ACADEMIC ADMINISTRATION AND MANAGEMENT TO ENHANCE LEARNERS' SKILLS AND CHARACTERISTICS IN THE 21ST CENTURY

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ABSTRACT

The purposes of this research were 1) to measure 21st century learners' characteristics, skill and knowledge levels of administrators from basic education schools 2) identify academic administration status and scope for basic education schools 3) to analyze the academic administrative level to manage learning to enhance the learners' characteristics and skills in the 21st Century. Research instruments used were questionnaires, which was divided into 4 parts with $\alpha = .87$ for part 2-4; 1) background and personal data 2) Academic management affair, status-scope 3) Academic management to enhance 21st century skills and 4) Academic management model to enhance 21st century skills. Respondents were 545 administrators from 60 schools in 6 regions of Thailand. Descriptive statistics and cross tabulation analysis were implemented.

The results reveals that there are 17 works in scope of academic management affair to serve enhance the learners' skills and characteristics in 21st Century, and the top three highest level are learner support and development ($\bar{x} = 4.17$, $SD = .698$) teaching development ($\bar{x} = 4.11$, $SD = .710$) and curriculum implementation & development ($\bar{x} = 4.08$, $SD = .726$), while the quality assurance is found quite high level ($\bar{x} = 3.99$, $SD = .706$). The comparison between public and private institutes indicated that, the academic management level in public schools are higher than in private schools, except learning resource providing and development, for which the job's management value in private schools ($\bar{x} = 3.96$, $SD = .706$) is a bit higher than public schools ($\bar{x} = 3.87$, $SD = .793$). There are two jobs which are calculated equally: measurement and evaluation ($\bar{x} = 3.90$, 3.89) and quality assurance ($\bar{x} = 3.98$, 4.00). Academic management to enhance learners' characteristics in 21st Century analysis indicated that administrators put highest effort to enhance work (learn) collaboratively ($\bar{x} = 4.15$, $.658$), encourage creativity ($\bar{x} = 4.07$, $.712$) and problem solving ($\bar{x} = 3.96$, $.683$), respectively. Academic management to enhance learners' skills in 21st Century analysis indicated that administrators puts highest effort to reading ($\bar{x} = 4.19$, $.689$), Computing & ICT literacy ($\bar{x} = 4.16$, $.725$) and learning skills ($\bar{x} = 4.14$, $.699$), respectively. Administrators also proposed in qualitative data about learning management models to enhance characteristics in 21st Century as project-based, moral-based, teamwork learning, self-inquiry, constructivism, ICT-based, leadership building, learner-centered, multi-disciplinary courses, interaction, research-based, multi-lingual education, or CIPPA model, which have to be discussed and clarified.

KEYWORDS: Academic Administration, Academic Management Affair, Educational Administration, 21st Century Learners' Characteristics, 21st Century Skills & Basic Education

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INTRODUCTION

Background Objectives and Goals

The policy and educational system all around the world are already affected and climbing the ladders to the 21st century. The consequence to each context of information and technology advancement are adaptable and change rapidly and continuously. This dynamic technology changes violently push the hard impact of education inevitably to administrators, educators, teachers, students, parents and all stake holders to seek for the appropriate and effective academic administration to suite this calming effects. Every country's governments have to adjust the educational administration and learning management to move forward to streaming of the 21st century.

Since the Partnership for 21st Century Learning (P21) was founded in 2002, till now (formerly the Partnership for 21st Century Skills) as a coalition bring together the business community, education leaders and policymakers to position 21st century readiness at the center of US K-12 education, and to kick-start a national conversation on the importance of 21st century skills for all students. P21 has proposed the framework for 21st Century Learning (Figure 1) and define the 21st century skills that are a set of abilities, that students need to develop in order to succeed in the information age (The Partnership for 21st Century Learning, 2015). P21 also identified and brought to the forefront a comprehensive set of skills that, along with content mastery, are what all sectors can agree as essential for success.

Figure 1: Framework for 21st Century Learning 21st Century Students Outcomes and Support System

At present, the Framework for 21st Century Learning has widely become the recognized model for infusing 21st century skills to manage curriculum and teaching. There are hundreds of educational agencies and organizations that have adopted the P21 Framework to guide their learning communities, and are embedding 21st century skills in curriculum and professional development. This model represents the element distinctly, and could be fully interconnected in process of 21st teaching and learning. It can be described into 2 parts; 1) **21st Century Student Outcomes** (represented by the rainbow) are the skills, knowledge and expertise that the students should master to succeed in work and life in the 21st century (Content Knowledge and 21st Century Themes, Learning and Innovation Skills, Information, Media and Technology Skills, Life and Career Skills) 2) **21st Century Support Systems**, the elements described below of the model are the critical systems necessary to ensure the students' mastery of 21st century skills. 21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce a support system that produces 21st century outcomes for today's students (21st Century Standard, Assessment of 21st Century Skills, 21st Century Curriculum and Instruction, 21st Century Professional Development, 21st Century Learning Environments).

Thailand, as a country in ASEAN region is coming to be united by a common desire and collective will to live in a region of lasting peace, security and stability, sustained economic growth, shared prosperity and social progress, and to promote our vital interests, ideals and aspirations (The Association of Southeast Asian Nations, 2008). This cooperation in 2015-2016 might be of benefit and disadvantage to education system in every countries in the region, hence, educational administrators have to search for excellence in 21st century for a fit to ASEAN agenda.

Figure 2: Countries Map of Southeast Asian Nations(ASEAN)

The establishment ASEAN community leads to suit the purposes (The ASEAN Charter, Chapter 1: p. 7-8) of promoting sustainable development and developing human resources through closer cooperation in education and lifelong learning (The Association of Southeast Asian Nations, 2008). This goal lays down duty and responsibility on the shoulders of governors, educators, administrators, teachers, parents and all stake holders to commit.

Janseesukot, J. and Srijan, P. (2013) have explained about Mathematics curriculum and learning management relied on learners' Characteristics in the 21st Century that, educational administrators and teachers have to focus on enhancing effective communication, problem solving, collaboration, innovative, critical thinking and analyzed, creative learners. The academic administration and management model have to be learners-based, self inquiry, interaction, flexible lessons and activities, learner support and Cross-cultural understanding. So, teachers in this decade would not "teaching" but "inspiring" and design procedure to shift from "teacher" to be a "coach". The development also has to practice from content to skill, according to the 3Rs (Reading, ' Riting, ' Rithmetic) and 7Cs (Critical Thinking and problem solving, Creativity and innovation, Cross-cultural understanding, Collaboration, teamwork and leadership, Communications, information and media literacy, Computing and ICT literacy, Career and learning skills) for the coming 21st century.

There are many studies conducted at some dimensions, content, level and region. Panich, W. (2012) had written down the way of learning for student in the 21st century to explain learning style, essential content, skills, and learning psychology for learners and studying cases. Jaikaew, P. (2014) had proposed an academic management model that was implemented in Tak province in the North, which was limited at kindergarten school management. Quality Learning Foundation (2014) has funded researcher's team to develop instruments and contents for learning management for 21st century, such as a toolkit for learners, desired characteristics and indicators for Thai youths, in the 21st century.

Figure 3: Model for Academic Management Development of Tak Kindergarten School (Jaikaew P (2014)

Source: Tto: //Black-Www Plan Obec Go Th/Ewt_DI) Link PHP? Nid=1213)

Figure 4: Toolkit and Learning Management Model for 21st Century (Quality Learning Foundation (2014) Retrieved from [Http: //Www.Edulpru.Com/Eu/21st/St-009.Pdf](http://www.edulpru.com/Eu/21st/St-009.Pdf))

After two decades in 21st century, it is necessary to measure the administrators' knowledge level, explore the status and scope and analyze the academic administration level to manage learning to enhance the learners' characteristics and skills in the 21st Century, for better administration in future.

METHODS

Instruments and Component

Research instruments are questionnaires which were developed on the Framework for 21st Century Learning (The Partnership for 21st Century Learning (P21), 2015 and related literatures. The questionnaires are divided into 4 parts with totally 55 items, the Cronbach's alpha coefficient was used to check the reliability for part 2-4 ($\alpha = .87$); part 1) background and personal data (9 items), part 2) Academic management affair status and scope (16 items), part 3) Academic management, enhance 21st century skills (23 items) and part 4) Academic management model to enhance 21st century skills (7 items). The questionnaires were reviewed by 5 experts and tried out before data collection.

Administrators Samples, Data Collection and Analysis

Respondents were 545 administrators from 60 schools in 6 regions (Bangkok Metropolis and outskirt, North, Central, North East, East and South) as shown in table 1. Samples were clustered by regions and stratified sampling method was used to select the sample.

Table 1: Description of the Administrators Sample (N=454)

Schools data		Numbers of respondents (NR)	Percentage of NR to number of TR*
Type	Public	341	75.11%
	Private	113	24.89%
Education Management Level	Primary	92	20.26%
	Secondary	194	42.73%
	Primary-lower Secondary	80	17.62%
	Primary-upper Secondary	88	19.38%
Size	Extra Large	62	13.66%
	Large	42	9.25%
	Medium	244	53.74%
	Small	106	23.35%
Students Amount		Min.	Max
		72	4,363
Location	Bangkok and outskirt	230	50.66%
	North	28	6.17%
	Central	20	4.41%
	North East	66	14.54%
	East	64	14.10%
	South	46	10.13%

*TR denotes total respondents

Data Analysis and Statistics

The data analysis was done statistically as follows: 1) frequency, percentage, minimum, maximum, mean, standard deviation and cross tabulation were used to describe the administrators samples 2) mean and cross tabulation were used to analyze 21st century learners' characteristics and skills knowledge level 3) mean, standard deviation and cross tabulation were used to analyze academic administration status and scope for basic education schools and 4) academic administration level to manage learning to enhance learners' characteristics and skills in 21st Century

RESULTS

Description of the Administrators Samples

This analysis explains descriptively by frequencies, percentage, average, minimum, maximum and standard deviation of administrators, that were collected from 2014-2015, the description of respondents is as follows.

Table 2: Description of the Samples (N=454)

Personal data		Numbers of respondents (NR)	Percentage of NR to number of TR*
Gender	Male	158	34.80%
	female	296	65.20%
total respondents Age ($\bar{X}$ = 45.49, min = 23, max = 68, SD. = 11.387)	20 $\leq$ age < 30	52	11.45%
	30 $\leq$ age < 40	114	25.11%
	40 $\leq$ age < 50	100	22.03%
	50 $\leq$ age < 60	166	36.56%
	60 < age	22	4.85%
Education (highest degree)	Bachelor	234	51.54%
	Master	202	44.49%
	Doctoral	18	3.96%
Administration Level	Director	60	13.22%
	Vice Director	44	9.69%
	Subject Head	232	51.10%
	Work Head	118	25.99%
Work Experience (WE) ($\bar{X}$ = 20.26, min = 1, max = 40, SD. = 11.413)	1 $\leq$ WE < 5	52	11.45%
	5 $\leq$ WE < 10	68	14.98%
	10 $\leq$ WE < 15	52	11.45%
	15 $\leq$ WE < 20	68	14.98%
	20 < WE	214	47.14%
Administration Experience (AE) ($\bar{X}$ = 7.07, min = 0, max = 25, SD. = 5.427)	No experience	27	5.95%
	1 $\leq$ AE < 5	221	48.68%
	5 $\leq$ AE < 10	240	25.11%
	10 $\leq$ AE < 15	114	13.66%
	15 $\leq$ AE < 20	62	4.85%
	20 < AE	22	1.76%

*TR denotes total respondents

From table 2, the responding administrators are female (65.20%) greater than male (34.80 %). When considering sample's age, the administrators are between 51 to 60 years old (36.56%), 30 to 40 years (25.11%), 40 to 50 years (22.03%), 23 to 30 years (11.45%), respectively, and there are few administrators who are older than 60 years (4.85%). Respondents have an average age of 45.49 years old (Min. =45. 49, Max. =68, S. D. =11. 387).

The administrators graduated with bachelor degree are 51.54%, master's degrees are 44.49% and doctoral degree are 3.96%. The administration level analysis indicates that, the majority are subject heads (51.10%), then are working heads (25.99%), the directors (13.22%) and vice directors are 6.69%.

Table 3: Cross Tabulation Analysis Between Highest Degree and Administration Level of the Administrators Samples (N=454)

Degree	Director		Vice Director		Subject Head		Work Head	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Bachelor	4	0.88	6	1.32	147	32.38	76	16.74
Master	46	10.13	36	7.93	81	17.84	40	8.81
Doctoral	10	2.20	2	0.44	4	0.88	2	0.44
Total	60	13.22	44	9.69	232	51.10	118	25.99

When the proportion of work experience and administration experience was calculated, it's found that, the highest proportion of school administrators' work experiences is more than 20 years (47.14%), next are 15 to 20 and 5 to 10 years equally (14.98%), and then are 10 to 15 and 1 to 5 years equally (11.45%). The respondents have average work experience of 20.26 years (S. D. =11. 413). The average administration experience is 7.07 years (S. D. =5. 427) and most of them are the administrators after 1 to 5 years (48.68%), 5 to 10 (25.11%) and 10 to 15 years (13.66%), respectively.

From cross tabulation analysis (table 3), it's indicated that most of the directors and vice director graduated master's degree (10.13%, 7.93%), when most of subject heads who work hard graduated bachelor degree (32.38%, 16.74%).

Table 4: Cross Tabulation Analysis Between Work Experience and Administration Level of the Administrators Samples (N=454)

Work Experience	Director		Vice Director		Subject Head		Work Head	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
$1 \leq WE < 5$	0	0.00	0	0.00	24	5.29	28	6.17
$5 \leq WE < 10$	10	2.20	6	1.32	26	5.73	26	5.73
$10 \leq WE < 15$	2	0.44	8	1.76	26	5.73	16	3.52
$15 \leq WE < 20$	10	2.20	8	1.76	40	8.81	10	2.20
$20 < WE$	38	8.37	22	4.85	116	25.55	38	8.37
Total	60	13.22	44	9.69	232	51.10	118	25.99

From cross tabulation analysis (table 4), it's inferred that, most of the administrators have high work experience ($WE > 20$ years). The proportion of directors, who work for more than 20 years is 8.37%, vice directors is 4.85%, subject head is 25.55% and work head is 8.37%, respectively. The value of analysis intends that work experience shows positive relation with administration level.

Table 5: Cross Tabulation Analysis Between Administration Experience and Administration Level of the Administrators Samples (N=454)

Administration Experience	Director		Vice Director		Subject Head		Work Head	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No Experience	0	0.00	0	0.00	2	0.44	25	5.51
$1 \leq AE < 5$	16	3.52	30	6.61	112	24.67	63	13.88
$5 \leq AE < 10$	18	3.96	2	0.44	70	15.42	24	5.29
$10 \leq AE < 15$	12	2.64	10	2.20	38	8.37	2	0.44
$15 \leq AE < 20$	10	2.20	2	0.44	8	1.76	2	0.44
$20 < AE$	4	0.88	0	0.00	2	0.44	2	0.44
Total	60	13.22	44	9.69	232	51.10	118	25.99

From cross tabulation analysis (table 5) it's found that, most of the responding administrators have administration experience between 1 to 5 and 5 to 10 years. The proportion of directors, who have managed for 5 to 10 years is 3.96% and 1 to 5 years is 3.52%, vice directors is 6.61%, subject heads is 24.67% and work heads is 13.88%, respectively. It is hardly to find administrators who have managed their position more than 15 to 20 years.

21st Century Learners' Characteristics, Skill and Knowledge Levels of Administrators from Basic Education Schools

This section describes the knowledge level on 21st Century Learners' Characteristics and Skills. Descriptive statistics such as mean and standard deviation were used to explain the knowledge level of responding administrators from basic education schools, by cross tabulation between work experience, administrative experience, degree and administration level. The result is shown as table 6.

Table 6: 21st Century Learners Characteristics and Skills Knowledge Level Off Administrators From Basic Education Schools (N=454)

variable	Work Experience					Administration Experience						Degree			Administration Level			
	1	6	11	16	>	No Experience	1	6	11	16	>	Bachelor	Master	Doctoral	director	Vice Director	Subject Head	Work Head
	5	10	15	20	20	No Experience	5	10	15	20	20	Bachelor	Master	Doctoral	director	Vice Director	Subject Head	Work Head
Knowledge Level	3.04	3.24	3.31	3.56	3.49	3.15	3.33	3.51	3.42	3.36	4.00	3.30	3.44	3.89	3.70	3.45	3.32	3.34
21st Century Learners' Characteristics and Skills Knowledge Level of Administrators from Basic Education Schools (Overall)												x			SD.			
												3.39			.703			

From table 6, it can be found that the responding administrators have moderate to high knowledge level ($\bar{x}=3.39$, S.D.= .703). It is observed that the highest administrators' knowledge level is at 16 to 20 work experience ($\bar{x}=3.56$), at more than 20 year administration experience ($\bar{x}=4.00$), doctoral degree ($\bar{x}=3.89$) and at director position ($\bar{x}=3.70$). The cross tabulation analysis shows the trend that 21st century learning and knowledge varies positively with work experience, administrative experience, and degree and administration level.

Academic Management Affair Status and Scope for Basic Education Schools

Academic Management Affair Status of Basic Education Schools

This section is to measure the academic management affair level to explain the schools' management status to 11 core tasks, so descriptive statistics such as mean and standard deviation were used to explain the management level of responding administrators, from basic education schools, and the result is shown in table 7.

Table 7: Academic Management Level of Responding Administrators (N=454)

academic management affair	$\bar{x}$	SD.	Level	rank
Curriculum implement and development	4.08	.726	high	3
Teaching Providing and development	4.11	.710	high	2
Media and innovation	3.85	.779	moderate to high	7
Measurement and evaluation	3.90	.771	moderate to high	5
Resource providing and development	3.89	.756	moderate to high	6
Quality assurance	3.99	.706	high	4
Learner support and development	4.17	.698	high	1
Research	3.74	.792	moderate to high	8
Document and printing center	3.30	1.135	moderate	10
Academic service	3.29	1.101	moderate	11
Educational psychology and guidance	3.65	1.054	moderate to high	9

From table 7, the responding administrators have a high academic management level at 3 tasks: 1) learner support and development task ($\bar{x}=4.17$, S.D. = .698), Teaching providing and development ($\bar{x}=4.11$, S.D. = .710), Curriculum implementation and development ($\bar{x}=4.08$, S.D. = .726). Even though Quality Assurance value is a bit lower than 4.00, it's criticized to be an important task of academic management affair nowadays (4th rank). When the administrators operate moderately to high at 5 tasks (measurement and evaluation, resource providing and development, media and innovation, research, educational psychology and guidance), the lowest values are found at 2 tasks: administrators defined moderate level at the documentation and printing center ($\bar{x}=3.30$, S.D. = 1.135) and academic service ($\bar{x}=3.29$, S.D. = 1.101).

Academic Management Affair Scope for Basic Education Schools

This section provides the academic management affair scope that, which tasks have to be included in schools' academic management offer? Multiple response analysis was used to explain the tasks' proportion with respect to the scope of academic management affairs, and the result is shown in table 8.

Table 8: Tasks Proportion in Scope of Academic Management Affair (N=454)

Academic Management Affair	Frequency	Percentage of be Accepted in Academic Affair	Rank
Curriculum implement and development	446	98.24	1
Teaching Providing and development	420	92.51	2
Media and innovation	418	92.07	3
Measurement and evaluation	410	90.31	5
Resource providing and development	384	84.58	8
Quality assurance	414	91.19	4
Learner support and development	392	86.34	7
Research	408	89.87	6
Document and printing center	260	57.27	10
Academic service	258	56.83	11
Educational psychology and guidance	358	78.85	9
In addition, qualitative data analysis indicates that there are others jobs in academic management affair in 21 st century as 1) Community Service 2) Policy and Plan 3) Special Education Management 4) Information Technology 5) Language Center 6) Sport Development			

From table 8, the responding administrators have defined all 11 tasks to be part of the academic management affair (78.85-98.24%), the order of rank is curriculum implements and development, teaching, providing and development, media and innovation, quality assurance, research, learner support and development, resource providing and development, educational psychology and guidance, document and printing center and academic service, respectively. In addition, qualitative data analysis indicates that there are others 6 tasks that respondents defined as important tasks for academic management affair in the 21st century as 1) Community Service 2) Policy and Planning 3) Special Education Management 4) Information Technology 5) Language Center 6) Sport Development.

Academic Management Level to Enhance Learners' Characteristics and Skills in the 21st Century

Table 9: 21st Century of Responding Administrators (N=454)

Learners' Characteristics- Skills in 21 st Century	$\bar{x}$	SD.	Level	GR*	OR*
<i>Learners' Characteristics in 21st Century</i>					
Enhance effective communicator characteristic	3.94	.681	moderate to high	5	15
Enhance to be problem solver characteristic	3.96	.683	high	3	13
Enhance collaborative learning characteristic	4.15	.658	high	1	3
Enhance innovative characteristic	3.64	.809	moderate to high	6	20
Enhance critical- analytical thinking characteristic	3.95	.756	moderate to high	4	14
Enhance creative characteristic	4.07	.712	high	2	7
<i>Learners' Skills in 21st Century (3R x 7C)</i>					
Enhance Reading (knowledge seeking skill)	4.19	.689	high	1	1
Enhance 'Riting (knowledge writing skill)	4.04	.709	high	7	8
Enhance 'Rithmetic (Arithmetic skill)	3.88	.715	moderate to high	11	17
Enhance Critical thinking skill	3.82	.737	moderate to high	13	19
Enhance Problem solving skill	4.07	.721	high	6	7
Enhance Creative and Innovative skill	4.02	.712	high	8	9
Enhance Communication skill	3.87	.786	moderate to high	12	18
Enhance Cross-cultural understanding skill	3.98	.792	moderate to high	10	12
Enhance Collaboration skill	4.10	.680	high	5	6
Enhance Leadership skill	4.11	.678	high	4	5
Enhance Media and Information literacy skill	4.07	.661	high	6	7
Enhance Computing and ICT literacy	4.16	.725	high	2	2
Enhance Career and Life skill	3.99	.760	moderate to high	9	11
Enhance Learning skill	4.14	.699	high	3	4
<i>Construction and Cumulative Skill (3 S)</i>					
Self Learning Skill	4.01	.716	high	1	10
Self Motivation skill	3.96	.720	moderate to high	2	13
Self Regulation skill	3.93	.706	moderate to high	3	16

*GR denotes group ranking *OR denotes overall ranking

CONCLUSIONS

This section is to identify the level of academic management to enhance the learners' characteristics and skills in the 21st century of responding administrators, from basic education schools. Mean and standard deviation were implemented and the result is shown as table 9.

Table 9 Academic Management Level to Enhance Learners' Characteristics and Skills in

When considered the meaning of **academic management to enhance each character and skills for 21th century** (table 9), the management values are between 3.64 and 4.19. There are 12 characteristics or skills that are managed at a high level (≥ 4.00). The highest management value is appeared to enhance reading or knowledge seeking skill

($\bar{x}$ = 4.19, S.D. = .689), computing and ICT literacy ($\bar{x}$ = 4.16, S.D. = .725), collaborative learning characteristic ($\bar{x}$ = 4.15, S.D. = .658), learning skill ($\bar{x}$ = 4.14, S.D. = .699), leadership skill ($\bar{x}$ = 4.11, S.D. = .678), collaboration skill ($\bar{x}$ = 4.10, S.D. = .680), creative characteristic and problem solving skill and Media and Information literacy skill ($\bar{x}$ = 4.07, S.D. = .712), writing skill ($\bar{x}$ = 4.04, S.D. = .709), creative and innovative skill ($\bar{x}$ = 4.02, S.D. = .712) and self learning skill ($\bar{x}$ = 4.01, S.D. = .716) orderly.

When considered on **enhancing characteristics for 21st century**, it's found that the administrators pushed highest effort on collaborative learning characteristic ($\bar{x}$ = 4.15, S.D. = .658) and creative characteristic ($\bar{x}$ = 4.07, S.D. = .712).

When considered on **enhancing skills for 21st century**, it's found that the administrators pushed highest effort on reading or knowledge seeking skill ($\bar{x}$ = 4.19, S.D. = .689), computing and ICT literacy ($\bar{x}$ = 4.16, S.D. = .725), learning skill ($\bar{x}$ = 4.14, S.D. = .699), leadership skill ($\bar{x}$ = 4.11, S.D. = .678), collaboration skill ($\bar{x}$ = 4.10, S.D. = .680), creative characteristic and problem solving skill and media and information literacy skill ($\bar{x}$ = 4.07, S.D. = .712), writing skill ($\bar{x}$ = 4.04, S.D. = .709), creative and innovative skill ($\bar{x}$ = 4.02, S.D. = .712) and self learning skill ($\bar{x}$ = 4.01, S.D. = .716) respectively.

When considered **the last 5 ranks** (hard to enhance) as to which is moderate to high level, the order is, enhancing innovative characteristic ($\bar{x}$ = 3.64, S.D. = .809), critical thinking skill ($\bar{x}$ = 3.82, S.D. = .737), communication skill ($\bar{x}$ = 3.87, S.D. = .786), arithmetic skill ($\bar{x}$ = 3.88, S.D. = .715) and self regulation skill ($\bar{x}$ = 3.93, S.D. = .706).

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