



GRADUATES' CHARACTERISTICS IN THE 21ST CENTURY **ACADEMIC YEAR 2023**

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Preface

The research report on graduates' characteristics in the 21st century is a project aimed at producing and promoting institutional research that benefits the educational management of the university. It serves as information for policy-making and guidelines for enhancing the quality of education in producing high-quality graduates with desirable traits as defined by the AU Students' Identity (3Es), as well as meeting the real needs of the labor market.

This report presents the research findings in three parts: 1) factors influencing the decision to hire graduates, 2) the characteristics desired by the labor market, and 3) curriculum guidelines to ensure graduates possess qualities aligned with current labor market demands. The research team hopes that this report accurately reflects the current situation and can indicate the desired traits of graduates in the the 21st century, to be used for further development and implementation according to the university's strategies.

Furthermore, this study project has been successfully completed with great cooperation from the sample group leaders, human resources department, and management of various private companies who generously sacrificed their time to provide insights into the characteristics of graduates. The Institute for Research and Academic Services of Assumption University extends gratitude to all parties involved for their collaboration.

Institution for Research and Academic Services

Table of Contents

	Page
Executive Summary	1
Profile of the Respondents	1
Research Findings	2
1. Factor influencing the selection of graduates for employment	2
2. Graduates characteristics in the 21 st Century	2
3. Curriculum that word help develop graduates to be of high quality	7

List of Tables

		Page
Table 1	Percentages of Industrial business groups in New S-Curve	1
Table 2	Percentages of Job Position	2
Table 3	Percentages of Work experience	2
Table 4	Percentages of Factor influencing the selection of graduates for employment	3
Table 5	Percentages of level importance and necessary of skills for graduates in their future work.	4
Table 6	Percentages of level importance and necessary of skills for graduates in their future work.	5
Table 7	Percentage of level high importance and necessary of skills for graduates in their future work.	6
Table 8	Percentages of level opinion on the types of curriculum that would contribute to the development of high-quality graduates aligned with the demands of the labor market.	7
Table 9	Percentages of graduates from institutions that employers want to work	8
Table 10	Percentages of Curriculum or Field of study that should be taught in the future.	8

EXECUTIVE SUMMARY

The Institute for Research and Academic Services (IRAS), Assumption University, has conducted a survey project entitled “Graduates' characteristics in the 21st century”. The purpose of this survey is to explore the characteristics of graduates, factors affecting employers' decisions to recruit graduates, and curriculum guidelines to ensure that graduates possess qualities aligned with current labor market demands.

This study applied a survey research. The data were collected employers from leading companies in industrial business groups across 10 New S-Curve industries including 1) Finance and Marketing Communication, 2) Construction-related industry, 3) Food for the Future, 4) Digital, Biofuels and Biochemicals, 5) Smart Electronics, 6) Professional services industry, 7) Professional services industry 8) Next-Generation Automotive, 9) Aviation and Logistics, 10) Medical Hub, 11) Affluent, Medical and Wellness Tourism, 12) Jewelry and Craft-related industry, 13) Agriculture and Biotechnology, and 14) Robotics.

Profile of the Respondents

Out of the total number employers of 1,027 respondents, from 21.5% are Finance and Marketing Communication; 15.8% are Construction-related industry; 12.7% are Food for the Future; 11.8% are Digital; 9.0% are Biofuels and Biochemicals; 7.3% are Smart Electronics; 6.4% are Professional services industry; 5.6% are Next-Generation Automotive; 4.1% are Aviation and Logistics; 3.3% are Medical Hub; 0.8% are Affluent, Medical and Wellness Tourism and Jewelry and Craft-related industry; 0.7% are Agriculture and Biotechnology; and 0.3% are Robotics.

Table1: Percentages of Industrial business groups in New S-Curve

Item	Industrial business groups	%
1	Finance and Marketing Communication	21.5
2	Construction-related industry	15.8
3	Food for the Future	12.7
4	Digital	11.8
5	Biofuels and Biochemicals	9.0
6	Smart Electronics	7.3
7	Professional services industry	6.4
8	Next-Generation Automotive	5.6
9	Aviation and Logistics	4.1
10	Medical Hub	3.3
11	Affluent, Medical and Wellness Tourism	0.8
12	Jewelry and Craft-related industry	0.8
13	Agriculture and Biotechnology	0.7
14	Robotics	0.3
Total		100.0

69.4% of the sample consisted of Managers, 18.5% are Supervisor, 10.7% are Director, and 1.4% are CEO. In addition, 28.9% of the sample had work experience of 10 years or more. (As follow table 2-3)

Table 2: Percentages of Job Position

Item	Job Position	%
1	CEO	1.4
2	Director	10.7
3	Manager	69.4
4	Supervisor	18.5
Total		100.0

Table 3: Percentages of Work experience

Item	Work experience	%
1	More than 10 Years	28.9
2	More than 5 - 10 Years	20.8
3	More than 3 - 5 Years	19.6
4	1-3 Years	30.7
Total		100.0

Research Findings

This study employed descriptive statistics, including frequency, percentage and mean to analyze the data, aiming to achieve the following research objectives:

1. Factor influencing the selection of graduates for employment

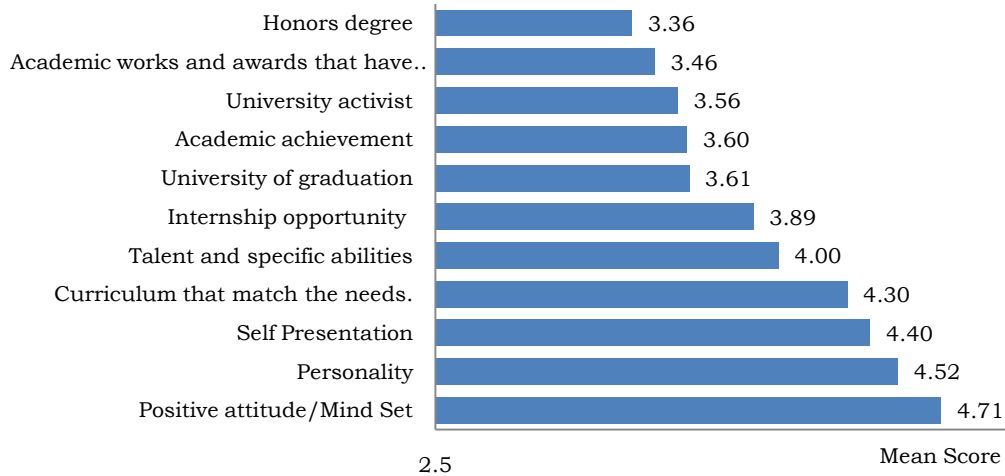
The results of the survey factor influencing the selection of graduates for employment

The top 5 of factor influencing the selection of graduates for employment, mean score 4.71 are "Positive attitude/Mind Set", 4.52 are "Personality", 4.40 are "Self Presentation" 4.30 are "Curriculum majors and faculties that match the needs.", and 4.00 are "Talent and specific abilities" (As follow table 4)

Table 4: Percentages of Factor influencing the selection of graduates for employment

Item	Factor	Level of Important							
		Very high	High	Moderate	Low	Very low	Total	Mean	S.D.
1	Positive attitude/Mind Set	71.9	26.7	1.4	-	-	100	4.71	0.49
2	Personality	54.9	41.7	3.4	-	-	100	4.52	0.56
3	Self Presentation	42.7	54.5	2.8	-	-	100	4.40	0.55
4	Curriculum majors and faculties that match the needs.	37.3	55.0	7.7	-	-	100	4.30	0.60
5	Talent and specific abilities	17.4	65.1	17.5	-	-	100	4.00	0.59
6	Internship opportunity	16.5	60.6	18.8	4.1	-	100	3.89	0.71
7	University of graduation	7.8	47.6	42.6	2.0	-	100	3.61	0.66
8	Academic achievement	7.3	57.4	27.9	2.6	4.8	100	3.60	0.85
9	University activist	14.4	36.3	40.1	9.2	-	100	3.56	0.85
10	Academic works and awards that have been received	7.6	45.7	37.0	4.9	4.8	100	3.46	0.89
11	Honors degree	6.0	34.4	49.0	10.6	-	100	3.36	0.75

Factor influencing the selection of graduates for employment



2. Graduates characteristics in the 21st Century

Employers' perspectives on the importance of skills for graduates in the future workforce. Top 3 of skills of World Economic Forum, mean score 4.36 are “Reasoning, problem-solving and ideation”, 4.28 are “Resilience, stress tolerance and flexibility”, 4.20 are “Critical thinking and analysis” equal to “Complex problem-solving” (As follow table 5)

The importance and necessary of skills for graduates in their future work.

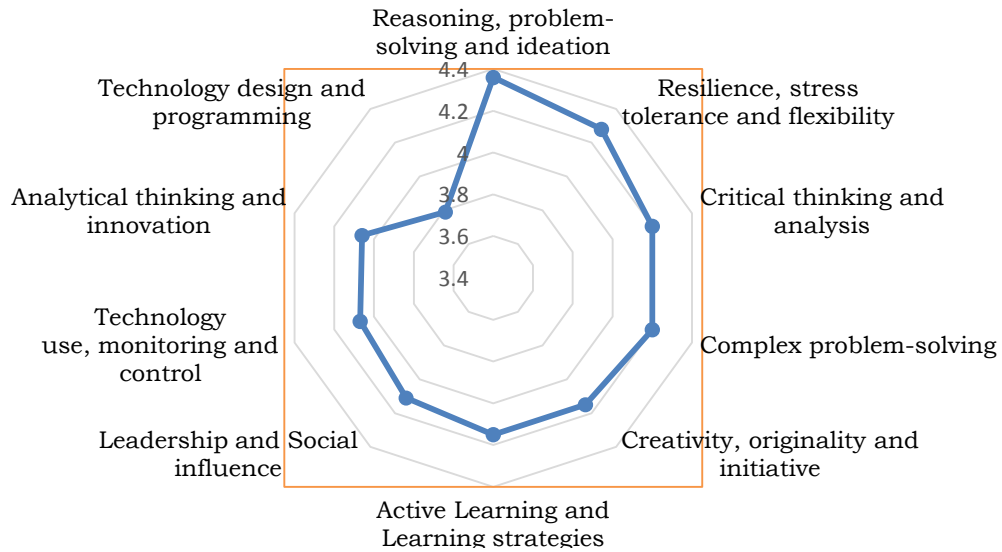


Table 5: Percentages of level importance and necessary of skills for graduates in their future work.

Item	Top 10 skills of World Economic Forum	Level of Important							
		Very high	High	Mo derate	Low	Very low	Total	Mean	S.D.
1	Reasoning, problem-solving and ideation	48.5	40.8	9.4	0.9	0.4	100	4.36	0.72
2	Resilience, stress tolerance and flexibility	44.6	40.5	13.6	1.3	-	100	4.28	0.74
3	Critical thinking and analysis	40.8	40.2	17.6	1.4	-	100	4.20	0.77
4	Complex problem-solving	38.8	44.4	15.1	1.3	0.4	100	4.20	0.77
5	Creativity, originality and initiative	35.1	45.4	18.6	0.8	0.1	100	4.15	0.75
6	Active Learning and Learning strategies	33.8	48	17.5	0.7	-	100	4.15	0.72
7	Leadership and Social influence	31.8	48.9	17.7	1.4	0.2	100	4.11	0.75
8	Technology use, monitoring and control	32.9	44.2	20.4	2.1	0.4	100	4.07	0.81
9	Analytical thinking and innovation	30.7	45.5	23.3	0.5	-	100	4.06	0.75
10	Technology design and programming	25.7	36.5	30.7	5.5	1.6	100	3.79	0.94

Additionally, The survey results found the importance of AU Students' skills Identity in the future workforce, mean score 4.38 are Ethics, 4.07 are English Proficiency, and 4.06 are Entrepreneurial Spirit. (As follow table 6)

Table 6: Percentages of level importance and necessary of skills for graduates in their future work.

Item	3Es (AU Students' Identity)	Level of Important							
		Very high	High	Moderate	Low	Very low	Total	Mean	S.D.
1	Ethics: Integrity, Discipline and Social consciousness	50.9	37.8	10.1	0.9	0.3	100	4.38	0.73
2	English Proficiency	30.8	48.9	17.8	1.6	0.9	100	4.07	0.79
3	Entrepreneurial Spirit: Leadership, Business Understanding, Marketability Understanding and Perseverance	27.1	54.0	16.6	1.9	0.4	100	4.06	0.74

Categorize the skills that employers in each business group value and consider necessary for future work. Found that, Nearly all business group recognize the importance and necessity of “Reasoning, problem-solving and ideation skills” more than any other skill

While, when it comes to “Critical thinking and analysis”, Medical Hub business group perceive it as more important and necessary compared to any other skills. And, when it comes to “Active Learning and Learning strategies”, Professional services industry business group perceive it as more important and necessary compared to any other skills. (As follow table 7)

Table 7: Percentage of level high importance and necessary of skills for graduates in their future work.

Item	Industrial business groups	Top 10 skills of World Economic Forum									
		Analytical thinking and innovation	Active Learning and Learning strategies	Complex problem-solving	Critical thinking and analysis	Creativity, originality and initiative	Leadership and Social influence	Technology use, monitoring and control	Technology design and programming	Resilience, stress tolerance and flexibility	Reasoning, problem-solving and ideation
1	Finance and Marketing Communication	83.3	85.1	85.1	83.7	81.4	83.3	78.3	65.6	88.2	88.7
2	Construction-related industry	75.3	78.4	80.9	82.1	84.6	81.5	80.2	66.0	84.6	88.3
3	Food for the Future	76.2	83.8	87.7	81.5	82.3	83.8	76.2	59.2	84.6	92.3
4	Digital	81.0	81.0	87.6	83.5	82.6	77.7	81.0	63.6	87.6	91.7
5	Biofuels and Biochemicals	77.2	81.5	82.6	78.3	72.8	78.3	70.7	56.5	87.0	90.2
6	Smart Electronics	81.3	85.3	85.3	88.0	86.7	82.7	86.7	69.3	88.0	93.3
7	Professional services industry	59.1	84.8	77.3	84.8	69.7	71.2	65.2	47.0	81.8	83.3
8	Next-Generation Automotive	62.1	69.0	69.0	55.2	75.9	81.0	72.4	69.0	70.7	86.2
9	Aviation and Logistics	71.4	73.8	81.0	69.0	71.4	76.2	81.0	57.1	83.3	85.7
10	Medical Hub	67.6	82.4	79.4	85.3	82.4	85.3	70.6	52.9	76.5	82.4
11	Affluent, Medical and Wellness Tourism	87.5	87.5	87.5	75.0	87.5	75.0	62.5	62.5	87.5	100.0
12	Jewelry and Craft-related industry	87.5	87.5	75.0	87.5	75.0	75.0	75.0	75.0	87.5	87.5
13	Agriculture and Biotechnology	28.6	100.0	100.0	100.0	100.0	100.0	71.4	42.9	100.0	100.0
14	Robotics	100.0	100.0	100.0	100.0	66.7	66.7	100.0	66.7	100.0	100.0

3. Curriculum that would help develop graduates to be of high quality

The survey results found “the curriculum that would help develop high-quality graduates to be of high quality” that, mean score 4.24 are “Participatory learning”, 4.16 are “Learning by doing”, 4.15 are “Internship” equal to “Active Learning”, 3.94 are “Integrated curriculum”, 3.93 are “Internship Opportunity”, and 3.56 are “The international curriculum”. (As follow table 8)

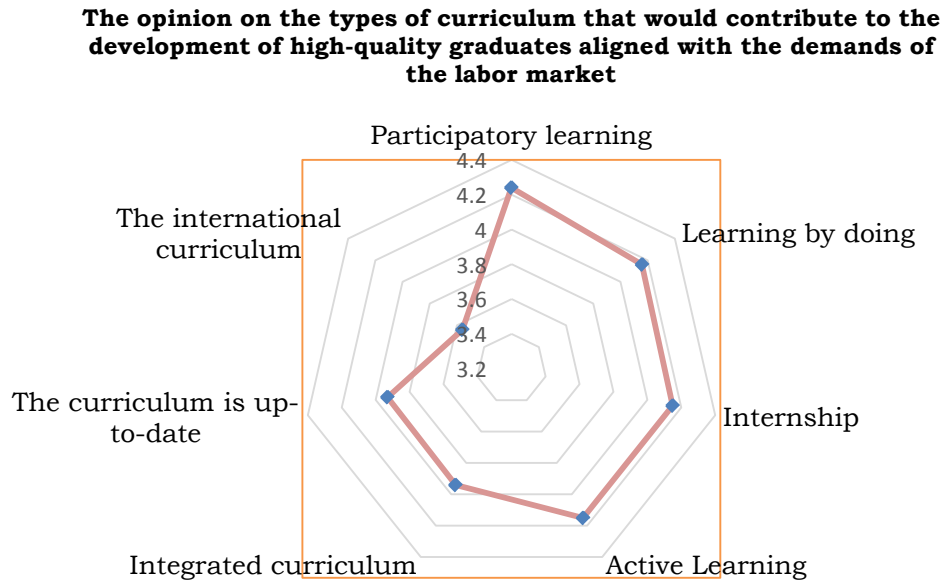


Table 8: Percentages of level opinion on the types of curriculum that would contribute to the development of high-quality graduates aligned with the demands of the labor market.

Item	Curriculum	Level of Important							
		Very high	High	Mo derate	Low	Very low	Total	Mean	S.D.
1	Participatory learning	34.5	54.9	10.6	-	-	100	4.24	0.63
2	Learning by doing	28.3	59.5	12.2	-	-	100	4.16	0.62
3	Internship	33.3	48.8	17.9	-	-	100	4.15	0.70
4	Active Learning	29.0	56.7	14.3	-	-	100	4.15	0.64
5	Integrated curriculum	11.2	71.5	17.3	-	-	100	3.94	0.53
6	The curriculum is up-to-date	13.2	66.8	19.5	0.5	-	100	3.93	0.59
7	The international curriculum	12.2	35.7	48.5	3.6	-	100	3.56	0.75

The survey results found “the graduates from institutions that employers want to work with” that at CU are 53.0%, TU are 30.0%, AU are 28.4%, KU are 27.7%, KMITL are 22.4%, MU are 16.4% and BU are 9.2%. (As follow table 9)

Table 9: Percentages of graduates from institutions that employers want to work

Item	University	%
1	Chulalongkorn University (CU)	53.0
2	Thammasat University (TU)	30.0
3	Assumption University (AU)	28.4
4	Kasetsart University (KU)	27.7
5	King Mongkut's Institute of Technology Ladkrabang (KMITL)	22.4
6	Mahidol University (MU)	16.4
7	Bangkok University (BU)	9.2
8	Chiang Mai University (CMU)	6.5
9	Silpakorn University (SU)	5.0
10	Srinakharinwirot University (SWU)	4.6

The survey results found that the curriculum or field of study that should be taught in the future. Overall, that 29.5% are The Innovative Digital Marketing, 15.2% are Medicine, 12.5% are Finance and Accounting, Psychology, 11.8% are Psychology, 9.5% are Designer, 8.2% are Linguistic, 7.7% are Logistic, 6.8% are Engineering, 5.5% are Innovation Creative, and 5.1% are Robot. (As follow table 10)

Table 10 Percentages of Curriculum or Field of study that should be taught in the future.

Item	Curriculum or Field of study	%
1	The Innovative Digital Marketing: Big-Data Analysis and AI Digital (Digital Management, Digital communication in metaverse era,)	29.5
2	Medicine	15.2
3	Finance and Accounting (International)	12.5
4	Psychology	11.8
5	Designer (Fashion, Clothing)	9.5
6	Linguistic	8.2
7	Logistic	7.7
8	Engineering	6.8
9	Innovation Creative	5.5
10	Robot	5.1