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Application of Futures Research Methodology to Develop Educational Administration Research

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Abstract

Futures research is a methodological approach that systematically explores, analyzes, and anticipates possible future developments to generate alternative scenarios that support effective policy formulation and educational administration. In the field of educational administration, futures research provides a valuable framework for examining rapidly evolving educational environments, anticipating emerging trends and challenges, and designing research that addresses complex and uncertain issues. This article examines the concept and significance of futures research, reviews research methodologies applicable to educational administration, and discusses their practical applications in educational contexts. In addition, it highlights the benefits of integrating futures research into educational planning, strategic decision-making, and policy development, while offering recommendations for advancing future research in educational administration. By promoting a forward-looking perspective, futures research contributes to the development of innovative knowledge and evidence-based strategies that respond effectively to the dynamic nature of contemporary society and education.

Keywords: educational administration; futures research; research methodology

Introduction

The world is undergoing profound transformations driven by population growth, demographic shifts toward aging societies, rapid digitalization, and increasing cultural diversity. These changes have significantly reshaped economic structures, social systems, and human lifestyles, creating both opportunities and unprecedented challenges. Although the future remains inherently uncertain and cannot be predicted with complete accuracy, this uncertainty highlights the importance of proactive preparation and strategic planning. Education serves as a fundamental mechanism for enabling individuals and societies to adapt to change, create new opportunities, and collectively shape a sustainable future. It also provides valuable insights into the potential impacts of future developments on learners, teachers,

educational institutions, and educational policies (OECD, 2020). While the future cannot be determined with certainty, individuals, organizations, communities, and nations can prepare for alternative future scenarios through systematic planning and informed decision-making. Such preparation enables societies to anticipate emerging opportunities, minimize potential risks, and respond effectively to unexpected challenges. Although no approach can eliminate uncertainty entirely, informed preparation provides a significant advantage over reacting without prior knowledge or planning. One of the most widely recognized approaches for systematically examining possible future developments is futures research (Lila, 2023).

Futures research encompasses the concepts, methodologies, and systematic processes used to explore, analyze, and anticipate possible future developments. Rather than attempting to predict a single future, futures research investigates multiple plausible, probable, and preferable futures, including both desirable and undesirable scenarios. This perspective acknowledges that the future may unfold in various directions depending on current decisions, emerging trends, and environmental changes (Poolpatarachewin, 2025). Consequently, futures research establishes a rigorous theoretical and methodological foundation for supporting strategic planning, policy development, problem prevention, and organizational adaptation to future contexts (Benjapornwattana, 2015). Owing to its flexibility and systematic nature, futures research has been widely applied across numerous disciplines, particularly education, where continuous social, technological, and policy changes require long-term strategic planning. Educational administration plays a critical role in driving educational development through effective leadership, organizational management, teacher professional development, instructional improvement, and learner achievement. Research in educational administration serves as a systematic process for generating knowledge, developing innovative management approaches, and providing evidence-based solutions that enhance educational quality and institutional effectiveness. By examining educational issues within diverse organizational contexts, educational administrators can identify appropriate research problems, develop context-sensitive solutions, and implement evidence-based management practices that respond effectively to institutional needs and rapidly changing educational environments (Mrazek, 2020).

In the contemporary educational landscape, school leaders are expected to possess competencies that extend beyond traditional administrative responsibilities. They must demonstrate strategic leadership, lead organizational change, manage uncertainty and risk, formulate and implement strategic plans, adapt organizational practices to changing circumstances, and effectively integrate digital technologies into educational management (Ngamkanok, 2020). Consequently, educational administration research should continue to evolve in response to educational reform, technological advancement, and emerging societal needs. Such research enables educational institutions to adapt to changing environments, improve organizational performance, and develop innovative approaches to educational service delivery. Furthermore, research provides educational leaders with reliable evidence that supports informed decision-making, continuous organizational improvement, and enhanced institutional effectiveness (Boonprasaert, 2016). Research therefore represents an indispensable component of educational administration. It provides administrators with valid and reliable information obtained through systematic inquiry, thereby supporting sound decision-making, effective problem-solving, and strategic planning. In addition, educational administration research contributes to the analysis of emerging trends, educational forecasting, policy development, and strategic foresight, all of which have become increasingly important in addressing the complexities of contemporary educational systems (Boonprasaert, 2016). Among contemporary research approaches, futures research has emerged as a particularly valuable methodology for educational administration because it facilitates the systematic exploration of possible future scenarios and supports the development of long-term educational

strategies. By examining both desirable and undesirable future trends, futures research provides evidence that informs policy formulation, strategic planning, organizational development, and sustainable educational improvement. It enables educational administrators to identify emerging opportunities, anticipate potential challenges, evaluate alternative strategies, and strengthen organizational resilience in an increasingly uncertain world (Poolpatarachewin, 2025). Consequently, integrating futures research into educational administration offers a forward-looking framework for developing educational policies and management strategies that are responsive to future societal changes. Such an approach enhances institutional preparedness, strengthens organizational sustainability, and supports the long-term stability and effectiveness of educational institutions in an era characterized by rapid technological and social transformation.

Futures Research

Futures research refers to research that examines the concepts, methods, processes, and methodologies used to explore and investigate possible future trends related to the subject under study, including both desirable and undesirable trends. Poolpatarachewin (2025) explains that futures research is "the systematic study of alternative futures," emphasizing the exploration of the possible, the probable, and the preferable pathways of the future (Textor, 1980) for a particular group of people or society, rather than attempting to make a single-point "accurate" prediction (Remenyi and Money, 2004). Its main objectives are: 1) to describe trends of possible futures; 2) to assess present conditions in relation to each trend; 3) to identify the impacts and implications of various trends; and 4) to provide early warning about undesirable futures, while also understanding the driving and restraining forces of the change process. The information obtained can support the formulation of policies, strategies, and proactive measures to create desired futures and prevent risks (Textor, 1980). Futures research encompasses a variety of approaches, each employing different research techniques. The selection of a particular futures research method therefore depends on the objectives, conditions, and limitations of the researcher. Examples of futures research methods commonly used at present include the Delphi technique, scenario building, foresight, EFR, and EDFR.

In the field of education, futures research methodology has been applied in studies to obtain future images of various educational issues in diverse ways. For example, Supparanont (2023) conducted a study entitled the Future of Education Management for Small-Sized of Primary Schools in the Next Decade (2023-2032) by applying the Ethnographic Delphi Futures Research (EDFR) methodology. The objective of the study was to investigate possible future scenarios of education management for small-sized of primary schools in the next decade (2023-2032). The findings revealed that the possible future scenarios of education management for small-sized of primary schools consisted of five dimensions: 1) student futures, 2) teacher futures, 3) educational management futures, 4) teaching and learning futures, and 5) participation futures. In addition, Boonmaneeprasert (2017) conducted a study entitled the Scenario of Welfare Home for Children Management in the Next Decade (2017-2027) in the areas of management strategies for children welfare homes, assistance and coordination, and welfare and services. The study employed the Ethnographic Delphi Futures Research (EDFR) technique and collected data through interviews with 18 experts. The findings indicated that: 1) the future scenario for the management of children welfare homes in the next decade (2017–2027), in terms of management strategies, would place primary importance on "personnel" working with children; 2) the future trend scenario for the management of children welfare homes in the next decade (2017–2027), in terms of assistance and coordination, would involve networks of all agencies, including government and private sectors, communities, and various organizations, participating in providing assistance and coordination with children welfare

homes; and 3) the future trend scenario for the management of children welfare homes in the next decade (2017–2027), in terms of welfare and services, would be a future image centered on the children, meaning that future welfare and services arranged for children would first and foremost take into account the benefits that children would receive. Moreover, Jurangkool (2022) conducted a study on the Future Scenarios of Educational Quality Supervisions of Thai Higher Education in 2030. The objectives of the study were to: 1) analyze the educational quality assurance systems of Thai and foreign higher education institutions; 2) analyze the qualification accreditation and academic credentialing systems of Thai and foreign higher education institutions; and 3) present a future scenario of the educational quality assurance system of Thai higher education institutions in 2030. The study employed document analysis, interviews, and focus group discussion (FGD) questions, while data were analyzed through content analysis and descriptive analysis. The findings can be summarized as follows: 1) regarding the educational quality assurance systems of Thai and foreign higher education institutions, the characteristics of the quality assurance system consisted of seven components: principles, objectives, components, standards and instruments, methodology, context, and stakeholders; 2) regarding the qualification accreditation and academic credentialing systems of Thai and foreign higher education institutions, the characteristics of these systems also consisted of seven components: principles, objectives, components, standards and instruments, methodology, context, and stakeholders; and 3) regarding the future scenario of the educational quality assurance system of Thai higher education institutions in 2030, the model of the quality assurance system consisted of six components: principles (principles, concepts, scope, and objectives), components, standards and instruments,implementation, context, and stakeholders.

The Application of Futures Research Methodology to Educational Administration

The application of futures research methodology in educational administration research is regarded as an important mechanism for strengthening the sustainability of the educational system, particularly in an era in which change occurs rapidly and with increasing complexity. The future is therefore difficult to predict and is characterized by high levels of uncertainty and vulnerability. Systematic studies for forecasting the future began to emerge in the 1950s, based on the belief that if human beings could understand phenomena likely to occur in the future, they would be better able to plan for and cope with adverse situations, as well as create opportunities or promote favorable developments (Lila, 2023). In the field of educational administration, the application of futures research methodology is beneficial in many dimensions. It has the potential to generate new knowledge in educational administration that is aligned with future contexts, while also serving as an important mechanism for developing educational leaders with broad vision, enabling them to perceive emerging opportunities and challenges, and preparing the educational system to respond to social change, technological advancement, and the forces of globalization.

Challenges of Educational Administration from a Futures Perspective

The challenges of educational administration depend on contexts that change over time. When considered from perspectives about the futures, signals of change can be identified from current transformations in educational development that carry significant implications for the future. There are four such signals: 1) signals of change in labor demand, 2) signals of change in population, economy, and society, 3) signals of change in learning, and 4) signals of change in science and technology (Polsaram, 2006). In the broader context of Thailand, there remains a need for future-oriented educational policies and strategies that can keep pace with emerging

trends, to the extent that this has become a call for "future-oriented educational policies and strategies." There are many techniques used in futures research; however, the methods that are most widely recognized and commonly applied include: 1) the scenarios technique, 2) trend extrapolation, 3) matrix forecasting or cross-impact matrix, 4) the future wheel technique, 5) the simulation technique, 6) Delphi forecasting, 7) Ethnographic Futures Research (EFR), and 8) Ethnographic Delphi Futures Research (EDFR) (Benjapornwattana, 2015).

Educational Administration in Viewing the Future

Viewing the future in educational administration is important for preparing systems, processes, risks, and resources related to education to cope with uncertainty by using findings from futures research and strategic forecasting to support decision-making. In viewing educational administration from the perspective of futures research, Poolpatarachewin (2025) proposed five interesting perspectives, as follows:

1) The role and importance of futurist leadership

Leaders with a futurist orientation must possess knowledge, competence, and skills in forecasting future trends as comprehensively as possible, especially in distinguishing between desirable trends, which should be fostered and supported, and undesirable trends, which should be prevented, reduced, or delayed from becoming reality.

2) The purpose of future forecasting

Viewing future trends should focus on what is realistically possible rather than on ideals or overly unrealistic dreams. Dreams are useful for inspiration, but policy and strategy formulation must be grounded in what is feasible in order to ensure sustainable management.

3) Modes of thinking and skills different from those of general leaders

Futurist leaders must think proactively, that is, they must look ahead and prepare in advance rather than wait for problems to arise before responding. This differs from conventional administration, which emphasizes solving problems only after they occur, often merely maintaining the status quo. Leaders should focus on both "creation and destruction" rather than on problem-solving alone.

4) Managing trends

If a trend is positive and desirable, action should be taken immediately without delay. If a trend is undesirable, ways must be found to prevent, eliminate, or redirect it at an early stage before actual impacts occur.

5) A new perspective on problems

Problems related to development and "making things better than before" cannot be solved by using old ways of thinking. A key quality of leaders is to accept and respect present conditions without becoming attached to the past. They must create "good causes" in the present in order to produce "desirable outcomes" in the future.

In summary, futurist leaders are not merely problem-solvers; they are future-builders who promote desirable trends and manage undesirable ones, while remaining open to experts and networks at all levels, from the global level to the organizational level, so that administration and development can proceed in a stable and sustainable direction.

The Use of Futures Research Methodology in Educational Administration

Differences in researchers' beliefs and fundamental assumptions about knowledge and the ways in which knowledge is acquired have led to varying approaches to designing futures research in educational administration. Based on a review of related documents and studies, together with the author's research experience, and drawing on *The Futures Wheel* by Glenn

(2021), the key issues concerning the application of futures research methodology to educational administration can be summarized as follows:

1) Building a systems thinking framework

It helps organize ideas and formulate questions about future trends and events in a systematic manner through the identification of primary, secondary, and tertiary impacts. This tool can be used to identify opportunities, risks, and complex interrelationships, which are beneficial for policy and strategic analysis in educational administration.

2) Supporting strategic planning

The Futures Wheel can be used as part of the planning process, such as environmental scanning, driving-force analysis, and impact assessment, before strategies are formulated. This enables educational administrators to assess the feasibility of alternative options and adapt effectively to change.

3) Promoting participation and collaborative learning

The Futures Wheel is a method that allows teachers, researchers, policymakers, and stakeholders to brainstorm together, construct shared future visions, and broaden diverse perspectives. This process helps foster a "futures-conscious perspective" in educational administration.

4) Integrating with other research methodologies

The Futures Wheel can be used in conjunction with Trend Impact Analysis (TIA), Cross-Impact Analysis, Scenario Planning, and System Analysis to deepen the exploration of the future. In educational administration research, integrating these methodologies makes it possible to develop forecasting frameworks and design policies with greater precision and flexibility.

5) Developing academic skills and leadership

The Futures Wheel promotes complex thinking, networked thinking, and consideration of short-term and long-term impacts, all of which are essential skills for educational administrators. It can be used as a training tool to develop strategic leadership among teachers and school administrators.

In summary, education from a futures perspective must confront four major signals of change: labor demand; demographic, economic, and social structures; learning; and science and technology, all of which directly affect the educational system. Therefore, flexible and future-oriented policies and strategies that can keep pace with change are needed, drawing on futures research methodologies such as scenarios, trend analysis, the Futures Wheel, and the Delphi technique to support decision-making. Educational leaders in the modern era must therefore be "futurist leaders" who focus on comprehensively anticipating trends, distinguishing between desirable and undesirable trends, and thinking proactively in order to create a better future, reduce or prevent undesirable trends, and cultivate "good causes" in the present that will lead to "desirable outcomes" in the future. In this way, educational administration can move in a stable and sustainable direction.

The Creation of New Knowledge in Educational Administration

Thailand's educational research system has produced a large volume of work; however, it continues to face problems in terms of quality and utilization. As a result, much research has not generated the level of impact needed to bring about meaningful change and educational development (Chareonwongsak, 2015). Studying only past and present events is no longer sufficient. Anticipating future events is increasingly important for generating knowledge that can be used to prepare for and shape change in the future (Thanomboon and Teekasab, 2015). The application of futures research methodology to educational administration is therefore a key mechanism for generating new predictive knowledge. It not only helps in understanding

emerging trends of change, but also makes it possible to determine directions and methods for developing the educational system in ways that are aligned with future needs and challenges. This leads to the production of valuable research that can be genuinely applied to educational development. It also enables educational administrators to construct conceptual frameworks and action plans capable of accommodating a variety of possible future situations, thereby generating new knowledge with a high degree of plausibility that can be effectively applied in strategic planning.

Hines (2017) proposed a foresight framework in the article "Framework Foresight for Exploring Emerging Student Needs," which serves as a tool enabling educational institutions to systematically explore environmental trends, analyze factors affecting education, and anticipate new student needs that may emerge in the future. The application of this framework allows educational institutions to generate new knowledge and formulate educational administration policies in a proactive rather than reactive manner, while also enabling them to adapt in a timely way to the rapid changes of the present era. As a result, curriculum development, teaching and learning systems, and student support services can be designed in ways that are more closely aligned with the actual needs of learners and the labor market of the future. In addition, the study by Thongphubate et al. (2022), which applied the Ethnographic Delphi Futures Research (EDFR) technique to construct the scenario of the testing management model of National Institute of Education Testing Service (Public Organization), found that this methodology facilitated the integration of key components—namely goals, assessment policy, and learning outcomes—which were dynamically interconnected. This, in turn, enabled the creation of new conceptual frameworks and practical approaches that respond to changes in the modern educational system.

Enhancing the Capacity of Educational Administrators and Researchers

The application of futures research methodology is an important mechanism for enhancing the capacity of educational administrators and researchers, particularly in developing systems thinking and foresight, which are essential for management in an era of rapid and complex change. Miller (2018) emphasized the importance of "Futures Literacy" as a core skill for individuals and organizations in coping with the complexity and uncertainty of the future. It is defined as the capacity to use imagination and anticipatory skills to design multiple futures and strengthen decision-making in changing contexts. Cultivating such skills among educational administrators through the application of futures research methodology helps develop broader vision and the ability to generate diverse alternatives for problem-solving and organizational development.

Supporting Future-Oriented Policy Decision-Making

Decision-making is a primary responsibility of administrators and policymakers, especially in the current context in which the educational system faces complex challenges and rapid change. Decisions made without reliable information or with an inaccurate understanding of future trends may result in policies that do not correspond to the needs of society and are therefore unable to cope effectively with forthcoming changes. The application of futures research methodology in educational administration research is therefore of great importance in supporting policy decision-making. Poolpatarachewin (2025) pointed out the benefits of futures research, noting that it provides important and necessary information about future trends that can be used in decision-making, policy formulation, and planning. It offers frameworks for various forms of decision-making, identifies opportunities and cautions, suggests multiple approaches to problem-solving, and also provides pre-experience regarding

what the future may be like, so that people can prepare themselves appropriately. It further offers insights that are useful for living in a world characterized by rapid and confusing change. The application of futures research methodology to educational policy formulation enables policymakers to understand that change is a normal and natural process, that small changes may later develop into major transformations, and that methods that worked in the past may no longer be effective in the future because circumstances have changed. Therefore, policymaking must be flexible and capable of adapting to changing conditions.

Preparing for Social Change, Technological Advancement, and Globalisation

In an era in which the world is undergoing rapid and complex transformations driven by multiple factors, including technological development, social change, and globalization, the educational system must be prepared and able to adapt in ways that are consistent with these conditions. Supparanont (2023) studied the future scenarios of educational management for small primary schools in the next decade and projected future images of learner development as global citizens with morality and global consciousness, adaptation to technological change through the development of digitally literate learners capable of integrating their work with artificial intelligence, teachers' adjustment of instructional approaches, the creation of collaborative networks across all sectors, and the development of qualitative assessment systems aligned with future needs. This demonstrates that the application of futures research methodology plays an important role for administrators and researchers in enabling effective preparation for forthcoming change. Upon closer consideration, the application of futures research methodology helps educational administrators create multiple decision-making frameworks for possible future situations. The use of trend analysis, as a forecasting technique, also contributes to preparing educational administrators to become visionary leaders of change who are able to think systemically and carefully connect the various factors affecting education.

Integration for Advancing Research in Educational Administration

To maximize the effectiveness of developing research in educational administration through futures research methodology and to ensure its responsiveness to the complex challenges of change in the twenty-first century, it is necessary to integrate futures research with policy research and practice in ways that establish constructive linkages and enable practical application. In addition, the skills and competencies of researchers and administrators should be developed so that they are able to apply futures research methodology effectively through continuous learning and professional development. It is also important to build collaborative networks among educational institutions, government agencies, the private sector, and international organizations in conducting futures research in education in order to exchange knowledge, resources, and experience that will contribute to the development of an educational system that is high-quality, modern, and sustainable.

Integrating Futures Research with Policy Formulation and Practice

The integration of futures research with policy research and practical implementation must begin with the development of a conceptual framework that unifies these three dimensions of research. Futures research serves to explore trends and possible scenarios, policy research analyzes policy alternatives and their impacts, and practice-based research tests the effectiveness of actual implementation. Such integration can be carried out by first conducting future scenario studies to identify key issues, followed by policy research to determine possible

management options, and concluding with practice-based research to test the outcomes of implementation in real contexts. This is consistent with the study by Kotcharat, Chaikaew and Phoesalae (2016), which examined future scenario of lifelong education management to develop the quality of life of the youth in special administration zone in southern border. In that study, Cross-Impact Analysis was employed to construct future scenario maps that could be used for planning, policy formulation, and practical problem-solving at the implementation level. It is also consistent with the research of Uboltip (2019), which investigated the future of research management in higher education institution in the context of Thailand 4.0. That study applied the Ethnographic Delphi Futures Research (EDFR) technique to formulate a conceptual framework and research procedures beginning with the analysis of current situations and major future trends, followed by linking these to research policy components, and concluding with the formulation of strategic development guidelines to support practical implementation at the institutional level.

Developing Research Skills through Futures Research Methodology

The development of skills in applying futures research methodology requires the design of training curricula that comprehensively cover both theoretical knowledge and practical application. Such curricula should include the following core modules: 1) principles and fundamental concepts of futures research, 2) specific futures research techniques such as Ethnographic Delphi Futures Research (EDFR), scenario planning, and cross-impact analysis, 3) the application of information technology in futures research, 4) the integration of futures research with other types of research, and 5) the presentation and communication of futures research findings to different target groups. In this regard, Phongphaew (2014) discussed the process of studying futures research methodology, beginning with the establishment of steps ranging from the study of future trends and the analysis of possible alternatives to the use of specific techniques, including the Delphi technique, the Futures Wheel, and Cross-Impact Analysis. The process also involves the development of comprehensive research components and emphasizes the continuous collection, analysis, and synthesis of findings related to the development of educational organizations and personnel.

Building Collaborative Networks in Futures Research in Education

One indicator of the development of any discipline is the size of its network of scholars and experts, as well as the formation of groups and organizations of specialists in that field. Since the 1950s, scholars in futures studies have jointly established academic associations in many countries around the world, such as the Association Internationale Futuribles in France, the Canadian Association for Futures Studies in Canada, the Japan Society of Futurology in Japan, and Tamkang University in Taiwan. One of the major collaborative networks in futures research in education is the World Futures Studies Federation, which supports studies and research, publication and dissemination, and academic events related to futures studies, while also promoting the dissemination of foundational knowledge in the field. This demonstrates that building collaborative networks in futures research is regarded as an important strategy emphasized by scholars and various organizations in contemporary academic circles, particularly at a time when educational systems are facing challenges in social, economic, and technological dimensions. The structure of an effective network should begin with linking educational agencies, including universities, government research organizations, private-sector entities, and partner organizations, so that all sectors can participate. It should also establish a clearly defined central coordinating committee as the driving mechanism, along with specialized working groups with expertise in each dimension, supported by a communication

system that facilitates continuous information exchange and coordination (Ratanawaraha, 2022).

Building collaborative networks in futures research in education is therefore a necessary and highly important strategy for the development of the nation's education system. Connections at the national level, partnerships with the private sector, and engagement with international networks will help ensure that futures research in education is comprehensive, effective, and capable of generating a genuine positive impact on the development of an educational system that responds to the needs of society in the future. The success of such networks will serve as a crucial foundation for preparing the country to face the challenges and opportunities of the future.

Conclusion

Educational administration in the contemporary era is facing rapid and complex changes driven by diverse global forces. These include shifts in labor structures requiring new skills, changes in population, economy, and society, the transformation of learning toward lifelong learning, and advances in science and technology that directly affect the educational system. These changes reflect the necessity for the educational system not to remain static, but rather to adapt proactively through visionary and flexible policies and strategies in order to respond effectively to future uncertainty. The application of futures research methodology is therefore an important tool that enables educational administrators to anticipate trends, analyze risk factors, and design strategic alternatives that are accurately aligned with future contexts. Techniques such as the Futures Wheel, Scenario Planning, Trend Analysis, and Delphi not only help construct possible future images, but also promote participatory processes, systems thinking, and the development of leadership among educational administrators, enabling them to balance short-term and long-term perspectives. Education in the future must confront four major signals of change: 1) labor demand, as the labor market increasingly requires new skills that combine specialized knowledge with soft skills such as systems thinking, creativity, and cross-cultural communication; 2) population, economy, and society, as population aging, income inequality, and changing family structures place increasing pressure on the educational system; 3) learning, as learning shifts from a closed system to flexible lifelong learning and emphasizes competency development rather than rote memorization; and 4) science and technology, as the rapid advancement of digital technology, artificial intelligence, and big data requires continuous adaptation in teaching and learning systems. Educational administration in a future context therefore needs to possess the following important characteristics: 1) proactive thinking, which involves foresight and advance preparation rather than waiting until problems arise; 2) trend identification, which focuses on managing undesirable trends and promoting desirable ones; 3) feasibility thinking, which grounds policy formulation in evidence rather than ideals or dreams; 4) reframing, which respects present conditions without becoming attached to the past, while aiming to create good causes in the present that will lead to desirable outcomes in the future; and 5) networking, which emphasizes openness to experts at different levels in order to collaboratively construct future educational visions.

Therefore, contemporary educational leaders can no longer confine their role to merely solving immediate problems. Rather, they must become future makers who are capable of distinguishing desirable trends that should be promoted from undesirable trends that should be reduced or prevented, while also creating "good causes" in the present in order to produce "desirable outcomes" in the future. This will enable the educational system to develop in a stable, sustainable, and genuinely responsive manner in keeping with a rapidly changing world.

Overall, the discussion presented in this article suggests that futures research methodology provides educational administration with a structured way to transform uncertainty into actionable foresight. It moves the field beyond retrospective evaluation and encourages a more proactive approach to designing preferable educational futures (Poolpatarachewin, 2025). Based on this synthesis, the author proposes several methodological directions for advancing futures research in educational administration. First, future studies should move beyond the use of a single technique, such as the Delphi method, scenario planning, or the Futures Wheel. Instead, greater attention should be given to mixed and integrated research designs that combine these techniques with cross-impact analysis and systems thinking. This is particularly important because the key signals of change discussed in this article, including labor demand, demographic and social shifts, learning transformation, and technological advancement, are deeply interconnected and cannot be fully understood through any single technique alone (Glenn, 2021). Second, the quality of futures research depends greatly on the breadth and diversity of the expert panels involved in Delphi or Ethnographic Delphi Futures Research (EDFR) rounds. Future studies should therefore include not only specialists, but also teachers, school administrators, students, parents, and community stakeholders. Including these voices would help ensure that future scenarios are not only theoretically sound, but also grounded in the lived realities of educational practice. Third, forecasts produced through futures research should be understood as provisional rather than final. For this reason, researchers and educational institutions should develop mechanisms for periodically reviewing and updating scenario findings as new evidence and changing conditions emerge. A futures research study should not be treated as a fixed endpoint, but as part of an ongoing process of reflection, learning, and strategic adjustment. Finally, the further development of this methodology requires sustained investment in researchers' futures literacy (Miller, 2018), as well as stronger collaborative networks among universities, government agencies, and the private sector (Ratanawaraha, 2022). Such collaboration would help embed futures research as a continuing practice in educational administration, rather than leaving it as an isolated academic exercise. These directions would strengthen the methodological rigor of the field and enhance its practical value for administrators who must lead education amid increasingly uncertain future conditions.

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