

บทเรียนของการอุดมศึกษาไทยที่สามารถเรียนรู้  
ได้จากแนวคิดมหาวิทยาลัยเปิด  
เพื่อตอบสนองต่อความต้องการของผู้ใหญ่วัยทำงาน  
การลดความเหลื่อมล้ำทางการศึกษา  
และเพื่อความอยู่รอดของสถาบันอุดมศึกษา

Lessons Thai Higher Education can learn  
from the Open University Concept - Addressing  
the needs of an aging workforce, reducing  
education inequality and university survival.

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บทเรียนของการอุดมศึกษาไทยที่สามารถเรียนรู้ได้จากแนวคิดมหาวิทยาลัยเปิด เพื่อตอบสนองต่อความต้องการของผู้ใหญ่วัยทำงาน การลดความเหลื่อมล้ำทางการศึกษา ฯ

### บทคัดย่อ

บทความนี้มีวัตถุประสงค์เพื่อศึกษาแนวคิดของมหาวิทยาลัยเปิดที่สามารถนำมาปรับใช้กับการจัดการปัญหาที่การอุดมศึกษาไทยต้องเผชิญในปัจจุบัน ซึ่งสถาบันอุดมศึกษาในประเทศไทยกำลังอยู่ในช่วงเปลี่ยนผ่านจากการผลิตแรงงานเพื่อป้อนสู่ภาคอุตสาหกรรมหนักไปสู่ระบบเศรษฐกิจที่อาศัยเทคโนโลยีและนวัตกรรมที่สอดคล้องกับประเทศไทย 4.0 และยุทธศาสตร์ชาติ 20 ปี ที่ประกาศโดยรัฐบาลเมื่อปี พ.ศ. 2561 ปัจจุบันการอุดมศึกษาไทยกำลังเผชิญกับวิกฤตหลัก 3 ประการ ดังนี้ ประการแรก ประชากรวัยเรียนที่ลดลงตามอัตราส่วนการชะลอตัวทางประชากรศาสตร์ ประการที่สอง ความเหลื่อมล้ำทางการศึกษา และประการที่สาม การฝกอบรมผู้ใหญ่วัยทำงาน

ผู้เขียนได้นำเสนอรูปแบบของมหาวิทยาลัยเปิดเพื่อรับมือกับวิกฤตดังกล่าว ภายใต้การวิจัยและการวิเคราะห์ความสำเร็จรวมทั้งนวัตกรรมที่ล้ำสมัยตลอด 50 ปี มหาวิทยาลัยเปิดประสบความสำเร็จระดับนานาชาติในการให้การศึกษาที่มีคุณภาพแก่นักศึกษามากมายในสถานที่ต่างๆ อย่างไม่จำกัดพื้นที่หรือภูมิลาเนา โดยมีการเข้าถึงการศึกษาของผู้ใหญ่วัยทำงานในประเทศที่มีรายได้ปานกลางและรายได้ต่ำด้วยเหตุนี้จึงเป็นการจัดการปัญหาช่องว่างและความเหลื่อมล้ำทางการศึกษา และที่สำคัญคือการจัดให้มีหลักสูตรการศึกษาเพื่อเป็นเครื่องมือในการสร้างการเปลี่ยนแปลงทางเศรษฐกิจและสังคม

บทความนี้นำเสนอข้อค้นพบและข้อเสนอแนะในการยกระดับคุณภาพการอุดมศึกษาไทย เพื่อความเจริญก้าวหน้าและเพื่อตอบสนองต่อความต้องการของประชากรและวิสัยทัศน์ทางเศรษฐกิจของประเทศ บทความนี้สรุปด้วยประเด็นคำถามที่สำคัญสำหรับสถาบันอุดมศึกษาไทย พร้อมทั้งแนะนำแหล่งข้อมูลสำหรับผู้เกี่ยวข้องเพื่อการพิจารณาในการวางแผนและการดำเนินงานจัดการศึกษาระดับอุดมศึกษาในประเทศไทย

**คำสำคัญ:** การศึกษาทางไกล; การรับสมัครนักศึกษา; การตลาดทางการศึกษา; การบริหารการศึกษา; อุปสรรคแบบสามเหลี่ยม; มหาวิทยาลัยขนาดใหญ่

## Abstract

This article aimed to investigate the extent to which the Open University concepts principle are applicable, alleviating current problems faced by Thai Higher Education. Thai Universities were at a crossroads in transitioning from a heavy industry-based workforce to a high tech and innovation value-based economy in alignment with the Thailand 4.0 initiative 20 years plan launched by the government in 2018. Thai Higher Education faced the following critical issues; firstly, a demographic downturn of the student-leaver population; secondly, education inequality; and thirdly, re-training an aging workforce.

I proposed that the OU (Open University) model adequately addressed these challenges, based on the available conducted research and an analysis of 50 years of success and groundbreaking innovation. The open Universities have achieved international success in providing quality education to an expanding student base, independent of location, and reached working adults in middle-income and poorer countries, thus bridging the inequity gap, and most importantly, provided programs of study as interventions to deliver social and economic change.

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Therefore, the findings and recommendations in this paper should prove invaluable to institutions of Higher Education in Thailand to prosper, thrive and meet the needs of the population and the country's economic vision. Finally, the paper concludes with a set of important questions and recommended resources that should be considered by all those involved in planning and facilitating Higher Education in Thailand.

**Keywords:** distance education  
admission  
marketing  
administration  
the iron triangle  
massification

## Introduction

### 1. Concept of Open University

According to Daniel (2019, p.196), Open Universities were the most significant innovation in higher education of the late 20<sup>th</sup> century. Open universities are institutions offering degrees with low or no entry requirements and claim to be an ideal study option for working adults, for whom studying part time is not a choice, and for some students is their only option (Marr, 2018, p.3). The goal of open universities is to offer everyone equal opportunities to develop their abilities, to improve their level of education and to retrain for a new career, with the flexibility of distance learning (Pop, 2021, para. 5).

The first Open University was established with much fanfare as a public research university in London in 1969. Current enrollment is more than 168,000 in Europe, and it qualifies as one of the world's largest universities. More than 2.2 million students have attended courses (The Open University, 2021, para. 1). Additionally, some seventy

Open Universities or single-mode distance teaching universities (DTUs) have also been established, with the largest number being found in Asia (DeVries, 2019, Introduction section, para. 1).

Open Universities use their admission policies to democratise education. This means opening access widely and empowering students with more control to manage their own learning. Open admission policies assume that it is exit standards, not entry standards that matter and quality of education can be achieved without lowering academic standards (Guri-Rosenblit, 2013, p.11).

Having said this, when non-traditional students are included in such an institution, quality and reputation become defined by the balance of risk taken in admission with outcomes of student success. Given that the nature of study is usually part-time, with work responsibilities and family obligations, the failure rate will not be as low in elite, exclusive universities. The trade-offs are the benefits in

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equality and life-changing opportunity for self-motivated students (Marr, 2018, p.3).

Another important concept of Open Universities is the ability of expand enrollment at low marginal cost, which results in massification, defined as extending the reach of mass higher education to middle income and poorer countries. This increase has mainly been in Asia, Africa, and Latin America (Tait, 2018, p. 18). India, China, and Bangladesh have Open University Distance Learning (ODL) institutions with over a million students (Contact North/Nord, 2021, para. 1)

As will be seen, awareness of these important Open University concepts can play a vital part in guiding Thai Higher Education Administrators and government policy advisors to meet the critical challenges they are currently facing.

## 2. The Critical State of Thai Higher Education

Higher Education is at a point of unprecedented uncertainty and change, with fiscal changes leading away from previous emphasis and dependency on commercialization and exclusiveness. Distance Learning Technology is rapidly opening up new markets, with increasing international competition and flexibility. Thai Higher Education Institutions must respond to these external pressures in a timely and appropriate manner by focusing upon a more student and industry-partner focused model to meet the needs of the nation (Shacklock, 2016, p.1).

The basic issue in Thailand is that labor market demands are not being met. The majority (60%) of students in Thai higher education study social sciences, business, and law (Tangchuan as cited in Rhein, 2017, p.286), with graduates adding to an already saturated market. According to (Wittayasin, 2017, p.31), analytical

skills, problem solving abilities, foreign language skills, and technical abilities are vital to the development of the Thai economy.

## 2.1 Demographics

The situation is critical. The declining number of younger students will be insufficient to meet the needs of the workforce. The National Economic and Social Development Board projects that school-aged Thais, age 21 years and younger, will decrease 20% by 2040, which represents a staggering 62% decline from 1980. The decrease in higher education enrollment from 2013 to 2015 was 12%, a drop of 273,000 seats (ICEF Monitor, 2016, para. 7). The number of students at the two Thai Open Universities fell by 50% in 2019, while some private universities dropped by 70%. Deputy Education Minister Udom Kachintorn has predicted that several Thai universities would close or be merged with others in the near future (Mala, 2019, para. 10,18).

Existing institutions are becoming increasingly desperate for students, and one temptation is to consider lowering their standards. Thailand cannot afford to lower its standards in order to attract more students (Rhein, 2017, p.284). Thai higher education has not met the international standard and continues losing pace with its ASEAN neighbors. A recent report indicates that Thai universities ranked 8<sup>th</sup> out of 10 ASEAN nations (World Economic Forum, 2014-2015, p.28). Thai Higher Education must maintain sustainable growth through the upcoming and rocky transition to Thailand 4.0 and corresponding demographic shift in order to survive while at the same time meeting the needs of a changing and aging workforce.

## 2.2 Budget Considerations

Throwing money at the problem has not been successful. The problem is not a financial issue as the Thai education budget had been growing considerably with an increase of 29% from 2010 to its peak in 2015 of 559.43

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billion baht. It has somewhat leveled off at 493.1 billion baht in 2019 (Statista, 2019, table). However, Thai student performance is declining while the cost to educate on a per student basis increases (Oxford Business Group, 2017, para. 15).

The breakdown of the proposed 2022 budget for the improvement of Higher Education of 117.8 billion baht is 80% for higher education personnel salaries, 33% for operational costs, and 7% for improving the excellence of higher education institutes and developing highly specialized manpower to respond to the needs of the country (Thepatat, 2021, para. 1,4). In consideration, it does not seem reasonable that increasing teacher salaries necessarily results in better quality teaching.

### **2.3 Open University Solutions**

Other strategies are therefore necessary. This is where the Open University concept can help. Re-evaluating admission requirements, a renewed marketing focus with

appropriate skills, and a critical thinking curriculum to retrain an aging workforce, along with a model of growth (massification concept and the ‘Iron Triangle’ – see section 6), will be extremely advantageous for the survival of Thai Higher Education.

### **3. Re-evaluation of Marketing and Admission Procedures**

Following Open University concepts, institutions need to specifically consider which socio-economic groups have been historically excluded from admission and then re-evaluate entrance opportunities and marketing strategies. Traditional marketing focus is directed exclusively to those competitively eager to apply but excludes those for whom higher education may be culturally and socially challenging. Too often the commercial aspect of marketing is disproportionately prioritized over considering the needs of students (Tait, 2013, p.11).



Study programs must align with the needs of the nation and empower students to be successful in making life choices. It may help the organization to formally or informally frame their current and future proposed programmes of study and think of them as ‘interventions to deliver desired social and economic change’ (Tait, 2013, p.2). Higher Education is starting to adapt to the habits and attitudes of older learners as students’ median and average ages increase (Daniel, 2019, p.203).

According to (Michael and Trines, 2018, University Admissions section, para. 2) a new admissions system for the 54 Thai public universities, the Thai Central Admission System (TCAS), was implemented in 2018 for the purpose of making the admissions process more socially fair, especially for previously disadvantaged applicants from families that could not afford the additional tutoring, examination fees and travel expenses involved. As a result, there is now less emphasis on examination

results. Private universities, however, can admit students based on alternative criteria.

#### **4. Education Inequality in Thailand – A product of Exclusiveness**

Inequality in Thailand has worsened in recent years. In 2016 it was ranked number three. However, in 2018 Thailand became the most unequal country in the world, ahead of Russia and India, with 66.9% of the country’s wealth controlled by 1 percent (500,000 people) (Bangkok Post, 2018, para. 2,5). The Thai government’s policy on higher education has mainly focused on making the top universities more competitive and, therefore, exclusive. The two Thai Open Universities were established in the 1970’s for those who could not be accommodated or failed to qualify for the major private universities.

Ramkhamhaeng University, with an enrollment of 525,000, is the 14<sup>th</sup> largest university in the world (Yee, 2018, para. 7) and Sukhothai Tham-

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mathirat Open University (STOU) established in 1978, has a recent enrollment of 64,205 (STOU FAQs, 2016, para. 4). These are universities for which students need not take any entrance examinations; they are required only to hold a high school diploma. In 2004, the Rajabhat University Act sought to address an urgent demand for higher education, and a number of postsecondary institutes were converted to universities. There are now 38 Rajabhat Institutes, previously called *Wittayalai Khru* (teachers colleges), recognized as universities offering courses and degrees in many fields (OHEC 2019, list)

Although inequality in Thai Higher Education caused by closed University competitiveness has been somewhat alleviated through the establishment of open admission universities and Rajabhat Institutes, the problem persists. Budget allocation for limited admission universities is ten times higher than that given to Rajabhat universities. The different

level of resources that go into different types of universities ultimately creates inequality in students' performance (Wittayasin, 2017, p.34). Regional disparities also contribute to education inequity, most significantly in the eastern agricultural area of Isan, for example. The trend of declining migration from Isan to Bangkok and other provinces is caused by students preferring to pursue higher education and work close to their community rather than attending the elite schools in Bangkok (Lao and Parks, 2019, p.17).

Economic income, poverty, lack of resources, small schools that do not provide much more than basic literacy, and lack of financial assistance from the government contribute significantly to the lack of regional opportunity. Statistics indicate that only 19% of the Isan population have a high school diploma (Lao and Parks, 2019, p.15). Open Admission standards contribute significantly to equality of gender, economic and geographic opportunity, and is reinforced signifi-

cantly by the advantages of distance learning, and are especially helpful for students who lack the independence of movement to attend campus classes.

### **5. Re-training the workforce (alignment with Thailand 4.0)**

Open and Distance Learning (ODL) has gained recognition in Thailand, starting with massive use and success by Sukhothai Thammathirat Open University and increasing in use at all levels of Thai Education. Major industries and employers in the private sector use ODL for developing human resources in professional and vocational fields. Short-duration, specialized ODL programs targeting particular workplace needs are increasingly popular and represent significant collaboration opportunities for Thai Higher Education in re-training an aging workforce and expanding their student base (Daniel, 2019, p.197).

Opening admission to older students, sometimes returning after years of formal schooling, has significant benefits in refreshing skills and supporting confidence. They appreciate the flexibility offered by institutions to offer professional development training and vocational re-skilling essential to job survival and economic mobility (Marr, 2018, p.2). Re-training the workforce necessarily involves endorsing, either formally or informally, the “10 Age-Friendly University Principles” of the Age-Friendly University Global Network (Eisenberg, 2019, para. 7).

### **6. Massification, ODL, and the Iron Triangle Concept**

#### **6.1 Massification and ODL**

The potential of using Open and Distance Learning (ODL) goes beyond simply delivering courses across distances. The capacity to expand enrolments at a low marginal cost is a vital feature of ODL. As worldwide OUs have demonstrated, with enroll-

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ment in the hundreds of thousands and millions, capitalizing on ODT is a viable solution to the Iron Triangle trap. ODL unlocks a vital key to remaining profitable, increasing student reach and enrollment, and above all, avoiding the Iron Triangle trap.

Sukhothai Thammathirat Open University is an example of a highly successful Open University which started with three schools; educational studies, liberal arts, and management science, and now has 12 schools of study with undergraduate, graduate, and certificate programs (Advance HE, 2020, para. 7).

## **6.2 The Iron Triangle Concept – Increasing School Productivity**

It is important to understand the graphical strategy of the Iron Triangle developed by Daniel (2019, p. 200) when attempting to expand a school using OU principles to overcome the constraints of increasing student numbers, cutting operating costs, and improving quality all at the same time. All Thai universities are currently facing these challenges.

To explain by example, each variable has a significant effect on the other two. Increasing the number of students in a physical classroom will lower quality. Adding more teachers and/or improving the quality of learning materials increases costs. And cutting costs directly will result in lower quality and/or fewer students. Advances in ODL make it possible to accomplish all at the same time. Attempts at optimizing school systems have consistently plagued education and are the reason why educational quality is so often equated with the exclusivity of access. Technology allows education to break out of these constraints. Another term for this is Economies of Scale, which is a unique feature of the OU model (DeVries, 2019, para. 6)

## **Conclusion**

To respond to the trend of an aging workforce and the Thailand 4.0 initiative aimed at creating important 21<sup>st</sup> Century learning skills, universities should focus on developing short-

term and continuous programs for the workforce, to ensure equality and more open access to higher education while at the same time opening access to more students.

Universities are encouraged to focus on creating more income-generating channels, based on existing resources such as teachers, researchers, and laboratories. Non-degree programs can be developed in collaboration with industry partners, as well as short-term on-demand training, certificate courses, and re-skill and up-skill programs

The educational innovations pioneered by Open Universities since 1969 are no longer exclusively in their domain due to advances in digital technology and a change in the culture of higher education. Thai Higher Education would be well advised to learn from the concepts of Open University as outlined in this paper to work towards establishing a stable and efficient education system to serve the needs of the people and the nation.

### Recommended Resources

1. The Age-Friendly University (AFU) <https://www.geron.org/programs-services/education-center/age-friendly-university-afu-global-network>
2. Asian Association of Open Universities (AAOU) <https://www.aaou.org/>
3. Thailand Cyber University (TCU) <https://thaicyberu.go.th/>
4. UNESCO Paris (2016) Call to Action: <https://iite.unesco.org/files/news/639206/Paris%20Message%2013%2007%202015%20Final.pdf>

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## Bibliography

- Advance HE. (2020). **‘SMART’ Programme supports Fellowship at Thai open university.** n.p. <https://www.advance-he.ac.uk/news-and-views/smart-programme-supports-fellowship-thai-open-university>
- Bangkok Post. (2018 December 6). **Thailand most unequal country in 2018.** n.p. <https://www.bangkokpost.com/business/1588786/report-thailand-most-unequal-country-in-2018>
- Contact North/Nord. (2021). **Searchable Directory of More than 65 Open Universities Worldwide.** TeachOnline.CA. <https://teachonline.ca/tools-trends/universities>
- Crocco, O. S. (2018). **Thai higher education: Privatization and massification.** In *Education in Thailand* (pp.223-255). Springer, Singapore. [https://www.researchgate.net/publication/328683933\\_Thai\\_Higher\\_Education\\_Privatization\\_and\\_Massification\\_An\\_Old\\_Elephant\\_in\\_Search\\_of\\_a\\_New\\_Mahout](https://www.researchgate.net/publication/328683933_Thai_Higher_Education_Privatization_and_Massification_An_Old_Elephant_in_Search_of_a_New_Mahout)
- Daniel, J. S. (2019). **Open Universities: Old concepts and contemporary challenges.** *International Review of Research in Open and Distributed Learning*, 20(4), 195-211. <https://www.erudit.org/en/journals/irrodl/1900-v1-n1-irrodl04939/1065476ar/abstract/>
- DeVries, I. (2019). **Open Universities and Open Educational Practices: A Content Analysis of Open University Websites.** *International Review of Research in Open and Distributed Learning*, 20(4). <http://www.irrodl.org/index.php/irrodl/article/view/4215/5170>
- Educating the World through Asia. (2021). **Asian Association of Open Universities.** n.p. <https://www.aaou.org/>
- Eisenberg, R. (2019, June 4). **Age-Friendly Universities Are Finally Here.** *Forbes.* n.p. <https://www.forbes.com/sites/nextavenue/2019/06/04/age-friendly-universities-are-finally-here/?sh=357ca03f70f5>

- Guri-Rosenblit, S. (2013). **Open/distance teaching universities worldwide: Current challenges and future prospects**. Stara strona magazynu EduAkcja, 4(2). <https://www.oerknowledgecloud.org/record1270>
- ICEF Monitor. (2016, July 12). **Thai demand for higher education cooling as population ages**. n.p. <https://monitor.icef.com/2016/07/thai-demand-higher-education-cooling-population-ages/>
- Lao, R., Parks, T. (2019). **Thailand's Inequality: Myths & Reality of Isan**. The Asia Foundation. n.p. <https://asiafoundation.org/publication/thailands-inequality-myths-reality-of-isan/>
- Mala, D. (2019, January 4). **Thai universities struggle to keep up**. Bangkok Post. <https://www.bangkokpost.com/thailand/general/1604990/thai-unis-struggle-to-keep-up>
- Marr, L. (2018). **The transformation of distance learning at Open University: the need for a new pedagogy for online learning?**. In Higher Education in the Digital Age. Edward Elgar Publishing. <https://www.elgaronline.com/view/edcoll/9781788970150/9781788970150.00008.xml>
- Michael, R., Trines, S. (2018). **Education in Thailand**. World Education News & Reviews (WENR). n.p. <https://wenr.wes.org/2018/02/education-in-thailand-2>
- OHEC. (2019). **List of Accredited Thai Higher Education Institutions**. Office of the Higher Education Commission, Thailand. n.p. [http://inter2.mua.go.th/documents/Thai\\_HEIs.pdf](http://inter2.mua.go.th/documents/Thai_HEIs.pdf)
- Oxford Business Group. (2017). **Thailand's education sector struggles to produce positive results**. n.p. <https://oxfordbusinessgroup.com/overview/learning-curve-despite-premium-placed-learning-sector-has-struggled-show-positive-results-0>

บทเรียนของการอุดมศึกษาไทยที่สามารถเรียนรู้ได้จากแนวคิดมหาวิทยาลัยเปิด เพื่อตอบสนองต่อความต้องการของผู้ใหญ่วัยทำงาน การลดความเหลื่อมล้ำทางการศึกษา ฯ

- Pop, A. (2021, January 6). **What Are Open Universities? And Should I Study Online at One in 2021?** Study Portal. n.p. <https://www.distancelearning-portal.com/articles/236/what-are-open-universities-and-should-i-study-online-at-one-in-2021.html>
- Rhein, D. (2017). **International Higher Education in Thailand: Challenges within a Changing Context.** Journal of Alternative Perspectives in the Social Sciences, 8(3). [https://www.researchgate.net/publication/327337191\\_International\\_Higher\\_Education\\_in\\_Thailand\\_Challenges\\_within\\_a\\_Changing\\_Context](https://www.researchgate.net/publication/327337191_International_Higher_Education_in_Thailand_Challenges_within_a_Changing_Context)
- Shacklock, X. (2016). **From bricks to clicks: The potential of data and analytics in higher education.** Higher Education Commission. <https://www.policyconnect.org.uk/research/report-bricks-clicks-potential-data-and-analytics-higher-education>
- Statista Research Department. (2020, Jun 17). **Government expenditure on education Thailand from 2010 to 2019.** Statista. <https://www.statista.com/statistics/1125601/thailand-government-spending-education/>
- STOU FAQs. (2016). **Sukhothai Thammathirat Open University.** n.p. <https://www.stou.ac.th/main/en/faqs.html>
- Tait, A. (2013). **Distance and e-learning, social justice, and development: The relevance of capability approaches to the mission of open universities.** The International Review of Research in Open and Distributed Learning, 14(4). <http://www.irrodl.org/index.php/irrodl/article/view/1526>
- Tait, A. (2018). **Open Universities: the next phase.** Asian Association of Open Universities Journal. [https://www.researchgate.net/publication/324241575\\_Open\\_Universities\\_the\\_next\\_phase](https://www.researchgate.net/publication/324241575_Open_Universities_the_next_phase)
- The Open University. (2021) **Facts and Figures.** The Open University. <http://www.open.ac.uk/about/main/strategy-and-policies/facts-and-figures>



- Thepatat, C. (2021, February 7). **Govt greenlights B117bn boost for higher education.** Bangkok Post. <https://www.bangkokpost.com/thailand/general/2063875/govt-greenlights-b117bn-boost-for-higher-education>
- World Economic Forum. (2014-2015). **Global Competitiveness Report.** [http://www3.weforum.org/docs/WEF\\_GlobalCompetitivenessReport\\_2014-15.pdf](http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf)
- Wittayasin, S. (2017). **Education challenges to Thailand 4.0.** International Journal of Integrated Education and Development, 2(2), 29-35. <https://so02.tci-thaijo.org/index.php/ijied/article/view/131930>
- Yee, R. (2018). **The Largest Universities In The World By Enrollment.** World Atlas. <https://www.worldatlas.com/articles/universities-with-the-largest-enrollments-in-the-world.html>