

Extent of Implementation of the Six C's of Education in the Online Teaching and Learning Performance of the Teachers and Student

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ABSTRACT

Schooling, specifically the teaching and learning process, is progressing and transforming fast. Updated ideas and innovations in the methods of education are emerging. This became more evident with technology. However, more challenges emerged when educational systems throughout the globe at all levels met a collapse when lockdowns were announced due to COVID-19. This pivotal event urged them to implement online teaching and learning as an alternative to face-to-face modality to continuously thrive academically despite mobility issues. This study ascertained the extent of implementation of the Six C's of Education in the online teaching and learning performance of the Higher School ng UMak faculty and students. It represents a particular educational attribute that is expected to be acquired by the learner through the teaching and facilitation of the teacher. The following are the 6C's of education: 1. Thinking critically; 2. Communicating clearly; 3. Working collaboratively; 4. Embracing culture; 5. Developing creativity; and 6. Utilizing connectivity. These queries were answered in the study: (1) length of stay in the university and department, the track or strand of students, subject taught, and grade level; (2) extent of respondents' assessment on the implementation of Six C's of Education in online teaching and learning; (3) potential presence of a significant difference in the assessment of the groups of respondents about the extent of implementation of the said Six C's. This action research utilized Purposive sampling and t-test for independent means to compare the mean scores. The researchers concluded that the Six Cs of Education are highly implemented in online teaching and learning. These educational attributes are present and continuously developing despite the online world challenges. It is then recommended to use teaching methods that allow students to experience an authentic, engaging, and challenging situation that will permit them to explore their passion in the likes of project-based learning.

Keywords: Six Cs of Education, online teaching and learning, COVID-19 pandemic, University of Makati

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Introduction

Schooling, specifically the teaching and learning process is progressing and transforming at an incredibly hasty speed. Fresh and updated ideas and innovations in the mentioned methods of education are emerging. This became much more evident with the aid of technology. In so doing, an avalanche of knowledge and information is inevitable and can be misconstrued as unlimited, therefore neglecting the fact that in anything and everything, prudence, responsibility, and accountability must be exercised.

Consequently, optimism and motivation accompany this change as well as fear and doubt. It is worthwhile to be reminded that, "Change isn't as hard as we thought if we capture people's interest and give

them enjoyable, worthwhile experiences," as quoted by the worldwide authority in educational reform, Michael Fullan (n.d. as cited by quotefancy.com, 2022).

However, more challenges emerged when educational systems throughout the globe from primary to tertiary education level met a collapse when lockdowns were announced due to COVID-19. Numerous educational institutions were shut down to dismiss physical interactions. This pivotal event urged them to fully implement online teaching and learning as an alternative to face-to-face modality to continuously thrive academically despite the mobility issues influenced by the pandemic.

Distinct from traditional, face-to-face learning where learners and instructors may collaborate

physically and are bound by location, innovations have laid the foundation for online learning to emerge where both learning participants can be academically productive even with the absence of physical presence. Online learning, in the simplest definition, is a modern form of remote learning that can be accessed through certain technologies, synchronous and asynchronous communication, and real-time information (Alawamleh et al., 2020).

In a study conducted by Alawamleh et al. (2020) on the effects of online learning between instructors and students, online learning appears to be enticing because of the advantages it entails such as cost-effectiveness, convenience, and ease of participation. But while this is the case, studies about online learning are also inconsistent because the results differ from the competitiveness and implementation strategy of educational institutions. Commonly encountered problems in online learning among studies include individualization and limited interaction between the participants which then puts a strain on their overall learning experience and performance.

The abrupt shift from traditional to online learning has also received harsh criticism in the Philippines. While teachers and learners easily adapted to the particularities of utilizing online classrooms and video conferencing platforms, barriers such as poor internet connection, psychological stress, and time management were detected. While online learning increases the time spent at home, it also does not equal more time for academic activities (Baticulon et al., 2020; Reyes-Chua et al., 2020).

Even so, while educational sectors are faced with the challenges of the shift in learning environments, people must not forget that education shall remain effective and worthwhile for both teachers and learners, regardless of the medium and environment where it takes place. In honing learners for the demands of the world, the onset of 21st-century skills together with the need to prepare for what is to come paved the way for exerting much more effort in getting ready for the future. Both the skills and preparation are monumental tasks since these are expected to be used for a long time by the recipient, specifically the learners.

The 21st-century skills that are needed throughout all societies are more than just the traditional school subjects: Math, Science, History, etc. Soft skills are in high demand across the world. Jobs that cannot even be imagined are created every day. Employers require creative and problem-solving skills plus the ability to adapt to changes. Those new skills and abilities kids cannot polish by solving standardized tests. That is

why teachers need to foster new skills in the classroom—skills of the 6 C's of education (Miro blog, 2021).

The 6 C's of Education represent a particular educational attribute that is expected to be acquired by the learner through the teaching and facilitation of the teacher. The following are the 6C's of education: 1. Thinking critically; 2. Communicating clearly; 3. Working collaboratively; 4. Embracing culture; 5. Developing creativity; and 6. Utilizing connectivity.

Each C must be reflected in the methods, techniques, and approaches used by the teachers as well as the output that is produced by the students. Notwithstanding those that were stated, the presence of technology, most especially the World Wide Web (www), Williams (2020) purports that change can be better driven if steps are taken to facilitate it across the culture rather than just experimentally on the periphery. Students at present must be ready to traverse the change that the 21st century has brought to the world. Deliberately teaching online reading and research skills is one way to keep students from finding their way to the future.

The status quo in the online learning implementation establishes a new set of hurdles for instructors and learners in the pursuit of acquiring the 6 C's of Education, especially since there is an apparent disengagement in their online performances across research, a gap that this endeavor engages to identify. While communication is still present, the 6 C's of Education heavily relies on the efficiency of a real-time, interactive learning process, both of which are tremendously affected by the rigorous transition. If school leaders and managers want to keep students afloat, they must have a clear awareness of what 21st-century skills are aspiring towards. This involves framing several aspects of the classroom in a new way, including curriculum content and student-teacher communication (Williams, 2020). Learners ought to have a learning space that helps build critical thinking, clear communication, collaborative work, culture embracing, creativity development, and connectivity utilization environments that promote global citizenship. However with the current circumstances, the question raises if the 6 C's of Education will still be significantly observed. But one thing is for sure: it is imperative to allow learners to have a conducive environment to successfully grasp the 6 C's of Education for future building, especially in enhancing their 21st-century skills.

This study sought to ascertain the extent of implementation of the Six C's of Education in the online teaching and learning performance of the University of Makati faculty and students. Purposefully, the study aimed to answer the following questions: (1) What is the

profile of the respondents in terms of length of stay in the university, department (for teachers), track/strand (for students), subject taught (for teachers) and grade level (for students); (2) To what extent do the two groups of respondents assess the implementation of the Six C's of Education in the online teaching and learning performance in terms of Thinking Critically, Communicating Clearly, Working Collaboratively, Embracing Culture, Developing Creativity and Utilizing Connectivity; (3) Is there a significant difference in the assessment of the two groups of respondents as regards the extent of implementation of the Six C's of Education in the online teaching and learning performance?

Methodology

Provided that this study intends to observe and evaluate the extent of the implementation of the 6 C's of Education in the online teaching and learning performance of UMak education, action research is best applied for investigation. Action research is generally defined as a research method that observes and reflects the individuals and groups participating in the study where the results can implement changes for improvement. Action research involves taking actions to improve teaching and learning practices and collecting data to measure the impact of those actions. Moreover, it aims to improve teaching and learning by taking a collaborative, reflective, problem-solving approach to investigating classroom practice. In the same vein, Kolk (2022) purports that action research provides data you can use to adjust your curriculum content, delivery, and instructional practices to improve student learning. Action research helps you implement informed change.

A researcher-made survey questionnaire was utilized to gather information from two groups of respondents. It consists of two parts: the personal profile sheet of the respondents with five questions about the length of stay in the university, the department where the faculty belongs, the track or strand where the student belongs, the subject taught by the faculty, and the grade level of the students. The second part is the questionnaire that contains twenty questions about how extensive the teachers implement the Six's of Education in their online teaching performance and on the part of the students, the same twenty item questions asked about the extent of the implementation of the Six C's of Education in their online learning performance. All six areas or aspects of education are covered in the said questions.

The survey questionnaire was developed by the researcher and was based on the different readings from authorities and experts in the field of educational

reforms and management. It is tailored to fit the milieu of the respondents of the University of Makati.

Two groups of respondents were utilized in the study. The first group of respondents was the full-time faculty members of the University of Makati coming from Higher School ng UMak (HSU) and the second was the students from HSU as well.

They were selected using the purposive sampling technique. The following is the profile of the respondents as returned by the first part of the questionnaire:

For the Teacher-Respondents' length of stay in the University, most of them have been in the University for 1 to 5 years with 46 or 83.6% followed by those 6 to 10 years which resulted in 6 or 10.96%, and those above 20 years length of stay in UMak which is 2 or 3.6%. This shows that most of them are new to the institution. However, their batch may be said to be familiar and knowledgeable with 21st-century learning skills.

In the Teacher-Respondents' Department, half of the teacher-respondents are under the Mathematics and Science Department which totaled 22 or 40.0%. Next in number are those from the Language and ABM department with 17 or 30.9%. Only 2 or 3.6% comes from the TechVoc Department. This shows that the majority of the respondents are from those departments where the 6Cs are evident, applied, and integrated.

On Teacher-Respondents' Subjects Taught, a big number of the respondents are teaching general education subjects which are 21 or 38.2% while those teaching Major subjects are very close in number with 20 or 36.4%. The 6Cs are also evident, applied, and integrated into these subjects.

As regards the Student-Respondents, starting with their Grade Level, the majority of them are from Grade 11 with 186 or 77.2%. Even though considered a young generation, they are also aware and knowledgeable of 21st-century learning skills.

As to the academic strand, a big number of the students come from the TechVoc strand with 78 or 32.4%. Those from the Sports Department have the least number with 16 or 6.6%. Next in numbers are those who come from STEM, Arts and Design, and HUMSS.

Based on their length of stay in the university, the majority of the student-respondents, are in the University for at least 1 year which comprised 127 or 52.7%. Most of them are in Grade 11.

The response that was solicited in all areas ranges from extensively implemented which is the highest end to not at all implemented at the lowest end of the continuum. The probable answers were based on the following scale, range, and verbal interpretation:

Table 1

Scale Range, and Verbal Interpretation of Probable Answers.

Scale	Range	Verbal Interpretation
5	4.51-5.00	Extensively Implemented
4	3.51-4.50	Highly Implemented
3	2.51-3.50	Implemented
2	1.51-2.50	Slightly Implemented
1	1.00-1.50	Not at All Implemented

Frequency and Percentage were used to determine the personal profile of each group of respondents in terms of length of stay in the university, the department where the faculty belongs, the track or strand where the student belongs, the subject taught by the faculty, and the grade level of the students.

Mean was utilized to ascertain the extent of the implementation of the Six C's of Education in online teaching and learning performance. While the standard deviation was used to measure how dispersed the data is with the mean. The t-test was applied to determine if there is a significant difference in the extent of the implementation of the Six C's of Education in the online teaching and learning performance of the respondents.

Results and Discussion

This part indicates the collected data through the survey questionnaires answered by 55 teacher-respondents and 241 student-respondents, respectively who agreed to give their answer after several follow-ups. The collected data determined a. the two groups of respondent's assessment of the extent of implementation of the Six C's of Education in online teaching and learning performance in terms of thinking critically, communicating clearly, working collaboratively, embracing culture, developing creativity, and utilizing connectivity; and b. the significant difference in the assessment of the two groups of respondents about the extent of implementation of the Six C's of Education in the online teaching and learning performance.

Assessment of the Extent of Implementation of the Six C's of Education in the Online Teaching and Learning Performance

In terms of thinking critically. It is presented in table 2 that both groups of respondents assessed the extent of implementation of the 6 Cs of education in online teaching and learning performance in terms of thinking critically as Highly Implemented. The data shows that teacher respondents have a higher mean evaluation than the student respondents with 4.37 and 4.06,

respectively. Also, a lower value of the standard deviation of the first group shows a more uniform, more homogeneous, and more consistent evaluation.

Table 2

Assessment on the Extent of Implementation of the Six Cs of Education in Online Teaching and Learning Performance in terms of Thinking Critically

No.	Indicators	Teachers			Students		
		Mean	SD	VI	Mean	SD	VI
1	Our teachers give situations that help us filter and analyze information.	4.20	0.621	HI	4.03	0.790	HI
2	Our teachers make us solve real-world problems through online activities/ tasks/ assignments etc.	4.29	0.629	HI	3.92	0.891	HI
3	Our teachers lead us to brainstorm, reflect and reason out in doing online activities/ tasks/ assignments.	4.36	0.557	HI	4.07	0.806	HI
4	Our teachers encourage us to ask relevant questions.	4.64	0.522	EI	4.24	0.800	HI
Overall		4.37	0.422	HI	4.06	0.690	HI

Legend: 5.00-4.51 - Extensively Implemented (EI); 4.50-3.51 - Highly Implemented (HI); 3.50-2.51 - Implemented (I); 2.50-1.51 - Slightly Implemented; 1.50-1.00 - Not at all Implemented

Both groups have a high mean (MeanTeachers=4.64; MeanStudents=4.24) evaluation to the 4th indicator which states that professors encouraged students to ask relevant questions. On the other hand, the 1st indicator was evaluated the least by the teachers and the 2nd indicator by the students. These indicators, though highly implemented, giving situations that help students filter and analyze information and make students solve real-world problems through online activities/ tasks/assignments, obtained the lowest mean evaluation (MeanTeachers=4.20; MeanStudents=3.92, respectively).

Critical thinking is the process of filtering, analyzing, and questioning information/content found in various media, and then synthesizing it in a form that offers value to an individual. It allows students to make sense of the presented content and apply it to their daily lives (Miro blog, 2021).

However, while critical thinking can be taught, practiced, and mastered (P21 2007a, Redecker, et al. 2011, both cited in Scott, 2015; Joynes et al., 2019), recent studies suggest that many secondary and university students lack the necessary competencies to navigate and select relevant sources from the overabundance of available information (Windham 2008, cited in Scott, 2015; Joynes et al., 2019). Additionally, Miller (2015) and Fullan (2015) as cited by Anugerahwati (2019) assert that the first C, critical thinking, refers to the ways that individuals filter, analyze, and question any information that they might find in various media, be it written, spoken, or broadcast, and then synthesize it to fit their understanding

In terms of communicating clearly. Item y. Table number 3 reveals that the two groups of

respondents have a similar evaluation of the extent of implementation of the 6 Cs of education in online teaching and learning performance. Both groups believe that communicating clearly is highly implemented in online teaching and learning which gained a mean result of 4.34 and 4.13, correspondingly.

Table 3

Assessment on the Extent of Implementation of the Six Cs of Education in Online Teaching and Learning Performance in Terms of Working Collaboratively

No.	Indicators	Teachers			Students		
		Mean	SD	VI	Mean	SD	VI
1	Our teachers use paired and group online activities/ tasks/ assignments etc.	4.29	0.809	HI	4.29	0.855	HI
2	Our teachers emphasize participation and teamwork in accomplishing online activities/ tasks/ assignments etc.	4.38	0.782	HI	4.28	0.744	HI
3	Our teachers highlight sharing and association in paired and group online activities/ tasks/ assignments etc.	4.33	0.771	HI	4.13	0.831	HI
Overall		4.33	0.723	HI	4.23	0.720	HI

Legend: 5.00-4.51 – Extensively Implemented (EI); 4.50-3.51 – Highly Implemented (HI); 3.50-2.51 – Implemented (I); 2.50-1.51 – Slightly Implemented; 1.50-1.00 – Not at all Implemented

However, a low mean evaluation of 4.13 from the student respondents is evident in the 3rd indicator. This may imply that students wanted their professors to highlight sharing and association in paired and group online activities/tasks/assignments etc. Collaboration means you share ideas, create new understandings, and work on a common goal. It is also working as equals while creating a new understanding, plan, or idea (educircles.org, 2022). Moreover, collaboration points to the way individuals use various personalities, talents, and knowledge to work together and produce something new (Anugerahwati, 2019).

In terms of embracing culture. Table Number 5 shows that although both groups of respondents have the same verbal interpretation of Highly Implemented with a mean of 4.05 and 3.82, it is evident in the data that teacher-respondents have higher mean evaluation than student-respondents in all indicators on the extent of implementation of the 6 Cs of education in the online teaching and learning performance in terms of embracing culture.

Table 4

Assessment on the Extent of Implementation of the Six Cs of Education in Online Teaching and Learning Performance in terms of Embracing Culture

Assessment on the Extent of Implementation of the Six Cs of Education in Online Teaching and Learning Performance in terms of Embracing Culture

No.	Indicators	Teachers			Students		
		Mean	SD	VI	Mean	SD	VI
1	Our teachers create online activities/ tasks/ assignments that promote our appreciation of where we come from and who we are.	4.05	0.826	HI	3.92	0.978	HI
2	Our teachers help us widen the scope of our awareness of the world around us through online activities/ tasks/ assignments etc.	4.29	0.712	HI	4.02	0.871	HI
3	Our teachers challenge us to interact with people from different backgrounds and nationalities to broaden our learning.	3.80	1.061	HI	3.51	1.073	HI
Overall		4.05	0.752	HI	3.82	0.856	HI

Legend: 5.00-4.51 – Extensively Implemented (EI); 4.50-3.51 – Highly Implemented (HI); 3.50-2.51 – Implemented (I); 2.50-1.51 – Slightly Implemented; 1.50-1.00 – Not at all Implemented

Professors who help students widen the scope of their awareness of the world around them through online activities/tasks/assignments etc. were evaluated the highest by the two groups. While professors who challenge students to interact with people from different backgrounds and nationalities to broaden their learning obtained the lowest mean evaluation.

Embracing culture, or, in the words of Fullan, citizenship, involves the ability to be in touch with everything that surrounds them, to know and appreciate where they come from the values and beliefs that people in their society hold, and their history as a society (Miller and Fullan, 2015 as cited by Anugerahwati, 2019).

In terms of developing creativity. Table number 6 both groups of respondents assessed it as Highly Implemented with 4.48 and 4.26 mean results. Teacher-respondents' assessment is higher than the student-respondents, as well as lower values of standard deviation.

Table 5

Assessment on the Extent of Implementation of the Six Cs of Education in Online Teaching and Learning Performance in Terms of Developing Creativity

No.	Indicators	Teachers			Students		
		Mean	SD	VI	Mean	SD	VI
1	Our teachers give us opportunities to express our thoughts, words, and deeds creatively.	4.42	0.712	HI	4.22	0.798	HI
2	Our teachers allow us to use our imagination and artistic ability.	4.47	0.604	HI	4.18	0.856	HI
3	Our teachers push us to use our originality in making creative outputs.	4.56	0.601	EI	4.38	0.749	HI
Overall		4.48	0.516	HI	4.26	0.713	HI

Legend: 5.00-4.51 – Extensively Implemented (EI); 4.50-3.51 – Highly Implemented (HI); 3.50-2.51 – Implemented (I); 2.50-1.51 – Slightly Implemented; 1.50-1.00 – Not at all Implemented

The highest mean evaluation is given to the 3rd indicator which states that professors push students to use their originality in making creative outputs. Low mean evaluation is evident in the 2nd indicator which says that professors allow students to use their imagination and artistic ability. The next C, which stands for Creativity, refers to the ability of individuals to make use of their knowledge and/or talents to create something new, or to produce something in a new way (Miller and Fullan, 2015 as cited by Anugerahwati, 2019). Creativity is also defined in terms of the capacity to

generate new ideas and solutions, 'break new ground', invoke fresh ways of thinking, pose unfamiliar questions, and arrive at unexpected answers (Gardner 2008, Sternberg 2007, both cited in Scott, 2015; Joynes et al., 2019). In the context of global competition and task automation, individual capacity for innovativeness and creativity are increasingly seen as requirements for professional and personal success.

In terms of utilizing connectivity. Table Number 7 shows that both groups of respondents believe that the 6 Cs of education in online teaching and learning performance in terms of utilizing connectivity is Highly Implemented, though noted that the evaluation of the teacher-respondents is higher than the evaluation of the student-respondents with 4.10 and 3.95 means, respectively.

Table 6

Assessment on the Extent of Implementation of the Six Cs of Education in Online Teaching and Learning Performance in terms of Utilizing Connectivity

No.	Indicators	Teachers			Students		
		Mean	SD	VI	Mean	SD	VI
1	Our teachers make sure that we are in touch with the world.	4.18	0.696	HI	3.95	0.840	HI
2	Our teachers provide opportunities and platforms for improving our personal connection with others through online activities/ tasks/ assignments etc.	3.93	0.790	HI	4.02	0.868	HI
3	Our teachers persuade us to use technology to impact a global audience.	4.20	0.704	HI	3.88	0.921	HI
Overall		4.10	0.647	HI	3.95	0.772	HI

Legend: 5.00-4.51 – Extensively Implemented (EI); 4.50-3.51 – Highly Implemented (HI); 3.50-2.51 – Implemented (I); 2.50-1.51 – Slightly Implemented; 1.50-1.00 – Not at all Implemented

It can be seen that there is an opposite evaluation from the respondents in the 2nd indicator which states that professors provide opportunities and platforms for improving students' personal connection with others through online activities/ tasks/ assignments etc. It is evaluated the highest by the student respondents but evaluated the least by the teacher respondents. Same with the 3rd indicator, professors persuade students to use technology to impact a global audience and have the lowest evaluation from the students but have the highest evaluation from the teachers.

The last C, connectivity or character education, both refer to the skill that teachers should foster in their students. As part of a global world where technology is part of everyday life, students should be able to connect with their friends and other people around them in building a better world, and in the process, teachers should foster in them the eagerness to become "responsible, caring, and contributing" citizens (Miller and Fullan, 2015 as cited by Anugerahwati, 2019).

To summarize (please refer to Table Number 8), among the 6 Cs of education in online teaching and learning performance, developing creativity has the highest mean evaluation from both groups of respondents. While utilizing connectivity obtained the lowest mean evaluation from the teacher-respondents and embracing culture from the student-respondents. It is manifested in the values of standard deviation that teacher-respondents have more uniform and more consistent responses than the student respondents. Also, in terms of working collaboratively, both groups have almost the same responses.

In general, for the two groups of respondents, 6 Cs of education in online teaching and learning performance is Highly Implemented in the institution.

Table 7

Summary of the Assessment on the Extent of Implementation of the Six Cs of Education in the Online Teaching and Learning Performance

Indicators	Teachers			Students		
	Mean	SD	VI	Mean	SD	VI
Thinking Critically	4.37	0.422	HI	4.06	0.690	HI
Communicating Clearly	4.34	0.560	HI	4.13	0.712	HI
Working Collaboratively	4.33	0.723	HI	4.23	0.720	HI
Embracing Culture	4.05	0.752	HI	3.82	0.856	HI
Developing Creativity	4.48	0.516	HI	4.26	0.713	HI
Utilizing Connectivity	4.10	0.647	HI	3.95	0.772	HI
Overall	4.10	0.647	HI	3.95	0.772	HI

Legend: 5.00-4.51 – Extensively Implemented (EI); 4.50-3.51 – Highly Implemented (HI); 3.50-2.51 – Implemented (I); 2.50-1.51 – Slightly Implemented; 1.50-1.00 – Not at all Implemented

The Difference in the Assessment between Teachers and Students on the Extent of Implementation of the Six Cs of Education in the Online Teaching and Learning Performance

It can be gleaned from Table Number 9 that there is a significant difference in the assessment between the teachers and students on the extent of implementation of the 6 Cs of education in online teaching and learning performance in terms of thinking critically, communicating clearly, embracing culture, and developing creativity.

Table 8

The difference in the Assessment between Teachers and Students on the Extent of Implementation of the Six Cs of Education in the Online Teaching and Learning Performance

Variables	Mean Difference	t value	df	Sig	Decision	Interpretation
Thinking Critically	.308	3.178	294	.002*	Reject Ho	Significant
Communicating Clearly	.213	2.078	294	.039*	Reject Ho	Significant
Working Collaboratively	.100	.922	80.308	.359	Accept Ho	Not Significant
Embracing Culture	.231	2.002	88.885	.048*	Reject Ho	Significant
Developing Creativity	.226	2.222	294	.027*	Reject Ho	Significant
Utilizing Connectivity	.153	1.521	92.573	.132	Accept Ho	Not Significant

*Significant at 0.05

However, there is no significant difference in the assessment between the teachers and students on the extent of implementation of the 6 Cs of education in online teaching and learning performance in terms of the other two variables which are working collaboratively and utilizing connectivity.

The biggest mean difference is evident in terms of thinking critically (.308), as well as the lowest value of sig (.002) when compared to a 0.05 level of significance. Thus, the rejection of the null hypothesis. The existence of difference indicates varied responses from the two groups of respondents. They have, maybe, different perspectives as to the evaluation of the variables.

The 6 Cs represent a major shift in educational focus. They are also called 21st-century skills, 21st Century Competencies, and New Pedagogies for Deep Learning (educircles.org, 2022). Researchers and education experts have outlined the Cs about education in the 21st Century, and they cover critical thinking, collaboration, communication, creativity, citizenship/culture, and character education/connectivity. Miller (2015) and Fullan (2015) as cited by Anugerahwati (2019), assert that the first C is Critical thinking. The second C is collaboration, communication is the third C, and the fourth is creativity. The next 2 Cs are new coinages by two education experts, Miller and Fullan. Miller created the fifth C as embracing culture, and the sixth is utilizing connectivity; while Fullan chose the word citizenship and character education, respectively. Indeed, education should be directed towards the mastery of 21st-century skills because it can be ascertained that teachers and students can work well, hand-in-hand to build a better society, one that is prepared to face the challenges of the 21st century. This is the reason why 21st-century education was created as it encompasses the aspects that should be integrated with the day-to-day lessons in all subject matters. Life and education before are far different now, and life for all learners is full of innovations and challenges that no one did not even imagine would exist.

Integrating the summarized findings and in congruence with the research questions, the researchers concluded that among the 6 Cs of education in online teaching and learning performance, developing creativity has the highest mean evaluation from both groups of respondents. While utilizing connectivity

obtained the lowest mean evaluation from the teacher-respondents and embracing culture from the student-respondents. Also, in terms of working collaboratively, both groups have almost the same responses.

Moreover, when assessed by the teachers and students, four (4) of the 6 Cs of education resulted in a significant difference in the extent of implementation in online teaching and learning performance in terms of thinking critically, communicating clearly, embracing culture, and developing creativity. However, there is no significant difference in the assessment of the extent of implementation of the 6 Cs of education in online teaching and learning performance in terms of working collaboratively and utilizing connectivity.

Based on the findings, the researchers recommend the following: (1) Since 21st-century education should be directed towards the mastery of the 21st Century skills, the Higher School ng UMak may implement the 6 Cs in the teaching and learning curriculum of the students specifically in subjects like English, Filipino, Media Literacy, among others. With the implementation of the 6Cs, both the teachers and students may be empowered to face the challenges of the 21st century; (2) To use teaching methods that allow students to experience a more authentic, engaging, and challenging situation that will also permit them to explore their passion in the likes of project-based learning, etc.; and (3) As lifelong learners, UMak faculty and students may work on the skills and competencies that can continuously equip them to excel in the future. For instance, instead of just focusing on teaching knowledge and content for tests, they can teach transferable life skills and a developmental frame of mind to explore the curriculum.

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