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Student-Centered Learning and Student Leadership Behavior

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Abstract: The globalized, networked, and rapidly changing society is seeing the need of leadership talent from young people. That leadership is an inborn characteristic is already facet and has been replaced with a belief that anyone can learn and develop their capacity to lead. Higher education institutions (HEIs) across the globe, knowing the importance of leadership competencies, have made it part of their educational mission to develop students' leadership (Zafar et al., 2020). The importance of college student leadership has long been recognized. American research has established that student leadership in college can enhance national core values in terms of civic responsibility and community participation of young students (Zimmerman-Oster and Burkhardt, 2007; Wagner, 2009). Chinese studies on student leadership are showing positive results as well. A study in several Shanghai universities has shown that student leadership education can improve students' values and develop their socialist core values (Weng, 2013; Xi, 2012; Zhang and Chen, 2015). The need for developing student leaders in HEIs is mirrored in the report of the Possibilists (2021), a global network of young social innovators. The study which involved their sixteen (16) networks around the world showed the problems of youth leaders. Some of these are juggling leadership responsibilities, work, and studies; lack of institutional supports, doubting their abilities, and lack of finances. The need to enhance, support and develop youth leaders is considered pressing because 1.2 billion people are 15-24 years old, and more than half of the population is below 30 years old (Possibilist, 2021). Since a big percentage of the youth are still in schools, HEIs can help develop their leadership skills. School administrators can do this by implementing leadership training programs in the campus. They can send student leaders in outside trainings and exposures as well. Lastly, school administrators may even promote practices in the classrooms that can enhance leadership skills like student-centered learning (SCL). According to Curran and Tillapaugh (2013), SCL has the potential to strengthen the foundations of student leadership. SCL evolved from the simple idea of student participation in the learning process. It has kept on evolving though alongside the advancement of technology. Whether SCL and student leadership behavior are significantly associated is one of the questions in this proposed quantitative study.

1. Introduction

The globalized, networked, and rapidly changing society is seeing the need of leadership talent from young people. That leadership is an inborn characteristic is already facet and has been replaced with a belief that anyone can learn and develop their capacity to lead. Higher education institutions (HEIs) across the globe, knowing the importance of leadership competencies, have made it part of their educational mission to develop students' leadership (Zafar et al., 2020).

According to Curran and Tillapaugh (2013), SCL has the potential to strengthen the foundations of student leadership. SCL evolved from the simple idea of student participation in the learning process. It has kept on evolving though alongside the advancement of technology. Whether SCL and student leadership behavior are significantly associated is one of the questions in this proposed quantitative study.

2. Ressults, Interrpretation, and Discussion

2.1 Assessment of Student-Centered Learning

The student-centered learning in the research local was assessed by the respondents in terms of personalization of learning, standards and competencies, self-directed learning, student agency and ownership, information utilization, and contextual conditions supporting student-centered learning.

Table 1. Assessment of Personalization of Learning

Items	Mean	SD	Interpretation
1. The students were given a choice on what project or course output they can make to show their learning	1.97	1.00	Unsatisfactory
2. The students worked on the same topics but on different activities or learning tasks	2.07	0.99	Unsatisfactory
3. Students were allowed to skip some classes if they show they have learned the lesson already	2.79	1.61	Satisfactory
4. The teacher gave us a variety of learning materials such as books, e-books and other digital materials	2.04	1.04	Unsatisfactory
5. The teacher used varying teaching strategies (i.e. lecture, group discussion, debate, etc.)	1.97	1.03	Unsatisfactory
6. The teacher provide internet links where students can learn	2.07	0.97	Unsatisfactory
Overall	2.15		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 1 shows how the respondents assessed student-centered learning in terms of personalization of learning. The group gave an overall mean of 2.15 which is interpreted as unsatisfactory. It means that the customization of teaching and learning process based on the students' needs, interests, and pace was not evident. The respondents gave low ratings to all the indicators of personalization of learning except to item 3. The students gave the highest mean (2.79) to item 3. It means that the practice of allowing students to skip class once they learned the lesson already is satisfactory for the respondents. The rest of the indicators were assessed as unsatisfactory with items 1 and 5 getting the lowest mark (1.97). This means that the practice of giving choices to students on what output they would make is unsatisfactory. The same is true to item 5 which pertains to the practice of varying teaching strategies. The respondents also found this indicator to be unsatisfactory.

The unsatisfactory level of personalization of learning means that the customization of teaching and learning process based on the students' needs, interests, and pace was not evident. This customization, according to Pane et al., (2015) are hallmarks of personalized learning. Other indicators of personalization of learning like the wide variety of teaching strategies and learning

resources (Rose and Gravel, 2012), and multiple approaches to assessment (Stainer et al., 2020) were unsatisfactory as well. This implies that Chinese teachers are not yet doing SCL in their classrooms. Their teaching approaches remain teacher centered. This conforms with the findings of You (2019) which claimed that teacher-centered pedagogies persist in China.

Table 2. Assessment of Learning Standards and Competencies

Items	Mean	SD	Interpretation
1. The teacher gives a clear list of skills to be learned	2.11	1.09	Unsatisfactory
2. At the beginning of the course, the teacher orients us on what skills and knowledge will be demonstrated during assessments	1.93	0.96	Unsatisfactory
3. The topics are presented in interesting and challenging ways	2.12	1.04	Unsatisfactory
4. The teacher has high expectations from the class	1.87	0.91	Unsatisfactory
5. By giving a variety of learning tasks, the teacher was able to provide activities that suited my needs	1.94	0.97	Unsatisfactory
6. My classes really make me think.	1.86	0.95	Unsatisfactory
Overall	1.96		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

The assessment of SCL in terms of learning standards and competencies centered on setting clear competencies and providing appropriate tasks to the students. Table 4 shows that the students gave a mean of 1.96 to the whole domain of learning standard and competencies. The mean of 1.96 shows that the level of SCL in terms of standards and competencies is unsatisfactory. The same assessment was given to the entire set of indicators. Item 6 got the lowest mean (1.86) which suggests that classes are not mentally challenging. It should be noted that providing appropriate challenge to the students is a characteristic of SCL (Domaleski, 2015; Pane et al., 2015; Scheopner Torres, Brett, and Cox, 2015). Moreover, the unsatisfactory assessment of learning standards and competencies mean that the teachers were still using teacher-centered approaches. The Chinese teachers were just starting with their SCL's like what Li (2015) claimed that student-centered approaches had a low rate of implementation in Chinese schools.

Table 3. Assessment of Self-Directed Learning

Items	Mean	SD	Interpretation
1. The teacher required us to participate in a community service activity	1.91	0.90	Unsatisfactory
2. The teacher let us attend a webinar	2.03	0.96	Unsatisfactory
3. The teacher use real-life community issues in teaching us	1.84	0.92	Unsatisfactory
4. Students are given opportunities to share insights from community experiences	1.82	0.89	Unsatisfactory
5. The teacher skips some schedules to give us free time to study on our own	1.86	0.89	Unsatisfactory
6. The teacher let us skip classes if we will go to exhibits or forum in the campus	2.12	1.10	Unsatisfactory
Overall	1.93		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 3 shows that SCL in terms of self-directed learning was given a low rating by the respondents. It has mean of 1.93 only which shows that the level of self-directed learning is unsatisfactory. The respondents considered all the indicators of self-directed learning as unsatisfactory giving the lowest mean of 1.82 to item 4. This means that students are not given adequate opportunities in sharing their own insights. Stainer et al., (2020) claimed that as indicators of self-directed learning like studying outside traditional school's time and space was simply not

evident. Again, this finding suggests a low level- SCL use in the Chinese classrooms.

Table 4. Assessment of Student Agency and Ownership

Items	Mean	SD	Interpretation
1. The teacher encourages me to ask other students before asking help from him/her	1.94	0.92	Unsatisfactory
2. The teacher encourages students to connect what they learned to prior knowledge.	1.76	0.85	Unsatisfactory
3. The teacher show strategies how to learn some topics	1.86	0.87	Unsatisfactory
4. The teacher encourages students to ask questions during discussions	1.81	0.90	Unsatisfactory
5. The teacher lets students participate in making class policies	2.03	1.00	Unsatisfactory
6. The teachers encourage the students to take responsibility of their learning	1.69	0.82	Unsatisfactory
Overall	1.85		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 4 shows how the respondents assessed SCL in terms of student agency and ownership. The respondents gave a mean of 1.85 which is considered unsatisfactory. All indicators of student agency and ownership were assessed as unsatisfactory. In general, the low assessment implies that the teachers do not illicit student participation in the learning process. Of the six indicators, item 6 got the lowest mean, 1.69. It means that the teachers do not practice encouraging the students to take responsibility of their learning. In general, the low assessment implies that the teachers do not illicit student participation in the learning process. Students were not given opportunities to have some sort of control over their learning. It happens when the teachers have poor facilitation capability as claimed by Tsegay (2015). This also shows that teachers are still using pedagogies that are not student-centered.

Table 5. Assessment of Information Utilization

Items	Mean	SD	Interpretation
1. The teacher provides us the necessary data to assess our performance	1.90	0.91	Unsatisfactory
2. The teacher encourages students to discuss their learning progress with him/her	1.79	0.80	Unsatisfactory
3. The teacher provides quick feedback on our Performances	1.83	0.81	Unsatisfactory
4. The teacher provides data so students can assess whether they will pass or fail	1.91	0.88	Unsatisfactory
5. The teacher asks students of the strategies for monitoring their progress in learning	1.99	0.93	Unsatisfactory
6. The teacher asks us to relate our efforts to the scores we get in exams	1.81	0.86	Unsatisfactory
Overall	1.87		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 5 shows the assessment of student-centered learning in terms of information utilization. The respondent rated this domain with a mean of 1.87 only considered as unsatisfactory. The low assessment of the information utilization domain can be seen in its all indicators. It shows that information was not utilized by the teachers to make the respondents more aware of their learning's progress. The respondents gave unsatisfactory ratings to all six indicators with the lowest mean (1.87)

obtained by item 2. It says that teachers do not encourage their students to discuss their learning progress with them. The assessment suggests that data are not being used by the teachers to improve students' academic performance and learning process awareness. The teachers were not prompt in checking students' works and thus cannot give feedback on time. This happens when teachers are not good as learning facilitators as claimed by Tsegay (2015) or not really into the practice of student-centered learning (You, 2019).

Table 6. Assessment of Contextual Conditions Supporting Student-Centered Learning

Items	Mean	SD	Interpretation
1. My opinions are respected in the class.	1.85	0.91	Unsatisfactory
2. Internet is accessible in the classroom.	1.69	0.85	Unsatisfactory
3. The teacher cares about what I am doing.	1.89	0.86	Unsatisfactory
4. The feedback I receive on my schoolwork helps me improve	1.82	0.87	Unsatisfactory
5. Teachers pay attention to students who needs help most	1.81	0.889	Unsatisfactory
6. The teachers encourage the students not to give up when the work gets hard	1.70	0.86	Unsatisfactory
Overall	1.79		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 6 shows how the respondents assessed the contextual conditions supporting student-centered learning. This domain which describes the experiences of students that are conducive to student-centered learning was given an overall rating of 1.79. The overall mean was considered unsatisfactory. This shows that students' experiences in the school were not conducive for student-centered learning. Item 2 got the lowest mean of 1.69. This means that internet is not accessible in the classroom. The absence of the internet deprives the teacher and students access to multiple learning resources. Something that is important to student-centered learning. In fact, all the indicators of contextual conditions for student-centered learning were considered unsatisfactory with very low means ranging from 1.69 to 1.89 only.

This finding provides context to what You (2019) and Tsegay (2015) said about student-centered learning in China. You (2019) claimed that Chinese teachers were not really doing student-centered learning. It could be because they were not trained well as facilitators of learning as claimed by Tsegay (2015). This is evident in the finding because it turned out, the teachers were not also effective in establishing conditions in the classroom that would enable student-centered learning like showing concern on students, giving effective feedbacks, paying attention to what students said, and encouraging them to work on their tasks even if they encounter difficulties.

Table 7. Overall Assessment of Student-Centered Learning

Domains	Mean	Interpretation
1. Personalization of Learning	2.15	Unsatisfactory
2. Learning Standards and Competencies	1.96	Unsatisfactory
3. Self-Directed Learning	1.93	Unsatisfactory
4. Student Agency and Ownership	1.85	Unsatisfactory
5. Information Utilization	1.87	Unsatisfactory
6. Contextual Conditions Supporting SCL	1.79	Unsatisfactory
Overall	1.93	Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 7 shows the assessments of the different domains of student-centered learning. Personalization of learning got the highest mean of 2.15 but its level was unsatisfactory. The lowest mean (1.79) was obtained by the domain contextual conditions supporting student-centered learning which was interpreted as unsatisfactory also. All the domains were actually assessed being at the

unsatisfactory level. Expectedly, the overall mean (1.93) was also considered as unsatisfactory. This shows that student-centered learning in China had not even progressed to the minimum acceptable level. Zhang (2021) explains that this situation is due to the cultural mindset which regards Chinese teachers as authorities and disciplinarians.

2.2 Assessment of Leadership Behavior

Table 8. Assessment of Modeling the Way

Items	Mean	SD	Interpretation
1. I set a personal example of what I expect from people.	2.14	0.85	Unsatisfactory
2. I spend time making sure that people behave consistently with the principles and standards we have agreed upon.	1.99	0.82	Unsatisfactory
3. I follow through on the commitments and promises I made.	1.84	0.82	Unsatisfactory
4. I seek to understand how my actions affect other people's performance.	1.94	0.86	Unsatisfactory
5. I make sure that people support the values we have agreed upon.	2.02	0.81	Unsatisfactory
6. I talk about my values and the principles that guide my actions.	1.99	0.85	Unsatisfactory
Overall	1.99		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 8 shows how the respondents assessed modeling the way domain of exemplary leadership. This domain got an overall mean of 1.99 which is considered unsatisfactory. It shows that the respondents' leadership behavior in terms of becoming a role model for the followers is not evident. Item 1 which says that the respondents set as a personal example got the highest mean of 2.15. This mean however still denotes an unsatisfactory level. In fact, all the indicators of modeling the way were considered as unsatisfactory. Item 11 got the lowest mean of 1.84 which means that the respondents do not follow through on the commitments and promises they made. They probably think that leadership is more of giving instructions and orders to make followers participate. The unsatisfactory level of modeling the way or becoming a role model for the followers somehow conforms with what Diao et al., (2013) claimed about Chinese students' perception of leadership. They claimed that students think of inadequate understanding of leadership.

Table 9. Assessment of Inspiring a Shared Vision

Items	Mean	SD	Interpretation
1. I look ahead and communicate about what I believe will affect us in the future.	2.01	0.86	Unsatisfactory
2. I describe to others in our organization what we should be capable of accomplishing.	1.96	0.87	Unsatisfactory
3. I talk with others about a vision of how we could be even better in the future.	1.98	0.84	Unsatisfactory
4. I talk with others about how their own interests can be met by working toward a common goal.	2.02	0.82	Unsatisfactory
5. I am upbeat and positive when talking about what we can accomplish.	1.86	0.75	Unsatisfactory
6. I speak with passion about the higher purpose and meaning of what we are doing.	1.99	0.86	Unsatisfactory
Overall	1.98		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 9 shows that the respondents gave an overall mean of 1.98 to inspiring a shared vision considered unsatisfactory. The respondents in general do not practice communicating the vision of

the organization with their followers. The low level of inspiring a shared vision is evident with all its indicators being at unsatisfactory level. Item 6 got the lowest mean with 1.86. This suggests that the respondents were not upbeat and positive when talking about what they can accomplish.

The respondents may not be used of talking openly about their aspirations for their organizations which is the main feature of inspiring a shared vision. Having open communications between leaders and followers can be considered as social interactive management also. According to Chen (2012), social interactive management is one of the major leadership competences of Chinse student leaders. The finding therefore contrasts with Chen's (2012) claim. What seems to be more obvious is the respondents' lack of leadership understanding like what Diao et al., (2013) declared of Chinese students.

Table 10. Assessment of Challenging the Process

Items	Mean	SD	Interpretation
1. I look for ways to develop and challenge my skills and abilities.	2.04	0.83	Unsatisfactory
2. I look for ways that others can try out new ideas and methods.	2.13	0.90	Unsatisfactory
3. I search for innovative ways to improve what we are doing.	1.93	0.80	Unsatisfactory
4. When things do not go as we expected, I ask, "What can we learn from this experience?".	2.01	0.82	Unsatisfactory
5. I make sure that big projects we undertake are broken down into smaller and do-able parts.	1.96	0.80	Unsatisfactory
6. I take initiative in experimenting with the way things can be done.	1.99	0.85	Unsatisfactory
Overall	2.01		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 10 shows the overall mean of 2.01 to the leadership behavior of challenging the process considered as unsatisfactory. It suggests that in general the respondents do not challenge the status quo in their organizations. This is very evident with all the indicators of challenging the process being considered unsatisfactory. Item 3 got the lowest rating with 1.93. This suggests that the respondents do not look for innovative ways to improve what they are doing. They are probably satisfied with the status quo. As stated by Chan (2014), student leadership in China is influenced by social cultural tradition. Accepting the status quo in the organization and not desiring to improve it may also speak of the lack of creativity among the respondents. This conforms with Weng's (2011) claim that creativity is not a characteristic of Chines students' leadership.

Table 11. Assessment of Enabling Others to Act

Items	Mean	SD	Interpretation
1. I foster cooperative rather than competitive relationships among people I work with	1.95	0.80	Unsatisfactory
2. I actively listen to diverse points of view.	1.94	0.81	Unsatisfactory
3. I treat others with dignity and respect.	1.76	0.79	Unsatisfactory
4. I support the decisions that other people make on their own.	1.99	0.82	Unsatisfactory
5. I give others a great deal of freedom and choice in deciding how to do their work.	1.92	0.81	Unsatisfactory
6. I provide opportunities for others to take on leadership responsibilities.	1.96	0.81	Unsatisfactory
Overall	1.92		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 11 presents the assessment of the enabling others to act. The respondents gave an overall mean of 1.92 interpreted as unsatisfactory. It implies that in general, the respondents do not make adequate engagement with other members of the organization to help them realize their potentials.

This low assessment of enabling others to act can be seen across its indicators which the respondents considered all as unsatisfactory. Item 3 got the lowest mean of 1.76 which means that the respondents do not practice treating others with dignity and respect. This is quite unusual given the important role of good interpersonal relationship in leadership. It is possible that the long absence of in person engagements among student leaders and other students due to the pandemic may have contributed to this odd behavior.

The unsatisfactory level of enabling others to act is in complete contrast to what Dai and Cai (2014) found about Chinese student leadership. They claimed that Chinese students were focused on supportive and participative leadership. The result of the assessment clearly shows that the respondents not lending support and cultivating a culture of participation among the members of the organization. The finding is also in contrast to the claim that Chinese students consider social practice competence and emotional intelligence as part of the most important aspects of leadership quality (Wen et al., 2011).

Table 12. Assessment of Encouraging the Heart

Items	Mean	SD	Interpretation
1. I praise people for a job well done	1.89	0.81	Unsatisfactory
2. I encourage others as they work on activities and programs.	1.91	0.84	Unsatisfactory
3. I express appreciation for the contributions that people make.	1.77	0.78	Unsatisfactory
4. I make it a point to publicly recognize people who show commitment to shared values.	2.03	0.84	Unsatisfactory
5. I find ways for us to celebrate accomplishments.	2.04	0.89	Unsatisfactory
6. I make sure that people are creatively recognized for their contributions.	1.86	0.81	Unsatisfactory
Overall	1.92		Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50 Unsatisfactory, 1.00-1.50 Poor

Table 12 presents the overall mean of 1.92 to encouraging the heart. There is a small variance in the individual assessments as compared to the mean as shown by the low SD of 0.83. The low mean of 1.92 suggests that the respondents practice of encouraging the heart or motivating the members of the organization through appreciation was unsatisfactory. This is very evident since all its indicators were rated unsatisfactory. Item 3 got the lowest mean with 1.77 which implies that the respondents' expression of appreciation to other members of organization is not enough. It further implies that the respondents are not good in interpersonal relationships with their organizations' members.

The unsatisfactory level of encouraging the heart does not conform with the findings of Dai and Cai (2014) which say that Chinese college students were focused on supportive leadership. The assessment shows that the respondents do not support the members of the organization through appreciation. It also implies that the respondents do not value social competence in their leadership. This contrasts with Wen et al., (2011) who claim that students consider social practice competence as one of the most important aspects of leadership.

Table 13. Overall Assessment of Leadership Behavior

Domains	Mean	Interpretation
1. Modeling the Way	2.14	Unsatisfactory
2. Inspiring a Share Vision	2.01	Unsatisfactory
3. Challenging the Process	2.04	Unsatisfactory
4. Enabling Others to Act	1.95	Unsatisfactory
5. Encouraging the Heart	1.89	Unsatisfactory
Overall	2.01	Unsatisfactory

Legend: 4.51-5.00 Excellent, 3.51-4.50 Very Satisfactory, 2.51-3.50 Satisfactory, 1.51-2.50

Unsatisfactory, 1.00-1.50 Poor

Table 13 shows that modeling the way got the highest mean among the different domains of exemplary leadership with 2.14 interpreted as unsatisfactory just like all the other domains. On the other hand, enabling others to act got the lowest mean with 1.89.

The overall mean is 2.01 considered as unsatisfactory level of exemplary leadership which does not conform with many studies about Chinese student leadership. According to Chen (2012), social interactive management is a major domain of student leadership. It is supportive and participative as well (Dai and Cai, 2014). These leadership characteristics are not mirrored in the assessments of inspiring a shared vision, enabling others to act, and encouraging the heart.

According to some respondents who were interviewed informally by the researcher, their poor leadership behavior is due to the lack of skills in decision-making, communication, conflict resolution, keeping interpersonal relationships, and initiating change. Opportunities to enhance the said leadership skills are limited because of the academic duties. They could not carry out their duties well in their respective organizations and attend leadership trainings because they must earn good grades in their studies. They said that they prioritize their studies over their leadership duties.

2.3 Difference between the Student Leadership Behavior Based on the Respondents' Program Specialization Profile

Table 14. T-test Results on the Significant Difference between the Leadership Behavior Assessments

Student-Centered Learning (SCL) Domains	Means		t-value	p-value	Interpretation	Decision on H_o
	SHE	SSLA				
1. Modeling the Way	1.84	2.07	1.9123	.0578	Not Significant	Accept
2. Inspiring a Share Vision	1.86	2.05	1.5618	.1206	Not Significant	Accept
3. Challenging the Process	1.89	2.08	1.5698	.1189	Not Significant	Accept
4. Enabling Others to Act	1.82	1.98	1.3398	.1825	Not Significant	Accept
5. Encouraging the Heart	1.81	1.98	1.2847	.2010	Not Significant	Accept

Legend: SHE -Science, Health and Engineering cluster; SSLA -Social science and Liberal Arts cluster

Table 14 shows the comparisons between the exemplary leadership assessments of the science, health, and engineering (SHE) clusters and the social science and liberal art clusters (SSLA). The SSLA gave higher ratings to all the domains of exemplary leadership compared to the SHE clusters. The t-test results however, showed that all the differences between the SSLA and SHE clusters' means were not significant at .05 level of significance.

For modeling the way, the t-value is 1.9123 and the p value is .0578 which is not significant. The difference in the means of inspiring a shared vision is not significant also with t = 1.5618 and p =.1206. The t-test results for challenging the process also yielded a not significant difference with t = 1.5698 and p =.1189. The means pertaining to enabling others to act has no significant difference also with t = 1.3398 and p = .1825. Lastly, there is also no significant difference between the means for encouraging the heart with t = 1.2847 with p =.2010.

Having no significant difference in the assessments done by the SSLA and SHE clusters implies that the unsatisfactory level of exemplary leadership practice is true across all the academic disciplines in the research locale. Consequently, the null hypothesis which says that there is no significant difference in the assessments of exemplary leadership when respondents are grouped according to their cluster profile is accepted.

2.4 Correlation between Student-Centered Learning and Leadership Behavior

Table 15. Correlation between Student-Centered Learning and Exemplary Leadership

	Modeling the Way	Inspiring Shared Vision	Challenging the Process	Enabling Others to Act	Encouraging the Heart	Overall Leadership Behavior
Personalization of Learning	r =0.374 sig =.000 weak significant	r = 0.384 sig =.000 weak significant	r=0.704 sig =.000 moderate significant	r =0.669 sig =000 moderate significant	r =0.353 sig =.000 moderate significant	
Learning Standard and Competencies	r=0.473 sig =.000 moderate significant	r= 0.476 sig=.000 weak significant	r= 0.801 sig =.000 strong significant	r =0.767 sig=.000 strong significant	r =0.451 sig =.000 moderate significant	
Self- directed Learning	r =0.480 sig =.000 moderate significant	r = 0.501 sig =.000 weak significant	r =0.881 sig=.000 strong significant	r =0.832 sig =.000 strong significant	r = 0.470 sig =.000 weak significant	
Student Agency and Ownership	r=0.552 sig =.000 moderate significant	r=0.534 sig =.000 moderate significant	r=0.911 sig =.000 very strong significant	r =0.894 sig =.000 strong significant	r =0.507 sig=.000 moderate significant	
Information Utilization	r =0.527 sig=.000 moderate significant	r =0.539 sig =.000 moderate significant	r= 0.912 sig=.000 very strong significant	r =0.889 sig =.000 strong significant	r=0.526 sig=.000 moderate significant	
Supportive Contextual Conditions	r =0.562 sig =.000 moderate significant	r =-0.572 s=.000 moderate significant	r=0.920 s =.000 very strong significant	r=0.909 sig =.000 very strong significant	r=0.571 sig =.000 moderate significant	
Overall Student-Centered Learning						r = 0.610 sig =.000 moderate significant

Legend: ATS (Attitude Toward Science), SSCS (Student-centeredness in Science Classes) Very strong correlation (0.91-1.00), strong correlation (0.71-0.90) moderate correlation (0.51-0.70), weak correlation (0.31-0.50), negligible correlation (0.01 -0.30)

Table 15 shows the result of Pearson r correlation between the assessments of student-centered learning and leadership behavior. The correlation of overall student-centered learning and leadership behavior yielded an r of 0.72 which means a strong relationship between the two variables. This explains why a low overall mean for student-centered learning is coupled with a low overall mean in student leadership as well. The p value of .000 suggests that the correlation is significant thus, the null hypothesis is rejected. The overall correlation is also reflected on the correlation between domains of student-centered learning and leadership behavior. All correlations are positive and significant. The strong to strongest correlations occurred between the enabling other to act and the student –centered learning domains of learning standard and competencies (r = 0.767), self-directed learning (r = 0.832), student agency and ownership (r =0.894), information utilization (r =0.889), and supportive contextual conditions (r=0.909). Part of the overall thrust of student-centered learning is collaboration between learners. It is possible that leadership behavior in terms of enabling others to act, or empowering others can be enhanced by student-centered learning. It may be the other way around also.

Challenging the process has strong to very strong correlations also with the student-centered learning domains of learning standard and competencies (r = 0.801), self-directed learning (r = 0.881),

student agency and ownership (r =0.911), information utilization (r =0.912), and supportive contextual conditions (r=0.920). Since student-centered learning is very different from traditional instruction, the few strategies in student-centered learning that might have been experienced by the respondents is seen as a challenge to the traditional process. It might have influenced the respondents' leadership behavior as well, manifesting in having pursuing ideas and questioning the status quo. It may also be the other way around.

The strong overall correlation between student-centered learning and student leadership behavior may be due to the fact that SCL is conducive for development of leadership. According to Black et al., (2014), a student-centered classroom fosters the skills and dispositions of leadership. It enables the students to participate and practice accountability, to voice out their ideas, and distribute responsibilities. With instruction in Chinese higher education being traditional and passive (Xu, 2014; Wozniakova, 2016), being far from being student-centered, their leadership behavior is also far from exemplary. The finding has implications on leadership development at school. The study shows that students may also develop leadership behavior through student-centered classroom instruction.

3. Conclusions, and Recommendations

3.1 Conclusions

Students from the social science and liberal arts are more engaged in student leadership compared to students in science, health, and engineering. More opportunities for leadership are given to student in the third-year level.The teachers do not have adequate practice of student-centered learning in the school. Their instruction is still teacher centered.The student leaders from different programs are equally not satisfied. The student leaders are not confident in their leadership skills. They still lack the leadership behavior to make exemplary impact to their organizations.The conduct of student-centered learning and the leadership behavior of the student leaders may complement one another. Adopting student-centered learning may enhance students' leadership behavior.

3.2 Recommendations

Improve the representation of the other year levels in the leadership of the student organizations.

Improve the conduct of student-centered learning. Provide the teachers with SCL capacity trainings and encourage its use. Inclusion of the mostimportant aspects of SCL in teacher evaluation might encourage the teachers to practice SCL.

3 Train the student leaders in exemplary leadership. The proposed training program for exemplary leadership can be utilized. This will address the lack of leadership capabilities of the student leaders and enable them to overcome leadership challenges.

4. Conduct further studies on the association between student-centered learning and exemplary leadership practice. The study should focus on the SCL as predictor of exemplary leadership.

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If any, should be placed before the references section without numbering.

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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