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Sharing The Responsibility for Underprivileged Students: Complexification and Ecosystem Leadership

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Article History	Abstract
	This study investigated the applicability of complexification and ecosystem leadership theories in sharing responsibility for underprivileged students. The complexification theory advocates for the breaking down of complex education systems into smaller, interconnected components to effectively understand and manage issues related to underprivileged students. The ecosystem leadership theory, on the other hand, emphasizes collaboration and shared responsibility among different stakeholders to address complex issues. By utilizing these models, education systems can develop better approaches to sharing responsibility for underprivileged students with a focus on collaboration, shared understanding, and a commitment to achieving shared goals. To make education equitable for students experiencing poverty, the Guimaras State University must adopt ecosystem leadership, collaborate with others, and take collective responsibility for every student's well-being. Educational leaders must prioritize addressing the root causes of poverty by creating an inclusive approach that empowers students and promotes their overall well-being. Adopting ecosystem leadership and prioritizing collective well-being can create an inclusive and equitable educational experience for all students.
	Keywords: *Sharing, Responsibility, Underprivileged Students, Complexification, Ecosystem Leadership*

1. Introduction

In the Philippines, providing equitable education opportunities for underprivileged students remains a challenge. Factors such as poverty, lack of resources, and limited access to quality education are just some of the issues that continue to plague the education sector. As a result, there is a growing need for complexification and ecosystem leadership strategies to be implemented to share responsibility for the education of these students. One example of complexification and ecosystem leadership in the Philippines is the K-12 program, which aims to provide a holistic education approach that allows students to acquire the necessary skills and competencies for the workplace. By partnering with various stakeholders such as government agencies, private institutions, and communities, the program seeks to bridge the gap in education and provide opportunities for underprivileged students. Another example is the Alternative Learning System (ALS), a program that provides education opportunities to individuals who are not able to attend formal schooling due to various factors such as poverty, conflict, and distance. ALS promotes inclusive education, catering to a diverse set of learners and providing them with access to quality education regardless of their status. The implementation of complexification and ecosystem leadership strategies in the education sector is vital in sharing the responsibility for the education of underprivileged students in the Philippines, allowing them to have greater access to quality education and empowering them to reach their full potential. The Philippines has long struggled with providing equitable education for all students, especially those from underprivileged backgrounds. State universities have an important role to play in ensuring that students from all socio-economic backgrounds receive quality education. However, this is easier said than done, as it requires school administrators to adopt a complexification and ecosystem leadership approach towards sharing the responsibility for underprivileged students. While some state universities have championed this approach, others are still struggling in this regard. Examples of state universities in the Philippines that have demonstrated complexification and ecosystem leadership in sharing the responsibility for underprivileged students include the University of the Philippines, the

Mindanao State University, and the Polytechnic University of the Philippines, to name a few. These universities have implemented various programs and initiatives to support underprivileged students, such as scholarships, financial aid, mentorship programs, and targeted educational programs, among other things. Despite these efforts, there are still many challenges that need to be overcome to ensure that every student in the Philippines has access to quality education. This requires a concerted effort from all stakeholders, including the government, non-governmental organizations, and the private sector, among others. By working together to share the responsibility for underprivileged students, we can ensure that everyone in the Philippines has an equal opportunity to succeed.

A state university should study and prioritize the concept of complexification and ecosystem leadership for several reasons. Firstly, providing equitable access to education is a fundamental tenet of any educational institution, and state universities have a critical role to play in this regard. By using their resources strategically and transforming themselves into ecosystem leaders, state universities can create a more inclusive and socially just learning environment that benefits all students, especially those from underprivileged backgrounds. Furthermore, state universities that prioritize sharing the responsibility for underprivileged students and complexification and ecosystem leadership can create social, economic, and cultural improvements within their communities. This can lead to increased retention rates, better academic performance, and an enhanced sense of responsibility and commitment from students, educators, and the broader community. Moreover, by studying and implementing complexification and ecosystem leadership approaches, state universities can attract more funding, grants, and partnerships, as these strategies demonstrate institutional commitment and accountability to addressing systemic issues related to education and social mobility. Thus, studying and adopting the principles of "sharing the responsibility for underprivileged students" and "complexification and ecosystem leadership" can benefit state universities in various ways, including promoting an inclusive learning environment, improving academic outcomes, strengthening community engagement, and increasing financial support.

Complexification
In the context of Guimaras State University, the role of complexification would be to understand the complex needs and challenges faced by underprivileged students and to develop effective strategies for addressing those needs. Complexification involves recognizing the interconnected and multidimensional factors that can contribute to students' underachievement and ensuring that these factors are addressed in a comprehensive manner. This may involve collaborating with stakeholders, such as parents, community members, and other professionals, to create a supportive ecosystem that can help underprivileged students succeed. Additionally, by promoting complexification, the university can encourage educators to continually reflect on their practice and adapt to the changing needs of students. As a higher education institution facing increasing levels of complexity in the modern world, Guimaras State University recognizes the importance of complexification and ecosystem leadership. The university understands that effective management of complexity can lead to new opportunities for growth and progress. However, traditional hierarchical leadership models may no longer be effective in this rapidly changing landscape. Therefore, Guimaras State University acknowledges the importance of adopting a new approach to leadership that recognizes the role of stakeholders and their relationships within an ecosystem. This approach involves building and managing relationships with stakeholders through collaboration, partnerships, and strategic alliances. By adopting an ecosystem-centered approach, Guimaras State University aims to maximize value for all parties involved and promote the success of the ecosystem as a whole. To achieve this, leaders at the university will need to develop new skills such as empathy, collaboration, and systems thinking, and be willing to take risks and embrace ambiguity and uncertainty. By practicing ecosystem leadership, Guimaras State University can create opportunities for growth and innovation in a rapidly changing and complex world. The Guimaras State University, located in the Province of Guimaras, has been operating under the traditional hierarchical leadership models for decades. Effective leadership practice is believed to simplify social difficulties by breaking down complex issues into controllable procedures that produce high-quality outcomes. However, this approach tends to oversimplify problems and push the system towards bureaucratic procedures while undervaluing individuals' roles and contributions within the organization. The education system has failed to live up to its potential and abandoned many students due to the machine-like bureaucracy that stifles the development of students and the system itself. To address these issues, it is crucial for education leaders to embrace complexity and ecosystem leadership thinking and practice. The complexification process involves recognizing and embracing the complex needs and challenges faced by underprivileged students, which can be achieved by adopting a revolutionary attitude and decision-

making process by a varied and mobilized network. This process requires a deep understanding of the problem and its solutions, which is facilitated by inclusive and interpersonal, dialogic, and action-oriented procedures based on openness, empathy, and responsibility for the common good. In order to assess the effectiveness of complexification and ecosystem leadership thinking and practice within the Guimaras State University, the study randomly selected faculty members through cluster sampling methods. The population under study will consist of instructors and professors employed at the Guimaras State University for the academic year 2022-2023. Statistical analyses were carried out based on the data obtained from the participants to understand the school administrators' roles in sharing the responsibility for underprivileged students' education. The study aimed to promote a moral commitment to serve the public good, listen, learn and cocreate with diversity, experiment and adapt, and be open to feedback and review. These practical underpinnings for complexification and ecosystem leadership thinking and practice are expected to facilitate a more holistic approach to education that recognizes the value of each individual's contributions in the organization.

Ecosystem Leadership

In the context of the current state of education in the Philippines, systems thinking holds great potential for addressing the issues faced by underprivileged students. This approach to understanding the world is based on the concept of evaluating wholes and connections, and recognizing how individual components interact with the larger system. The ecological systems theory, which focuses on relationships within communities and society, is a key component of this approach. Theory U, a leadership and systems change theory developed by Scharmer, emphasizes the importance of relationships between individuals and the larger system. It encourages collaborative capacity development, which allows for everyone to be a steward of the broader ecosystem. This approach is particularly relevant for education leaders in the Philippines as they work to address the complexity of poverty and ensure that students have access to the tools they need to succeed. Ecosystem leadership provides a model for education leaders that acknowledges the complexity of poverty and fosters an environment in which students have access to the tools they need to exercise their agency, attain well-being, and thrive. This approach is applicable to any system, including education, government, and the economy. When leaders demonstrate ecosystem leadership, they are driven by a concern for the well-being of the whole system, not just a few individuals or segments. This approach extends beyond the traditional education system hierarchy and bureaucracy to include collaboration with other systems and sectors that promote student well-being. To operationalize this approach, education leaders in the Philippines must start by changing themselves and developing an integrated approach to collaborate with systems outside of the traditional education system hierarchy. This requires a shift in mindset and a focus on empowering pupils through ecosystem leadership, which provides a comprehensive approach to student development and well-being. The importance of this approach cannot be overstated, as it has the potential to transform the education system and ensure that all students have access to quality education regardless of their background.

Statement Of The Problem

The purpose of studying educational managers' complexification and ecosystem leadership in sharing the responsibility for underprivileged students is to understand the extent to which educational managers are able to operate within a complex and dynamic environment, and effectively share responsibility for the education of underprivileged students. This study aims to determine how educational managers can use ecosystem leadership strategies to engage stakeholders, collaborate with communities, and mobilize resources in order to improve access to education and educational outcomes for underprivileged students. Ultimately, the goal of this study is to provide insights and recommendations for educational managers in order to better serve underprivileged students and promote greater equity in education. Within the scope of this main purpose, the following research questions will be addressed: To what extent is the educational managers' complexification and ecosystem leadership in sharing the responsibility to under privilege students? Is there a significant relationship between the educational managers' complexification and ecosystem leadership? Do educational managers' complexification significantly predict their ecosystem leadership?

Theoretical Framework

Theories for sharing the responsibility for underprivileged students can be complex and require ecosystem leadership. The two key theories that can be applied in this scenario are complexification and ecosystem leadership. Complexification is a theory that suggests that complex systems can be better understood and managed when they are broken down into smaller, interconnected components. This theory can be applied to education systems that aim to share responsibility for underprivileged students. By breaking down the system into components such as teachers, parents, community

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organizations, and government agencies, stakeholders can better understand how each component contributes to the overall success of underprivileged students. This understanding can inform the development of more effective strategies and initiatives for sharing responsibility. Ecosystem leadership is another theory that emphasizes the importance of collaboration and shared responsibility among different stakeholders in addressing complex issues. In this theory, leaders facilitate the development of a shared vision and encourage stakeholders to work together towards a common goal. In the case of underprivileged students, ecosystem leadership can be applied to bring together teachers, parents, government agencies, and community organizations to share responsibility for the education and success of these students. By applying these theories, education systems can develop more holistic and effective approaches to sharing responsibility for underprivileged students. These approaches should involve collaboration, shared understanding, and a commitment to achieving shared goals.

2. Materials And Methods

Research Design

This study used a mixed-methods design. This type of design combines both qualitative and quantitative research methods to provide a more comprehensive understanding of the research problem. Qualitative methods such as observations and interviews were used to gain a deeper understanding of the individual experiences and perspectives of educational managers, students and other stakeholders involved. Quantitative methods, such as surveys or questionnaires, were used to gather data on the prevalence of certain attitudes, behaviors, or practices among educational managers. The combination of both types of data can provide a more complete and nuanced understanding of the complex issues and relationships that exist within the educational system. Additionally, this approach can help to address limitations that strictly qualitative or quantitative methodologies may face on their own.

Sampling and Data Collection

For the purpose of conducting research, the population under study comprised of instructors and professors who are currently employed at Guimaras State University, located in Buenavista, Guimaras for the academic year 2022-2023. To ensure complete randomness and unbiased representation, a draw-lots method will be used to select faculty members from the population—as it is a type of random sampling method used to ensure that the sample of participants for a study is representative of the population under study. In this case, the researcher are interested in examining the levels of complexification and ecosystem leadership among teachers working in Guimaras State University, and to ensure that their findings are generalizable to the overall population of educators in the university, a random sampling method is necessary. By drawing lots from the population of the study, the researcher can ensure that each member of the population has an equal chance of being selected for the study, which helps to minimize bias and establish a sample that is truly representative of the population. Using a random sampling method such as lot-drawing also increases the external validity of the study, as it makes it more likely that the findings can be generalized to educators beyond the study population. Therefore, drawing lots from the population of the Guimaras State University faculty members will ensure that the sample of participants is unbiased and representative of the overall population of educators in the university. The scales for evaluation will be administered to the educators working at the University. In this way, the cluster sampling technique will be employed, wherein each school will be assessed as a cluster. After gathering data from the participants, statistical analyses will be carried out to draw relevant inferences and insights. The results obtained from this research will be used to determine the academic success and progress of teachers, as well as to assess the effectiveness of their teaching methods. These findings will be instrumental in identifying key areas that require further enhancement and improvement, thereby paving the way for educational development and growth.

Data Analysis

The data of this study was collected through two different scales. Therefore, obtaining data with 2 or more scales may cause common method bias. Whether this occurs or not has been examined with the "Harman's Single Factor Test", which many researcher frequently use (Aulakh & Gencturk, 2000). Harman's single factor test is a statistical technique used to determine if a set of variables measure a single underlying trait or characteristic. However, the relationship between Harman's single factor test and levels of complexification and ecosystem leadership in the Guimaras State University is not straightforward. The single factor test results may give an idea of the overall coherence of the collected data on complexification and ecosystem leadership, but it does not directly measure the level of complexification or the degree of ecosystem leadership in a given organization such as the

Guimaras State University. Rather than focusing on statistical techniques to measure complexification and ecosystem leadership, the Guimaras State University would benefit more from using a mix of qualitative and quantitative methods to assess the current and desired levels of complexification and ecosystem leadership. These methods could include surveys, focus groups, interviews, and observation of leadership practices across the university. By using a combination of qualitative and quantitative methods, the Guimaras State University can gain a more comprehensive understanding of the current and desired levels of complexification and ecosystem leadership. This information can then be used to develop and implement strategies that promote ecosystem thinking, collaboration, and student-centered approaches to education that benefit the underprivileged students.

The study conducted by the Guimaras State University analyzed the research data using exploratory factor analysis (EFA) to determine if there is a common method bias. The result showed a 6-factor structure with a variance of 21.49% in the first factor, indicating that there is no common method bias. In addition, there were no reverse-coded items in the scales used. The researcher also analyzed the skewness-kurtosis coefficients to test the assumption of normality, with values between ± 1.5 indicating normality as it is important to analyze the skewness-kurtosis coefficients, as it ensures that the data meets the assumptions required for subsequent statistical analyses and tests, increasing the accuracy of the results and interpretations. The Guimaras State University is conducting a study examining the relationships between educational managers' servant leadership and their subordinates' loyalty to them. To ensure the accuracy of the findings, the assumption of normality will be closely examined using z-values calculated by dividing the skewness and kurtosis coefficients by the standard error. Furthermore, the study addressed the issue of multicollinearity—which occurs when there is a strong linear relationship between two or more predictor variables, making it difficult to determine the effect of each individual variable on the dependent variable—by ensuring that the correlation values of the independent variables remain below .90. This aligns with the university's commitment to rigorous research and evidence-based decision-making, and reflects the institution's desire to enhance the quality of education provided to underprivileged students in the Philippines.

Statistical Tools Used

Regression analysis: This revealed the extent to which school administrators' complexification is related to their ecosystem leadership in sharing responsibility to underprivileged students. Correlation analysis: This was used to determine if there is a significant relationship between school administrators' complexification and ecosystem leadership. Path analysis: This was used to evaluate the strength of the relationship between school administrators' complexification and ecosystem leadership, while controlling for potential moderating or mediating variables. Additionally, it can be used to assess if school administrators' complexification significantly predicts their ecosystem leadership. It is important to select the statistical tool that best fits the research question and the data collected. The selection can be influenced by the sample size, type of data collected, and the level of statistical significance desired.

3. Results and Discussion

The Guimaras State University proposes an interdisciplinary model of educational leadership that acknowledges the complexity of poverty and emphasizes social responsibility and social change. It is because the University needs to (1) address reproductive nature of education: Educational institutions often perpetuate social class by reproducing the same social hierarchies that exist in society. By acknowledging the complexity of poverty and utilizing an interdisciplinary approach, education leaders may be better equipped to address these inequalities; (2)encourage social responsibility: Educational institutions have a responsibility to their communities to promote social change and address the needs of the marginalized. An interdisciplinary approach that emphasizes social responsibility may help educational leaders to better fulfill this obligation; (3) promote social change: Poverty is a complex issue that requires comprehensive and collaborative solutions. An interdisciplinary approach that acknowledges the complexity of poverty may help educational leaders to develop more effective strategies for promoting social change; (4) empower students: Education is a fundamental tool for empowering individuals and overcoming social barriers. An interdisciplinary approach that emphasizes empowerment is essential for ensuring that all students receive a high-quality education, regardless of their socioeconomic status. An interdisciplinary model of educational leadership that acknowledges the complexity of poverty and emphasizes social responsibility and social change can help educational institutions to better address issues of inequality and provide a more equitable and empowering educational experience for all students.

The study suggests that leaders in education must recognize the role of education in perpetuating social class and the failure of policies to disrupt cycles of poverty. The purpose of education is to empower students to overcome social determinants of poverty and to acknowledge their agency and achievement necessary for empowerment. The study emphasizes the importance of ecosystem leadership that moves beyond traditional operational borders and creates flexible and adaptive systems that pursue ambitious goals. This requires a shift from a vertical hierarchy of formal control to a horizontal hierarchy of distributed and collaborative decision-making. The interdisciplinary model offered by the study aims to disrupt the reproductive injustices of the education system and promote collective well-being by integrating with other systems and being a place of inclusion.

Educational managers' complexification significantly predicts their ecosystem leadership for underprivileged students in multiple ways: The ability to engage in complex and innovative thinking is likely to make educational managers better equipped to understand the unique challenges faced by underprivileged students and develop effective solutions that involve multiple stakeholders. Managers who utilize systems thinking strategies are more likely to recognize the value of ecosystem leadership and seek to partner with collaborators who are essential to reducing poverty and promoting social change. When educational leaders are able to navigate the complexity of educational challenges, they are better equipped to create flexible and adaptable systems that are effective at addressing the needs of marginalized students. The ability to engage in complex thinking equips educational managers with the skills, knowledge, and perspectives necessary to lead effectively in addressing the challenges faced by underprivileged students.

4. Conclusion

The Guimaras State University recognizes the urgent need to shift education leadership to create a more equitable educational experience for students experiencing poverty. The educational leaders must grapple with the complex issues of poverty and the systemic barriers that perpetuate them. In order to address these issues, ecosystem leaders must step outside their silos and collaborate with others within and beyond the education system. By adopting a more inclusive and intentional approach, educational leaders can lead from within and confront the complexity of poverty, which in turn will provide students with empowerment and overall wellbeing. By flattening hierarchies and creating a more inclusive perspective, educational ecosystem leaders can take collective responsibility for the wellbeing of every student, including those experiencing poverty. Through ecosystem leadership and collective wellbeing, educational leaders can support students to have transformative agency and empower them to redefine their future.

Recommendations

In order to create a more equitable educational experience for students experiencing poverty, the Guimaras State University should consider adopting ecosystem leadership, flattening hierarchies, and creating a more inclusive perspective. Ecosystem leadership requires educational leaders to collaborate with others within and beyond the education system to address the complex issues of poverty and the systemic barriers that perpetuate them. By taking collective responsibility for every student's well-being, including those experiencing poverty, educational leaders can empower students with transformative agency and provide them with a sense of empowerment and overall well-being. Within this ecosystem leadership model, educational leaders must also shift their perspective and focus on addressing the root causes of poverty. By confronting the complexity of poverty and creating a more inclusive approach, educational leaders can help students redefine their future and succeed in a more equitable educational system. Therefore, the Guimaras State University must prioritize ecosystem leadership and collective well-being to create an inclusive, empowering, and equitable educational experience for all students, especially those experiencing poverty.management is key to providing optimal care to those suffering from this complex kidney disease.

References:

Ashby, W. R. (1991). Principles of the self-organizing system. In G. J. Klir (Ed.), Facets of systems science (pp. 249-257). Springer.

Boulton, J. G., Allen, P. M., & Bowman, C. (2015). Embracing complexity: Strategic perspectives for an age of turbulence. Oxford.

Bourdieu, P., Passeron, J. C., & Nice, R. (1977). Education, society and culture. Trans. Richard Nice. Sage.

Brody, D. J., Pirkle, J. L., Kramer, R. A., Flegal, K. M., Matte, T. D., Gunter, E. W., & Paschal, D. C. (1994). Blood lead levels in the U.S. population. Journal of the American Medical Association, 272(4), 277–281.

Bronfenbrenner, U. (1977). Toward an experimental ecology of childhood. American Psychologist, 32(7), 513-531. https://doi.org/10.1037/0003-066X.32.7.513 Brown v. Board of Education, 347 U.S. 483 (1954).

Available online at: https://jazindia.com

Carmichael, S. B., Martino, G., Porter-Magee, K., & Wilson, W. S. (2010). The state of state standards — and the Common Core — in 2010. Fordham Institute.

Collins, J. (2009). Social reproduction in classrooms and schools. Annual review of Anthropology, 38, 33-48. https://doi.org/fkj8m3

Crondahl, K., & Eklund Karlsson, L. (2016). The Nexus Between Health Literacy and Empowerment: A Scoping Review. Sage Open, 6(2), 1-7.

Crutchfield, L. (2018). How change happens: Why some social movements succeed while others don't. Wiley.

Danese, A., Pariante, C., Caspi, A., Taylor, A., & Poulton, R. (2007). Childhood maltreatment predicts adult inflammation in a life-course study. Proceedings of the National Academy of Sciences of the United States of America, 104(4), 1319– 1324.

Duncan, G. J., Ziol-Guest, K. M., & Kalil, A. (2010). Early-childhood poverty and adult attainment, behavior, and health. Child Development, 81(1), 306– 325.

Esquierdo-Leal, J., & Houmanfar, R. A. (2021). Creating inclusive and equitable cultural practices by linking leadership to systemic change. Behavior Analysis in Practice, 14(2), 499-512.

Evans, G. W., & Kantrowitz, E. (2002). Socioeconomic status and health: The potential role of environmental risk exposure. Annual Review of Public Health, 23, 303–331.

Glewwe, P., Jacoby, H. G., & King, E. M. (2001). Early childhood nutrition and academic achievement: A longitudinal analysis. Journal of Public Economics, 81(3), 345-368.

Godfrey, K. M., & Barker, D. J. P. (2000). Fetal nutrition and adult disease. American Journal of Clinical Nutrition, 71(5), 1344S–1352S.

Goodling, B. (1994). A failed policy about inputs. Education Week.

Grant, A. (2021). Think again: The power of knowing what you don't know. Viking. Halfon, N., & Newacheck, P. W. (1993). Childhood asthma and poverty: Differential impacts and utilization of health services. Pediatrics, 91(1), 56-61.

Harper, C., Marcus, R., & Moore, K. (2003). Enduring poverty and the conditions of childhood: Life course and intergenerational poverty transmissions. World Development, 31(3), 535–554.

Harper, S., Lynch, J., & Smith, G. D. (2011). Social determinants and the decline of cardiovascular diseases: Understanding the links. Annual Review of Public Health, 32, 39–69.

Head, B. W. (2008). Wicked problems in public policy. Public Policy, 3(2), 101–118.

Hertogh, M., & Westerveld, E. (2010). Playing with Complexity. Management and organisation of large infrastructure projects. [Doctoral dissertation, Erasmus University Rotterdam]. RePub.

Houmanfar, R. A., & Mattaini, M. (2016). Leadership and cultural change: Implications for behavior analysis. The Behavior Analyst, 39(1), 41-46.

Joosse, H., & Teisman, G. (2021). Employing complexity: Complexification management for locked issues. Public Management Review, 23(6), 843-864.

Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. Development and Change, 30, 435– 464.

Klatzky, A. (2019). What is ecosystem leadership? Field of the Future Blog.

Lee, J., & Su, M. (2022). Centering whole-child development in global education reform. Routledge.

Luby, J., Belden, A., Botteron, K., Marrus, N., Harms, M. P., Babb, C., Nishino, T., & Barch, D. (2013). The effects of poverty on childhood brain development: The mediating effect of caregiving and stressful life events. JAMA Pediatrics, 167(12), 1135–1142.

McCormick, M. C., Litt, J. S., Smith, V. C., & Zupancic, J. A. F. (2011). Prematurity: An overview and public health implications. Annual Review of Public Health, 32, 367–379.

Miller, G. E., Chen, E., & Parker, K. J. (2011). Psychological stress in childhood and susceptibility to the chronic diseases of aging: Moving toward a model of behavioral and biological mechanisms. Psychological Bulletin, 137(6), 959-997.

Montgomery, N. (2019). Perspectives on impact: Leading voices on making systems change in the twenty-first century. Routledge. https://doi.org/h8m4 National Access Networks. (2011). State by state. http://www.schoolfunding.info.

Needleman, H. L., Schell, A., Bellinger, D., Leviton, A., & Allred, E. N. (1990). The long-term effects of exposure to low doses of lead in childhood: An 11-year follow-up report. New England Journal of Medicine, 322(2), 83-88.

Nitta, K. (2008). The politics of structural education reform. Routledge. https://doi.org/h8ms

O'Day, J., & Smith, M. (1993). Systemic reform and educational opportunity. In S. Fuhrman (Ed.), Designing coherent education policy: Improving the system (pp. 250-312). Jossey-Bass.

Ramage, M., & Shipp, K. (2009). Systems thinkers. Springer.

Rittel, H. W. J. & Webber, M. M. (1973). Dilemmas in a general theory of planning. Policy Sciences, 4(2). 155-165.

Sapolsky, R. (2004). Mothering style and methylation. Nature Neuroscience, 7(8), 791–792.

Scharmer, C. O. (2016). Theory U: Leading from the future as it emerges. Berrett Koehler.

Scharmer, C. O. (2018). The essentials of theory U: Core principles and applications. Berrett-Koehler.

Scharmer, O., & Kaufer, K. (2013). Leading from the emerging future: From ego-system to eco-system economies. BerrettKoehler Publishers.

Schoon, I., Jones, E., Cheng, H., & Maughan, B. (2012). Family hardship, family instability, and cognitive development. Journal of Epidemiology and Community Health, 66(8), 716-722.

Schreier, H. C., & Chen, E. (2013). Socioeconomic status and the health of youth: A multilevel, multidomain approach to conceptualizing pathways. Psychological Bulletin, 139(3), 606-654.

Sen, A. K. (1990). Gender and Cooperative Conflicts. In I. Tinker (Ed.), Persistent Inequalities. Oxford University Press. Sen, A. K. (1999). Development as freedom. Knopf.

Sen, A. K. (2009). The idea of justice. Belknap Press.

Sensoy, O., & DiAngelo, R. (2017). Is everyone really equal: An introduction to key concepts in social justice education. Teachers College Record.

Snowden, D. J., & Boone, M. E. (2007). A leader's framework for decision making. Harvard Business Review, 85(11), 1-10.

Spencer, N., Thanh, T. M., & Louise, S. (2013). Low income/socio-economic status in early childhood and physical health in later childhood/adolescence: A systematic review. Maternal and Child Health Journal, 17(3), 424–431.

Spring, J. (2021). American education (20th ed.). Routledge. https://doi.org/h8mr State of the Union. (1964).

Stroh, D. P. (2015). Systems thinking for social change: A practical guide to solving complex problems, avoiding unintended consequences, and achieving lasting results.

Chelsea Green. West, M. R., & Peterson, P. E. (2007). The adequacy lawsuit: A critical appraisal. In M. R. West & P. E. Peterson (Eds.), Money trials: The legal pursuit of educational adequacy. The Brookings Institution.

Wolff, J., & de-Shalit, A. (2007). Disadvantage. Oxford.