenario. This response will include their ideas for policy recommendations.
4. **Negotiations in location-specific breakout rooms (20 minutes):** The facilitator will form breakout rooms that students may navigate independently to "wheel and deal."
5. **Media statements (10 minutes):** Each simulation, each media group will verbally announce their commentary on the scenario and the previous group statements as an official media statement.
6. **Voting (5 minutes):** At the end of the session, we will take our final votes on A) which political party to support and B) which media house we trust the most.

Appendix 2. Communication guide

Communication	Lead	Form	Frequency
Country profile	Facilitator	Word	Week 1
Group profiles	Facilitator	Word	Week 1
Individual profiles	Individual student	Word	Week 1
Role play group meetings before interactive session	Student groups	Zoom session	As students would like
Course-wide office hour	Facilitator	Zoom session	Every two weeks
Thematic lecture	Facilitator	Zoom session	Weekly
Interactive simulation game session	Facilitator/student groups	Zoom session	Weekly
Groups' record of their proposed policy and decision-making	Self-nominated student group leaders	Excel tab 1	Weekly
Media houses' record of their press statements	Media group leaders	Excel tab 2	Weekly
Record of voting outcomes and indicator scores	Facilitator	Excel tab 3	Weekly
Facilitator-facing record of private emailed instructions	Facilitator	Facilitator-facing Excel sheet	Weekly