

ANALYSIS OF ENGLISH FOR INTERNATIONAL COMMUNICATION (EIC) RESEARCH PROJECTS CONDUCTED IN THE INDEPENDENT STUDY (IS) COURSE UNDERPINNING THE THAILAND 20-YEAR NATIONAL STRATEGY PLAN

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ABSTRACT

The main focuses of this study were to identify all research projects conducted by English for International Communication (EIC) students between 2017-2019 based on the Thailand 20-Year National Strategy Plan, to summarize and analyze the research project, and to suggest the scope of the research projects in the IS course. A total of 109 research projects proceeded by the EIC students were analyzed. The research instruments were the Research Topic Analysis Checklist (RTAC). The statistic used in data analysis was the percentage. The findings indicated that the most of the research projects were in the strategy of development and strengthening human capital (85%), social cohesion and just society (5.45%), and national competitiveness enhancement (1.09%) respectively whereas there was at 8.21% ungrouped projects. Noticeably, an innovation technology and area base of IS projects gradually increased with the 21st century skills in 2019. Additionally, the understanding of both university mission and Thailand 20-Year National Strategy Plan related to the various research projects. This study can mutually provide a practical guideline for encouraging both teachers and students to explore more diverse interesting topic areas by bridging the gaps between the university mission, provincial policy and strategy, and Thailand 20-Year National Strategy Plan.

Keywords: *independent study course, the 21 century skills, Thailand 20-Year National Strategy Plan*

INTRODUCTION

Since the 8th of October 2017, the *Thailand 20-Year National Strategy Plan* was announced in the Royal Thai Government Gazette on Saturday, with an immediate effect. The objective of the is to transform Thailand into a developed country by 2037. The 72-page of document was drafted by the National Council for Peace and Order-appointed panels and validated by the cabinet in early June. The National Legislative Assembly approved it a month later.

As a consequence, the public and private sectors have endeavored to incorporate the policies and activities of their respective organizations in response to the *Thailand 20-Year National Strategy Plan*, particularly the government units and educational institutions. The policymakers must incorporate all educational levels into their program to serve the afore mentioned national strategy.

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Focusing on the Thai higher education systems that produce undergraduates and postgraduates adapted to the target markets, they must mold the Thai citizen into a global citizen in order for them to occupy both local and global markets after graduation. In other words, the Thai universities have directly contributed to the production of learning outcomes for the global market (Kangkha & Mungsiri, 2012). The educational administrators are now more aware of the importance of designing curricular to meet the requirements of students and respond to market demands. Hence, *the Thailand 20-Year National Strategy Plan* focuses primarily on achieving a balance between development security, economy, society, and environment through the participation of all sectors in global civil modelling.

Undergraduates are required to conduct studies and research in their major prior to completing their bachelor degree (Al-Hawaj, et al, 2015; Uppamaithichai, & Roueangrong, 2021). Then, the Independent Study (IS) Course generally becomes for the fulfillment of a partial degree in various universities, specifically in all the nine Rajamangala Universities of Technology (RMUT Thanyaburi, RMUT Krungthep, RMUT Lanna, RMUT Phra Nakhon, RMUT Tawan-ok, RMUT Rattanakosin, RMUT Isan, RMUT Srivijaya), as they have incorporated the research programme skills with educational issues and skills of the 21st century into the *Independent Study Course* for EIC students to sharpen their learners' research competency.

Undoubtedly, the EIC Programme conducted by the Department of Foreign Languages, Faculty of Liberal Arts, Rajamangala University of Technology Srivijaya (RUTS) has been designed with the research components with the 21st century educational issues and skills as an integral part of the EIC curricular in these two subjects; the former is *the Preparation for Independent Study (Pre-IS: 01315301)* and the latter is *the Independent Study (IS: 01315402) courses*. Thus, numerous of research projects are conducted for the fulfillment of EIC degree. However, following the approval of *the Thailand 20-Year National Strategy Plan*, the research guidelines and soft skills provided in those two subjects, *Pre-IS* and *IS*, for training the EIC students have been inevitably updated with practical components by adopting and adapting the university mission, the provincial policy and strategy, and the objectives of *the Thailand 20-Year National Strategy Plan*. The following research question is addressed in this study: RQ: What are the research projects conducted by English for International Communication (EIC) students between 2017-2019 based on the Thailand 20-Year National Strategy Plan?

LITERATURE REVIEW

The evaluation is divided into six sections that cover the 12th Social and Economic Development Plan, the Thailand 20-Year National Strategy Plan, the 21st Century Skill, the RUTS Policy, the Songkhla Policy and Strategy, and the Description of Independent Study Course. These interconnected theoretical frameworks are elaborated in the following sub-sections.

The 12th Social and Economic Development Plan

The 12th Social and Economic Development Plan (2017–2021) was established to enhance the integration of national development agendas with other development plans such as the 20 years National Strategy, Thailand 4.0 Strategy, and the National Sustainable Development Goals (Vimolsiri, 2017). It concentrates on science, technology, innovation, and human resource development. Its intention is to develop technological intensive production and digital economy, and to strengthen local economic

development. The plan has just been implemented on the 3 main concerns: sufficiency economy, sustainable development, and people centered development. This plan addresses 10 development strategies, including human capital development; opportunity building and reducing social inequality; strengthening the economy; green growth development; enhancing national security; public administration development or good governance; infrastructure development; promoting research and innovation; development of the local economy; and international development cooperation (Kuhavichanun, 2017; OECD/UNESCO, 2016; Theparat, 2019, and Vimolsiri, 2017).

The development of Thailand according to the 12th Social and Economic Development Plan had been reformed with an expectation of prosperity, security, and sustainable development over the next 20 year in accordance with the sufficiency economy principle. Its effort is presented in the Thailand 20-Year National Strategy Plan (2017–2036). Thailand Economic Outlook (2017) stated that the goal of this long-term national strategy is to establish the guidelines and benchmarks for the country's development in order to ensure that the formulated policy will be stable and can be easily and smoothly implemented in the Social and Economic Development Plans (OECD/UNESCO, 2016).

As Thailand's economic model has been established and is undergoing continuous improvement, this is a crucial factor for putting the concepts of the 12th Social and Economic Development Plan into practice, particularly in the higher education lecturing system. This provides great opportunities for the university academics to raise their students' and postgraduates' awareness of production in Thailand competitive environment.

The Thailand 20-Year National Strategy Plan

National Strategy Secretariat Office and The Office of the National Economic and Social Development Board (2017) defines National Strategy as an emphasis on balancing the development of security, economy, society, and environment through the incorporation of all sectors in the form of a “civil state” consisting of six strategies:

The national strategy for national security

The goal of National Security Strategy is to ensure national security and public contentment through the promotion of security, safety, independence, sovereignty, peace, and orderliness at the national, social, and community levels (National Strategic Committee, The Prime Minister's Office, 2016 and The National Defense College of Thailand, 2016).

This security can be implied to all social environment sectors, such as society, education, economy, and politic, so that the Thai society can advance without anxiety or vulnerabilities.

The national strategy for national competitiveness enhancement

The National Strategy for National Competitiveness Enhancement aims to enhance national multidimensional capacity on the basis of three concepts: Firstly, it focuses on the origins of the national economy; local identity, culture, tradition, and lifestyle; maintaining the diversity of natural resources; and pursuing multidimensional comparative advantages. The knowledge will later be integrated with available technologies and innovations to accommodate global socioeconomic contexts in the 21st century. Secondly, it concerns “Adjusting the Present” to prepare for the future through national infrastructure development in terms of transport and logistics, science, technology, and advanced digital systems as well as environmental adjustment to facilitate future industrial and service developments; and (Marin, Schymik, &

Tscheke, 2015). Lastly, it moves to “Creating New Future Values” to enhance entrepreneurs’ capacity; develop younger generations; adjust business models to meet fast changing market demand; implement strategies to accommodate anticipated future contexts with a focus on learning from the past and adjusting the present for further development; and leverage governmental support to help generate income and employment, expand trading and investment opportunities in global markets, enhance income and general well-being of Thai people, increase the number of middle-class citizens, and reduce inequality (National Strategic Committee, The Prime Minister’s Office, 2016).

The strategy for human capital development and strengthening

The objective of the Strategy for Human Capital Development and Strengthening is to develop Thai citizens of all ages to become virtuous, skillful, and exemplary members of society. The scope covers promotion of physical, mental and intellectual qualities, adequate multidimensional developments, sustainable well-being at all stages of life, public mindedness, and social responsibility. The citizens are also expected to be frugal, generous, disciplined, and ethical, equipped with logical reasoning and globalized 21st century skills, particularly in English and in third language communication. Furthermore, citizens are encouraged to preserve local languages while encouraged acquire practices of lifelong learning and development. The development of these strategies will assist the nation in fostering modern innovators, thinkers, entrepreneurs, farmers, etc. based on the development of personal skills and abilities (Marin et al., 2015; National Strategic Committee, The Prime Minister’s Office, 2016; Poovarawan, 2017).

The strategy for social cohesion and just society

The Strategy for Social Cohesion and Just Society aims to foster collaboration between private sector, general public, and local communities for strategy implementation. The public will be encouraged to participate as a mechanism to enable society-wide cooperation. This will promote decentralization of power and responsibilities among local administrative organizations, strengthen the independent management of local communities, and create viable and healthy economic and social environment aimed at producing quality citizens who can contribute in perpetuity to families, communities, and society. Furthermore, the government is committed to ensure equitable and inclusive access to high-quality public services and welfare practices (The National Defence College of Thailand, 2016).

The strategy for eco-friendly development and growth

The Strategy for Eco-Friendly Development and Growth aims to achieve sustainable development through the manifestation of a healthy society, economy, and environment; the implementation of good governance, and the establishment of integrated partnerships at both national and international levels. Strategic and operational plans will executed in accordance with a design based on geographic region, and the implementation will be facilitated by promoting the direct participation of all sectors involved. Implementation will focus on fostering economic, environmental, and quality of life development on both sides. The focus is to create balance among these three factors to promote sustainability for the future generations (Lidskog & Elander, 2012; Potts, 2010).

The strategy for public sector rebalancing and development

The Strategy for Public Sector Rebalancing and Development aims to reform and enhance the country’s governmental administrative services based on the principle of “government of the people for the people and the common good of the nation and the happiness of the general public”. To achieve this objective, the scale of government

agencies should be proportional to their roles and missions, with the roles of regulatory agencies clearly distinguished from those of operating agencies. Furthermore, in order to operate with sound governance and for the general public's benefit, all government agencies must be results-driven and fully adaptable. Adapting big data and digital technologies judiciously will help improve the public sector's performance in accordance with international standards. Government agencies should be open to intersectoral-operations and participation from all relevant parties to ensure quick and transparent responses to public needs. All sectors in the society should value honesty, integrity and frugality while resisting all kinds of malfeasance. Moreover, laws should be up to date, precise and clear, and should be enacted only when necessary in line with international legal practices to minimize disparity and accommodate the country's development. The system of justice of the country should be equitable and non-discriminating with the judicial process, and it should operate in accordance with the rule of law (Hsu et al, 2016; Omisore, 2018).

The 21st Century Skill

The term 21st century skill refers to a broad set of knowledge, skills, work habits, and character traits that educators, school reformers, college professors, employers, and others believe are crucial for success in today's world, particularly in collegiate programs and contemporary careers and workplaces. In general, 21st century skills can be applied across all academic disciplines and throughout a student's educational, professional, and civic existence. Although the specific skills considered to be "21st century skills" may be defined, categorized, and determined differently from person to person, location to location, and school to school, the term does reflect a general, if somewhat loose and fluctuating, consensus.

In the 21st century, which is generally accepted to be the age of globalization, the information society and knowledge-based economy have had a big impact on educational reform so that the key theme of education is lifelong learning. Thus, the idea of learning-to-learn skills was widely adopted in educational policy all over the world. Consequently, traditional methods of teaching and learning, such as materialism and consumerism, gave way to anti-authoritarian concepts. This turned into the learner-centered approach, which promotes autonomous learning skill and engages learners in lifelong learning (Al-Hawaj et al., 2015). The majority of language instructors and researchers consider both the theory and practice of autonomous learning.

Three main rationales underpin promoting autonomy in ELT (Warschauer, 2000). *Firstly*, learning is a lifelong process. It is clear that the teacher cannot teach learners everything they would like to know; therefore, the best method for a teacher to serve students is to equip them with self-learning strategy. In addition, the rapid pace of technological development in modern world necessitated modifications to the outside-of-classroom learning strategies. Consequently, fostering learner autonomy in our classes can best prepare learners to pass through to the real world where they can explore their strategic competence to learn what they need to know through their own experience (Al-Hawaj, et al., 2015). *Secondly*, promoting learner autonomy is a priority due to the global availability of a vast number of English sources that can be used as learning inputs. The learners can access numerous channels of information that equip them with tools and strategies which will empower them to benefit from the opportunities in extending classrooms (Hedgcock & Ferris, 2018). The last reason relates to the essence of learning. The most effective learning has a personal learning process at its core. This occurs when learners recognize their desires and exercise their motivation to learn. Teachers can

encourage them to be actively involved through positive learning activities and a positive environment. Not all responsibility for the learning and instructing process rests with teachers. Students are empowered to assume responsibility by determining their own requirements, objectives, and evaluation criteria (Kangkha & Mahadi, 2017). This leads them to shape their fundamental learner autonomy (Kangkha, 2012).

As a teacher in 21st century, we cannot deny online education. Computer based aids in teaching and learning process which involves in acquiring computer enhanced learning information and study materials which are primarily gained from computer that is connected to the internet can be defined as online education. Thus, the online education now plays more a significant role in our career. Teachers and students can now complete their studies online with the assistance of computers (Booncherdchoo, & Booncherdchoo, 2017; Judson, 2006). For instance, it facilitates and supports teacher and learner time management. They can study at any time including revising, reviewing, and preparing study materials in advance. Furthermore, online education improves the individual's career development in which he or she can get more professional opportunities, such as a higher salary, promotion to a higher rank, and more effective working skills. Therefore, electronic literacy (mastery of basic technology skills) has become a prerequisite for both teachers and learners in this era. Without necessary electronic competency, we will be educationally and professionally disadvantaged (Prasongmanee, et al., 2021).

People have effectively adopted 21st century skills as learning standards for their ability or competency (commonly associated knowledge, skills, work habits, and character. This includes: Critical thinking, problem solving, reasoning, analysis, interpretation, synthesizing information; Research skills and practices, interrogative questioning; Creativity, artistry, curiosity, imagination, innovation, personal expression; Perseverance, self-direction, planning, self-discipline, adaptability, initiative; Oral and written communication, public speaking and presenting, listening; Leadership, teamwork, collaboration, cooperation, facility in using virtual workspaces; Information and communication technology (ICT) literacy, media and internet literacy, data interpretation and analysis, computer programming (Iamtrakul & Klaylee, 2019; Sethakul & Utakrit, 2019 Suphapanworakul, et al., 2020); Civic, ethical, and social-justice literacy; Scientific literacy and reasoning, the scientific method; Global awareness, multicultural literacy, humanitarianism (Rerkklang, 2018).

The RUTS Policy

The university defines the organization's core values, which are represented by 4 letters, RUTS, and are used instead of the abbreviated name of the university. 'R' stands for "Responsibility" referring to take responsibility for yourself and responsible for duty to produce professional practitioners. 'U' stands for "Unity" defining as one unity, teamwork, strengthening in order to upgrade and increase the capacity to produce manpower and create innovation for sustainable social development. 'T' stands for "Technology" calling for catching up with the development of modern technology as a management tool educational management and networking. 'S' stands for "Shining" showing as a radius of wisdom creating intelligence through practice and creativity based on love and faith in order to create innovation that is the wisdom of the people of Thai.

However, the core value of RUTS is the "Innovative University". Hence, all provided subjects trend to reaching out the learning innovative outcomes and impacts.

The Description of Independent Study Course

The Pre- IS and IS courses are compulsory courses provided for the undergraduate students in fourth EIC at the Faculty of Liberal Arts, RUTS. The pre-requisite course is

called as the Pre- IS which provides parts of term paper; choosing topic; searching information; reviewing related literature; ensuring citation and referencing; writing references or bibliography. The IS course describes on the instrument construction; data collection; data analysis; conclusion and discussion; and data presentation in spoken and written forms.

It can be said both courses have put the research study and creation of knowledge independently in the form of research focusing on students' critical thinking and research; data presentation in spoken and written forms based on the results of their own study in a form of survey, projects, web-pages, and other forms.

The Policy and Strategy of Songkhla Province

According to the policy, knowledge of community enterprise management should be generated among the people. For example, knowledge of accounting, production technology, product design, branding, and marketing management are highlighted in the policy. Local academic institutes should play a role in closely practicing and monitoring the management of enterprises. It is obviously seen in the higher education course description that a lecturer needs to learn and raise awareness on the afore mentioned issues.

RESEARCH METHODOLOGY

In order to succeed in conducting the research, the research methodology can be described as the follow:

Research Population

The research population were the research topics in the IS course, EIC, Faculty of Liberal Arts, RUTS from the year 2017-2018 with a total of 109 topics.

Research Instruments

The Research Topic Analysis Checklist (RTAC) was used as a research instrument which included with two parts namely the language and linguistics research theme and the Thailand 20-Year National Strategy Plan

Research Procedures and Data collection

There were five steps in conducting this research study, described as follow: (1) studying and analyzing the objectives of The Thailand 20-Year National Strategy Plan, the university mission, provincial policy and strategy, and the Pre- IS and IS courses, (2) designing and pre-evaluating the RTAC, semi-structured interview and questionnaire. Then, submitting the research tool to three experts, which is followed by editing based on as the experts' recommendation and suggestion, (3) identifying and categorizing the 109 research topics into the RTAC. In case, if there were any issues like unclear topics, clarification from research owners, and unidentified topics, the researcher asked for help from the experts. Next, all identified and categorized topics in the TRAC were checked and confirmed by the experts. Finally, the researcher and the owners took responding to the questionnaire and semi-structured interview as a whole picture, (4) collecting and analyzing the data from all mentioned research tools, the researchers selected each statistic matched to data patterns, but mainly in percentage, (5) drafting and reporting all collected and analyzed data into the format of research report.

RESULTS AND DISCUSSION

The findings showed that the most of the research projects were in the strategy of human capital development and strengthening (85%), social cohesion and just society

(5.45%), and national competitiveness enhancement (1.09%) respectively, whereas there was at 8.21% ungrouped projects as shown in table 1.

Table 1. The number and percentage of the identified and categorized research topics based on the Thailand 20-year national strategy plan

No.	Thailand 20-Year National Strategy Plan	Number of Research topics	Percentage
1	Strategy of human capital development and strengthening	93	85%
2	Strategy of social cohesion and just society	6	5.45%
3	Strategy of national competitiveness enhancement	1	1.09%
4	Ungrouped projects	9	8.21%
	Total	109	100%

Based on the data shown in Table 1, it was found that the number of research projects involved in the strategy of human capital development and strengthening was extremely high, at approximately 93 topics (85%). The second was about the social cohesion and just society at 6 topics (5.45%). The national competitiveness enhancement was only one topic (1.09%) whereas the 9 research topics (8.21%) were ungrouped projects respectively. The following details were samples of research topics categorized based on the Thailand 20-Year National Strategy Plan:

Strategy of human capital development and strengthening

The following research topics can be identified and categorized into the strategy of human capital development and strengthening as stated in the Thailand 20-Year National Strategy Plan, as their primary focus is on improving and developing the human potential in language learning.

Example 1 *The Use of a Website to Improve the English Writing Skills Focusing on Academic Verbs of First Year English for International Communication Students (Twilight Program) in Faculty of Liberal Arts, Rajamangala University of Technology Srivijaya 1/2019*

Example 2 *Improving the Learners' Speaking Skill in Everyday Conversation by Using Instagram in Conversation Course for Engineering Students*

1/2019

Example 3 *Development of Chinese Conversation Block for Pre-apprentice*

2/2019

In example 1, 2, and 3, it is obviously seen that the objectives of those research topics are to improve the samples' skills of language study by using digital technology.

Strategy of social cohesion and just society

The following research topics can be grouped into the strategy of social cohesion and just society as mentioned in the Thailand 20-Year National Strategy Plan because these research topics aimed to solve the problem in communities. Therefore, the

researchers needed to lookback to their local communities and identify the problems; and then applied the research procedures to deal with the problem.

Example 4 Developing English Speaking Skills of the Cosmetic Shopkeepers at Kimyong Market by Using Cosmetic Vocabulary Webpage

2/2019

Example 5 English Learning Tool of the Vehicle Driving License Preparation Test for Foreigners Living in Thailand

2/2019

Example 6 Aesop Story Telling in English for Raising the Orphans' Moral Awareness, Songkhla

2/2019

In example 5, 6, and 7, it can be implied that the researchers had to link up their research in their locals. However, these research topics must be adapted to the language-study abilities of the samples.

Strategy of national competitiveness enhancement

This research topic can be grouped as the strategy of national competitiveness enhancement as mentioned in the Thailand 20-Year National Strategy Plan because it describes the related issues.

Example 7 *Improving English Speaking Skills of the Cosmetic Shopkeepers at Kimyong Market by Using L.C.V Webpage*

2/2019

In example 7, it can be said that the researchers need to connect their locals and communities by designing the LCV webpage to help the cosmetics' traders in selling their product to foreigners. However, this research topic is still to be improved the samples' language study skills.

Ungrouped projects

These following research topics can be specified as ungrouped projects because they cannot be placed into any strategy as stated in the Thailand 20-Year National Strategy Plan.

Example 8 *Junior Students' Expectations and Perceptions on Chinese Subjects, Program English for International Communication, Faculty of Liberal Arts, Rajamangala of Technology Srivijaya Songkhla*

2/2019

Example 9 *Survey of English Traffic Signs through the Tram Route in Songkhla*

2/2019

Example 10 *Factors Effecting towards the Online Communication*

In example 8, 9, and 10, it can be referred that the researchers investigated the basic data in their research, which are rarely used to reach out the innovative learning outcomes.

Noticeably, an innovation technology and area based IS projects gradually increased with the 21 century skills in 2019. Additionally, when the subject managers and advisors can understand the provincial strategy, university mission and Thailand 20-Year National Strategy Plan, they can manipulate the various research projects related to those mentioned strategies.

CONCLUSION AND SUGGESTION

This study can mutually provide a practical guideline for encouraging both teachers and students to explore more diverse interesting topic areas by bridging the gaps between the university mission, provincial policy and strategy, and Thailand 20-Year National Strategy Plan. The Understanding of the objectives of Pre-IS and IS courses, the university mission and policy, provincial policy and strategy, Thailand 20-Year National Strategy Plan, have strongly potential and beneficial to encourage and support lifelong language learning. However, it depends on how the teacher as the subject manager maximizes his or her potential to guide an individual's development from a young generation to ongoing lifelong learning mode. This induces the sustainable development in teaching and learning in higher education.

The researchers recommended that the future researchers conduct a similar study to provide a practical guideline for encouraging teachers and students to explore more diverse interesting topic areas in order to fill the the voids between the university's stated mission, provincial policy and strategy, and National Strategy Plan from the home country.

REFERENCES

- A-Hawaj, A. Y., Elali, W., Twizell, E. H. (Eds.). (2008). *Higher Education in the Twenty-First Century*. CRC Press.
- Booncherdchoo, S. L., & Booncherdchoo, N. (2017). Vision competency of Thai principals at early childhood school from 2017 to 2036. *Veridian E-Journal, Silpakorn University (Humanities, Social Sciences and arts)*, 10(5), 46-62.
- Booncherdchoo, S. L., & Booncherdchoo, N., (2017). Vision competency of Thai principals at early childhood school from 2017 to 2036. *International (Humanities, Social Sciences and Arts)*, 10(5), 46-62.
- Department of International Organizations, Ministry of Foreign Affairs of Thailand. (2017). Thailand's voluntary national review on the implementation of the 2030 agenda for sustainable development 2019, June, 2017 (pp. 2-31)
- Hanington, L. M., & Renandya, W. A. (2017). *Developing English Language Skills in the Singapore Higher Education Context*. In E.S. Park&B. Spolsky (ed). *Tertiary English education in Asia* (pp.152-167). Routledge.
- Hedgcock, J. S., & Ferris, D. R. (2018). *Teaching readers of English: Students, texts, and contexts*. Routledge

- Iamtrakul, P., & Klaylee, J. (2019, December). Lesson learns of success factors from 10 smart cities development: Thailand context. In *2019 First International Conference on Smart Technology & Urban Development (STUD)*. IEEE.
- Judson, E. (2006). How teachers integrate technology and their beliefs about learning: Is there a connection? *Journal of Technology and Teacher Education*, 14(3), 581-597.
- Kangkha, P., & Mahadi, T. S. T. (2017). Challenges and Opportunities for Internationalism Impacts Towards Thai Higher Education. *International Journal of Innovation and Research in Educational Sciences* 4(4), 502-508
- Kohonen, V. (2000a). Facilitating transformative learning for teacher growth. In Beairisto, B. and P. Ruohotie (eds.), *Empowering teachers as life-long learners*. Hämeenlinna: Research Center for Vocational Education, (pp.127-145).
- Kuhavichanun, C., (2016). Hopes and dream for the future of Thailand: Strategic concepts for national development for the period of 10 Years (2017–2026) for the 20 year national strategy (2017–2036). *The National Defence College of Thailand Journal*, 59 (3) 99-121
- Kuhavichanun, L. G. C. (2017). Hope and dreams for the future of Thailand strategic concepts for national development for the period of 10 years (2017–2026) for the 20 year national strategy (2017–2036). *วิจัย การ ศึกษ าส านัก*, 59(3), 99-121.
- Lidskog, R., & Elander, I. (2012). Ecological modernization in practice? The case of sustainable development in Sweden. *Journal of Environmental Policy & Planning*, 14(4), 411-427.
- Little, D. (2009). Learner autonomy and ELP: Language learner autonomy and the european language portfolio: Two L2 English Examples. *Language Teaching*; 42 (2) 222-233.
- Mineur, E. (2007). Towards sustainable development: Indicators as a tool of local governance (Doctoral dissertation, Statsvetenskap).
- National Strategic Committee The Prime Minister's Office. (2016). 20 Year National Strategy (2017 - 2036) Draft. "Accessed September 10, 2017". Retrieved from [http:// www.nesdb.go.th/download/document.pdf](http://www.nesdb.go.th/download/document.pdf)
- OECD/UNESCO, (2016), Education in Thailand: An OECD-UNESCO Perspective, Reviews of National Policies for Education, OECD Publishing, Paris. Retrieved from <http://dx.doi.org/10.1787/9789264259119-en>
- Office of the Education Council. (2017). National Education Plan (2017 – 2036). Bangkok: Prikwan.
- Omisore, A. G. (2018). Attaining Sustainable Development Goals in sub-Saharan Africa; The need to address environmental challenges. *Environmental Development*, 25, 138-145.
- Potts, T. (2010). The natural advantage of regions: Linking sustainability, innovation, and regional development in Australia. *Journal of Cleaner Production*, 18(8), 713-725.
- Prasongmanee, C., Wannapiroon, P., & Nilsook, P. (2021). Synthesis of digital supervisor competency. In *2021 Research, Invention, and Innovation Congress: Innovation Electricals and Electronics (RI2C)* 161-166. IEEE.
- Rerkklang, P. (2018). Sustainability development consciousness and behavior of Thais: The effects on quality of life and happiness. *Journal of Advances in Humanities and Social Sciences*, 4(1), 51-59.
- Sethakul, P., & Utakrit, N. (2019). Challenges and future trends for Thai education: Conceptual framework into action.

- Sunthornkit, S., (2018). The national defence college of Thailand: NDC Security Review; 60 (1), (pp.3-16).
- Suphapanworakul, M., Kaewurai, W., & Nilsook, P. (2020). Digital competencies for industrial production managers. *International Journal of Innovation, Management and Technology*, 11(4).
- The National Defence College of Thailand. (2016). National Strategic Development Manual. Bangkok: NDC. (pp. 2-21)
- Theparat, C., (2019). Business: Thailand nearing 12th plan goals. Bangkok Post: Retrieved on <https://www.bangkokpost.com/business/1648904/thailand-nearing-12th-plan-goals>
- Uppamaiathichai, T., & Roueangrong, P. (2021). Policy proposal on development of research topics of graduate students at the Faculty of Education, Naresuan University. *Journal of Green Learning*, 1(1), 7-11.
- Vimolsiri, P., (2017). Thailand 20 Year Strategic Plan and Reforms: National Economic and Social Development Board (NESDB). Thailand Focus 2017. (pp.1-7).
- Warschauer, M. (2000). The changing global economy and the future of English teaching. *TESOL Quarterly*, 34(3), 511-535.
- Yarker, H. R. (2008) Strategy and the national security professional: Strategic thinking and strategy formulation in the 21st century. Westport, Connecticut: Praeger Security International