Leadership Skills and Competencies Through the Co-Curriculum - The Singapore Management University

Kenneth S. H. Tan, Singapore Management University, Singapore
Kenneth Yeo Yaoren, Singapore Management University, Singapore
Hon Liang Yi, Singapore Management University, Singapore
Timothy Low Qing Ying, Singapore Management University, Singapore

Abstract
Student affairs professionals and those who work with students directly know in their hearts that students learn in the co-curricular arena. Unfortunately, they do not always have a way to show that to others. Once learning outcomes have been developed, the appropriate assessment measures have to be developed because stakeholders are interested in what students are able to do in college as well as what they will do when they enter the work world. Many of the skills that employers want are the very skills that student affairs professionals teach students, such as communication, problem solving, and working with others who are different from themselves. In this current environment, there are calls for student learning assessment and documentation, both in and out of the classroom. Professional associations (ACPA, 2006; ACPA/NASPA, 2010) recognize the importance of student affairs professionals' ability to assess student learning using multiple methods. Direct and Indirect Measures of measurements are used in this study to measure learning especially leadership skills and competencies. The paper will introduce examples of how these direct and indirect measures, namely a structured questionnaire and a semi-structured interview respectively, were implemented and how the results were obtained and analyzed showing evidence of learning. This research and data gleaned will make student leadership learning in higher education more robust, especially in a Singapore context.

Keywords: Leadership, Co-Curricular, Outcomes Measurement

1. Introduction

This report provides an analysis and evaluation of graduate outcomes that result directly from student leadership in Singapore Management University (SMU). Two separate studies were conducted over two stages - the first study was conducted to validate the existing list of SMU Graduate Outcomes and the second study was conducted to understand what the Graduate Outcomes were from the viewpoint of a student leader. In the first study, definitions of the graduate outcomes were found to be insufficient, as many students gave varied responses to what they thought were graduate outcomes and the extent to which they believed they had developed these graduate outcomes. However, we found that the variables defined in the Graduate Outcomes were neither internally consistent nor independent. The results calls for a more specific definition of each variable. Hence, we conducted the second study to identify and define skills developed from student leader and the process of developing these skills.

2. Problem Definition

Singapore Management University aims to be a "Different U" by bringing out a "Different you". This is done through different policies such as the mandatory internship programme, compulsory community service hours, and vibrant student life. The Graduate Outcome attempts to pave the direction for students to develop employable skills that is beneficial in the workforce. However, there is no indication or research conducted to identify the causality between the skills developed by student leaders and its effectiveness in the workforce. Hence, this research attempts to identify the skills developed by student leaders and test if student leaders use these skills developed in other environments.

3. Study 1: Research Design

This study is a quantitative analysis of skills attained by student leaders during their term of service using the SMU Graduate Outcomes. The framework consists four elements, it aims to develop student leaders as strategic thinkers, global citizens, team players, and lifelong learners. Over 300 student leaders in the Singapore Management University (SMU) constituent bodies (CBds) were surveyed to measure skills each student leaders acquire. The survey will be divided into four sections; collection of basic particulars, skills leaders felt were essential to be elected or coopted into role, skills used during the term of service, and skills applied during internships. An online survey was sent out to all students holding leadership position within student constituent bodies or student clubs.

3.1 Statistical Analysis

The study surveyed a total of 301 student leaders and the data analyzed using an open-source statistical program, R Studios. The statistic package used for the analysis are "psych", "performance analytics", and "ggplot2". From this quantitative analysis, we have drawn results from the pre-identified variable's internal validity, randomness

of data, interdependency of data, and cluster analysis. A Cronbach alpha was applied to the scales categorized within the four skills identified in the SMU framework to validate the consistency of questions asked. Results of the various scale within the skill category will then be summed if the Cronbach alpha is above the value of 0.7. (Cronbach, 1951; Nunnally, Bernstein, & Berge, 1967) and hypothesis:

> *H0: Skills learned by student leaders of different roles are the same.*
> *H1: Skills learned by student leaders of different roles are not the same.*

A box plot was constructed for each skill identified by the SMU framework with student roles identified as with student roles as categories of the four plots. T-test conducted to check if skills learned by student leaders of different roles are the same. 4 by 4 correlation matrix comprising the four skills identified by SMU was constructed to conduct a cluster analysis for each of the combination of variables to test if roles can be identified from the skills learned during the student's term of office. Six scatterplots comparing each of the four skills identified by SMU and four histograms analyzing the general trend of skills was constructed using a randomized dataset (Anderberg, 1973). Hence showing the role which has a higher propensity to learn a certain set of skill. The histogram shows the aggregated scores of each skill from all student respondents.

3.2 Internal Validity of Variables

The variables identified for this study are the four SMU Graduate Outcomes namely, Strategic Thinker, Global Citizen, Team Player, and Lifelong Learner. We have divided each variable into two sections with three questions each. We then calculated the Cronbach Alpha for each section and its' total Alpha score to analyze the internal validity of the variables. The recommended Alpha value to verify internal validity is above 0.7. (Cronbach, 1951; Nunnally et al., 1967) The results of the alpha values are as displayed in Figure 1.

	Raw Alpha Value	Standard Alpha Value
Strategic Thinking (Initial)	0.76	0.76
Global Citizen (Initial)	0.66	0.66
Team Player (Initial)	0.63	0.63
Lifelong Learning (Initial)	0.68	0.68
Strategic Thinking (Duties)	0.68	0.68
Global Citizen (Duties)	0.24	0.25
Team Player (Duties)	0.17	0.26
Lifelong Learning (Duties)	0.46	0.49
Strategic Thinking (Total)	0.8	0.8
Global Citizen (Total)	0.5	0.6
Team Player (Total)	0.56	0.62
Lifelong Learning (Total)	0.47	0.5

Figure 1: Alpha Value of Variables

As observed, the only two variables that exhibited internal validity is Strategic Thinking (Initial) and Strategic Thinking (Total). For other variables, we observed a consistently low internal validity. The low internal validity of the variables hints at the broadness of the definitions for these variables, with the sole exception of "Strategic Thinking". This can manifest in the form of measuring multiple attributes within a single variable. Therein lies our first recommendations:

1)   To narrow the definition of each graduate outcomes for analytical purposes
2)   To identify skills hidden within each graduate outcome for analysis

With these recommendations, we can expect a greater variety of variables to analyze and a better internal validity for each variable.

3.3 Cluster Analysis

We have used a correlation matrix to perform a cluster analysis. The first observation we can see from the correlation matrix is the randomness of data. Every variable adheres to a normal distribution which validates the randomness of the data which allowed us to proceed with the analysis. (Var, 1998)
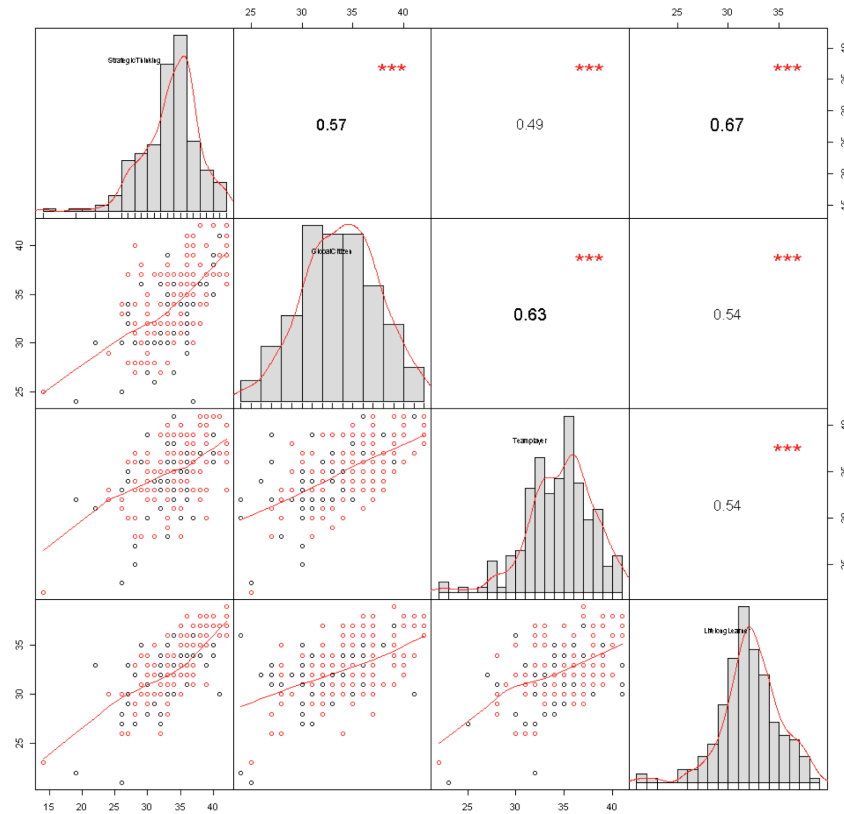
Figure 2: Cluster Analysis for Elected and Co-opted Leaders

Next, the correlation coefficient of each variable. The recommended inter-item correlation coefficient is between 0.2 and 0.4. (Briggs & Cheek, 1986) However, the correlation between the variables as observed above is above 0.45. This suggests interdependency between these variables. With attention for the correlation between "Strategic Thinking" and "Lifelong Learner" at 0.67***, and "Global Citizen" and "Team Player" at 0.63***, we might be able to generalize the variables measured. Firstly, the abnormally high correlation between "Strategic Thinking" and "Lifelong Learner" suggests the measurement of task-orient functions of leadership while "Global Citizen" and "Team Player" might be measuring the people-orient functions of leadership. Thirdly, there is no significant signs of clustering in these scatterplots. This shows that elections make no significant impact in the skills demonstrated by student leaders. Similar observations were made on other variables.
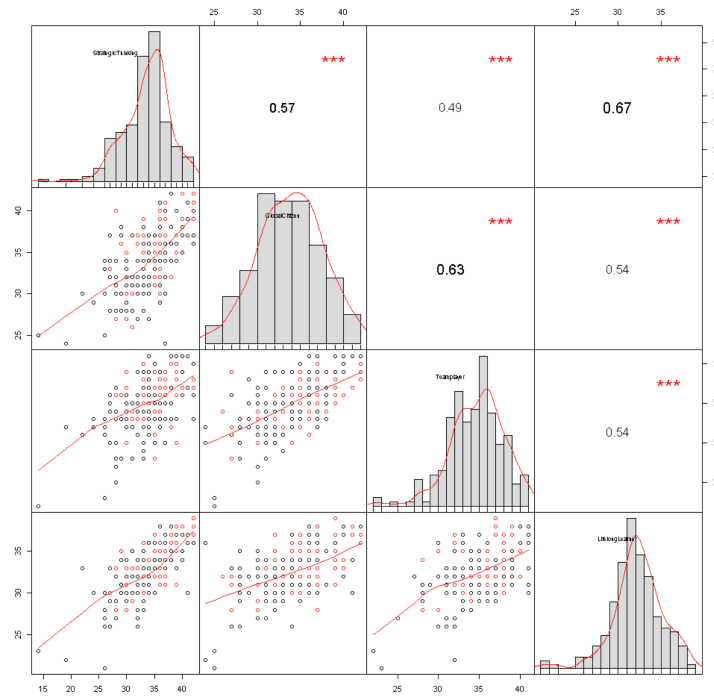
Figure 3: Cluster Analysis for Training before Term of Service

We witnessed little indications of clustering when we divide the survey samples based on the presence of management trainings before their term of service. This indicates the insignificant impact of trainings on skills demonstrated.
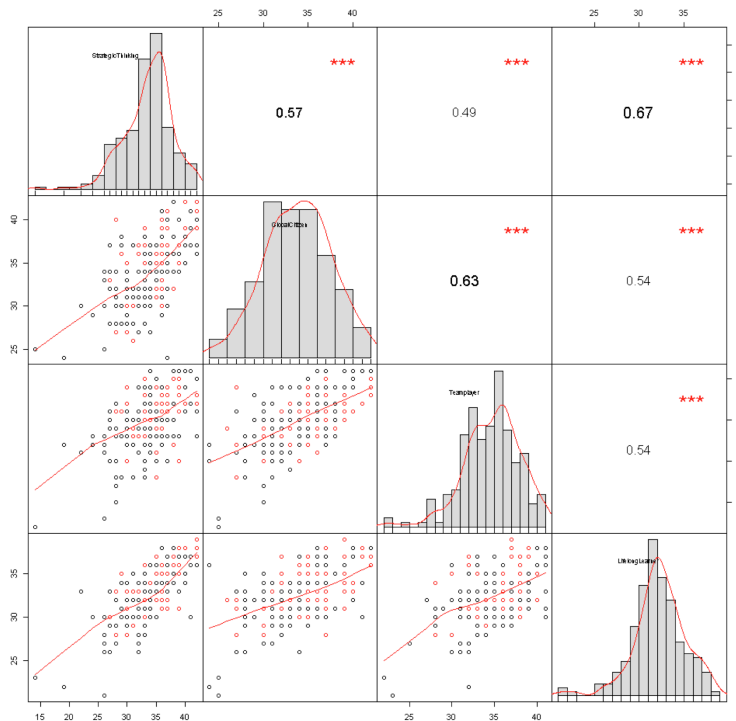

Figure 4: Cluster Analysis of Handovers

There are no visible clusters when we divided the samples by the existence of handover processes. Hence, we can infer that the handover procedures today do not have an impact of skills demonstrated by student leaders.
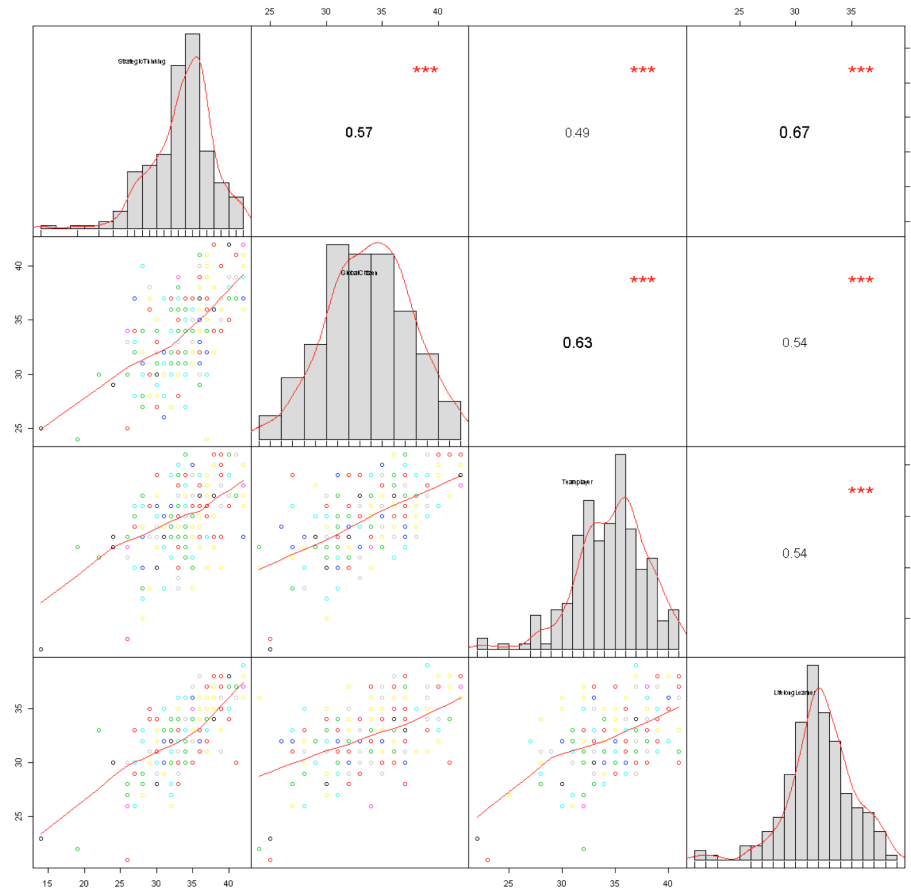

Figure 5: Cluster Analysis of Leadership Roles

We observed no clusters at the scatter plot for the eight leadership roles identified. Hence, we can conclude that the roles are insignificant to the skills students demonstrate during their term of leadership. Despite the insignificance of the independent variables on the graduate outcomes, we created box-plots to further analyze the impact of student roles on different skills. We observed from the "Strategic Thinking" plot that Presidents performed the best in this skill, followed by vice presidents. This is evident as the roles are undefined and requires interdisciplinary knowledge to execute. Hence, the lack of a clear definition of the role forces one to exhibit the "Strategic Thinking" outcome. Additionally, we noticed that there is a huge variance for this function for the Assets/Logistic Secretary and the Honorary Finance Secretary has the worst median out of the eight roles. We also observed the stellar performance of the Internal Relations/Liaison Secretary. Except for "Strategic Thinking", the Internal Relations/Liaison Secretary has performed the best in all graduate outcome.
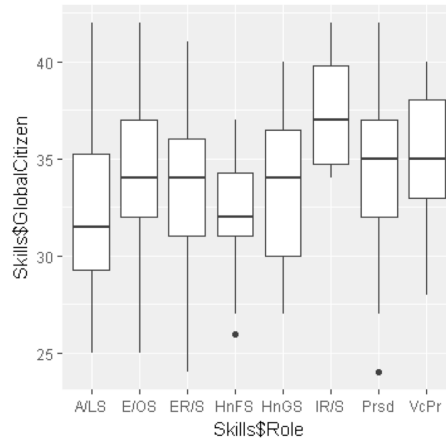
Figure 7: Global Citizen

From this plot, the Internal Relations/Liaison Secretary has a significantly better performance as compared to the other roles. The "Global Citizen" variable aims to measure the ability for one to empathize with a diverse group of people. Due to the requirements of the role, it is only natural for the Internal Relations/Liaison Secretary to perform best in this role as they coordinate between the Constituent Body's demands and the Club's needs. Hence, managing an array of stakeholders with sometimes contradictory objectives. Thus, they will require the skills specified in the "Global Citizen" variable to effectively execute their role.

The Assets/Logistics Secretary have displayed a large variance for this variable while having a low median. The Honorary Finance Secretary also displayed a low median for this variable.
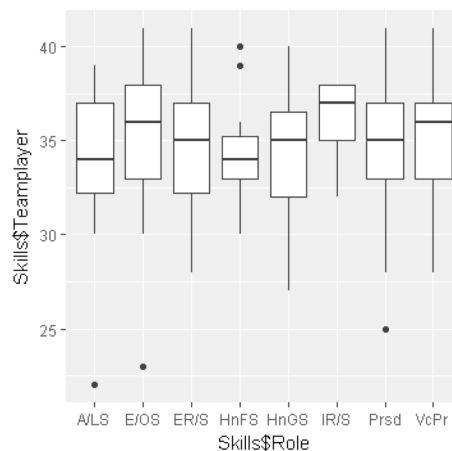

Figure 8: Team Player

There is little significance between roles for the "Team Player" variable. However, we observed a somewhat similar pattern in chart. Firstly, the Internal Relations/Liaison Secretary still scored the best for this variable. Secondly, the Assets/Logistics and Honorary Finance Secretary fared the worst for this variable.
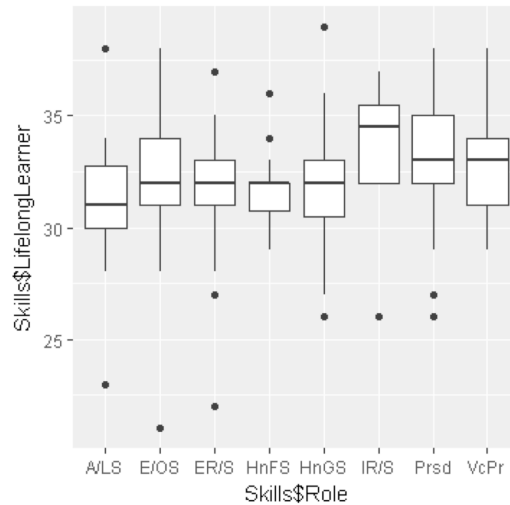
Figure 9: Lifelong Learner

The same pattern is observed for the "Lifelong Learner" variable where the Internal Relations/Liaison Secretary scored the best while Assets/Logistics Secretary and Honorary Finance Secretary had the lowest median.

3.4 Recommendations for 2nd study

The results in the first study indicates that the variables are both not independent nor have an internally consistent definition. Hence, a peer evaluated survey will not add clarity nor insight to the research. Therefore, in the next phase of the study, the team then conducted a series of semi-structured, in-depth interviews to:

- Scope and define specific skills student leaders utilize during their term of service.
- Identify the general attribute driving student leader's performance.
- Describe the Graduate Outcomes more comprehensively.

Based on the research analysis, the team decided to interview the top two performing roles in study 1 (the President and the Internal Relations/Liaison Director) and the bottom two performing roles (Honorary Finance Secretary and Assets/Logistics Director) across CBds and Co-Curricular Activities (CCAs) groups and these interviews were conducted with a small convenient sample of 6 to 8 leaders.

4. Study 2: Research Design

There were five research questions identified and 8 students were selected through convenience sampling for interviews, to identify similarities of different roles at different levels. We interviewed leaders from both CBd and CCA groups. The four roles we identified are Internal Communications/Liaison Director and President which are the best performing roles, and Assets/Logistics Director and Honorary Financial Secretary which are the worst performing roles. The interview questions (Kvale,

1994) helped as guiding questions for the interviewer and a responsive semi-structured interview design was used.

5. Interview Results

The team went through each set of interview notes, pulling out skills as mentioned by candidates. These skills were written out, and identical skills were grouped together. The first section of the interview results will aim to map out what skills were perceived to have been developed. As part of the interview also involved mapping these skills to outcomes, the first section will attempt to map out the most salient skills to outcomes mentioned by the interviewees. The second section will aim to discuss the process of skills development from their student leadership experience. The skills that were identified were:

1. **Organizational Skills** (Archer & Davison, 2008): Rearranging tasks or information to attain objectives

Organizing skills refers to student leaders being able to rearrange task or information to attain objective. Respondents often note that they are usually involved in multiple processes and task, with each process having different administrative procedures and requirement. They often need to be aware of such administrative procedure for them to achieve their organization goals (e.g. conducting of events, distribution of resources etc.). At times, respondents would feel overwhelmed with such requirements. To fulfill such administrative requirement, respondents would usually develop organizational skills and strategies for them to keep track of administrative process.

2. **Prioritization** (Hager & Holland, 2007): Putting or acting on specific tasks or resources based on their importance or urgency

Prioritization refer to the ranking of task or issues based on importance or urgency. Respondents often note that they are faced with competing interest or concerns from various stakeholders (within respondent's team, management committee, or school offices). For some respondents, prioritization is usually required for them to carry out their function and task. Respondents often will try to objectively compare and assess interest against one another before making a decision to prioritize one concern over another. Some respondent will establish a standard or criteria to determine importance and urgency.

3. **Negotiation** (Mallough & Kleiner, 2001): Discussion with the aim of reaching an agreement

Negotiation skills refers to respondents' ability to achieve agreement between parties through discussions. Due to competing interest between parties, respondents often that they frequently engage in negotiations to achieve consensus or agreements between parties. Negotiation skills, as understood by respondents, usually mean a need of communicating respondent's interest to other parties. This would usually involve

respondents attempting to persuade or influence other parties to change their position. Also, respondents highlighted that it is necessary for them to clearly identify the organization's interest and objective for effective negotiation. Negotiation skills would thus involve the ability to safeguard an organization interest while seeking for consensus with other parties.

4. **Networking** (McArdle, Waters, Briscoe, & Hall, 2007): Meeting individuals or groups in a formal setting in order to establish mutually beneficial relationships

Some respondents felt the opportunity to organize events had allowed them to develop socialization and networking skills. Learning of networking skills had helped some respondent to become more confident and comfortable in networking sessions. However, it should be noted that not all respondent shared such sentiments.

5. **Presentation** (Moore & Morton, 2017): Showing others an idea or an outcome for them to scrutinize or consider, typically in a formal setting

Presentation skills refers to the ability of respondents to communicate their organizations' opinion, ideas and position. Some respondents mentioned that they have improved their public speaking ability as they are required to regularly engage in public speaking at formal events with a large audience. Respondents had mentioned that significant challenges being faced by the organization were usually resolved by a group of student leaders. The ability for respondents to communicate and cooperate within a team is often salient when respondents highlight how they managed to resolve challenges.

6. **Tactfulness**(Moore & Morton, 2017): Communicating with sensitivity to others when dealing with difficult issues

Many respondents mentioned that when conveying undesirable news or opinion, there was a need to sensitive to other party opinion, interest and feelings. Respondents often developed an ability to convey such messages in a manner that was more palatable and acceptable for others.

7. **Empathy** (Grant & Kinman, 2013): Understanding the position and opinion of other individuals

Many respondents highlighted that they have developed empathy. Empathy, as defined by respondents, were found to have 2 aspects. Firstly, empathy was viewed by some respondents as an ability to understand the emotions and feelings of another individual.

Secondly, empathy was also viewed by respondents as the identification of interest and concerns by other parties. This usually involves the ability to view issues and problem from stakeholders' perspectives.

8. **Resource management** (Bridgstock, 2009): Dealing with assets and resources such as finance or logistics

Resource management was a skill often developed by respondents whose primary role involves the allocation of resources. These respondents often allocate resources on principles such as "fairness" as well as seeking for the maximization of organization benefit and utility.
Resource management is not limited to tangible resources such as assets and finances. Other forms of resources that respondents learned to manage includes manpower and effort.

9. **Expectation management** (Johns & Saks, 2001): Dealing with expectations that others have of you, your work, or your group

To cope with the demands and interest of multiple stakeholders on various issues, respondents were found to develop skills to manage expectations from other individuals. This would include the communicating of realistic expectation to other parties, lowering of expectation as well as rejecting the request or demands made by other parties.

10. **Power management** (Bouquet & Birkinshaw, 2008): Dealing with people in positions of power over the respondent

Some respondents have mentioned that they faced more difficulty in managing expectation of individuals who are possess more power as compared the respondents. Power, in this research, is not limited to legitimate power / authority. Individuals that possess more experience are also seen to possess greater power by respondents. Respondents were found to develop skills in managing differences of power. One way of coping differences in power is through building or managing relations with the individual that possess power.
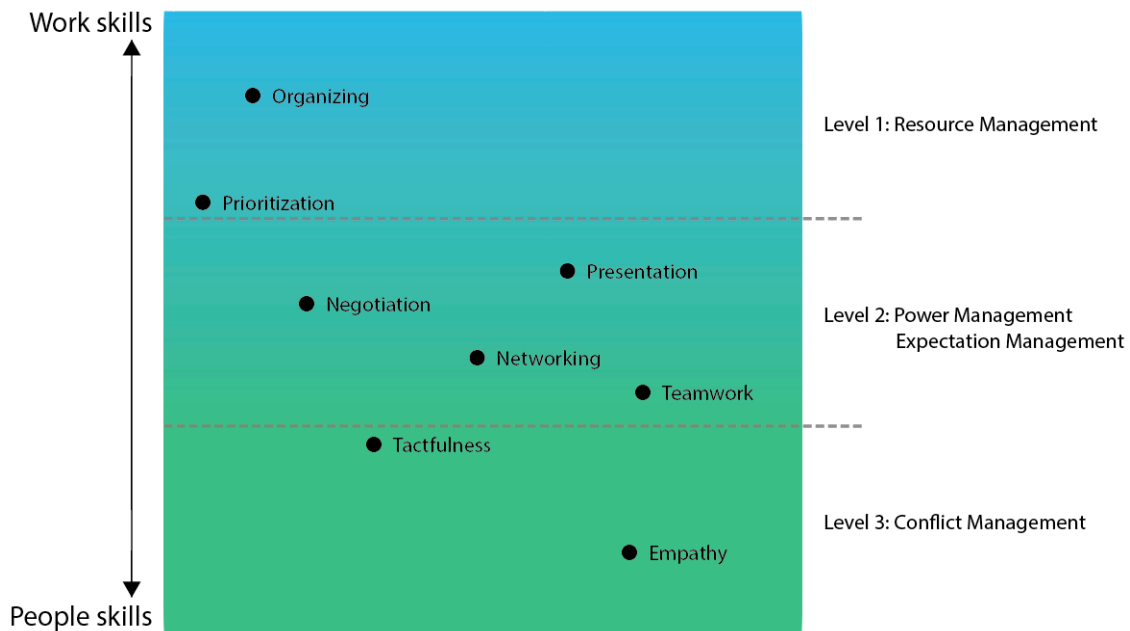
11. **Conflict management** (Thomas, 1992): Dealing with discussions that are emotionally charged

While respondents have highlighted that if they are unable to resolve or manage the competing interest between parties of disagreement, disagreements can potentially escalate to situations of emotionally charged conflict. In such situations, respondents mentioned that they would need to cope with hostile emotions and threat from other individuals. Respondents mentioned that they had developed skills in managing the emotions of others to deescalate such conflicts, or provide systems for communication without exciting emotions

Situation of conflict was found to potentially create stress and anxiety for student leaders.

Because the latter four skills require more than one skill and are not skills in themselves, the team decided to use these management issues as a way to map out the

eight aforementioned skills. The way these skills are plotted out are depicted in the following page:

Each level (on the right) corresponds to a management issue. They were arranged in order of difficulty - for instance, resource management dealt purely with resources excluding people; power and expectation management dealt with people working together or collaborating; finally, Level 3 corresponds to dealing with emotional people in discussions, which requires more than simply working with a few people of different backgrounds.

After that, each skill was mapped out onto a grid less matrix. This was to account for the fact that all skills are to some extent needed for all levels of management issues, while allowing for the more salient skills to emerge. For example, in Level 2, expectation management requires *more* of negotiation than tactfulness, even though tactfulness would be a useful skill - skills on Level 2 are in some sense hybrid, combining a mix of work-related skills and people skills. The skills are not arranged in any particular manner across the grid as there is no horizontal axis.

5.2 What is the process of skills development?

The process of skills development of a student leader is very consistent with the SECI Model (Rice & Rice, 2005) which attempts to explain learning and knowledge creation. While SECI is designed for individuals, organizations have adopted the model for organizational knowledge management. The model explains the production, evolution, and transformation of knowledge as the individual goes through the socialization, externalization, combination, and internalization process. By converting tacit knowledge to explicit knowledge and vice-versa, knowledge can be retained and created.

Phase 1: Selection

There is a self-selection effect of student leaders. They possess certain skills and traits that increase their chances of being elected or recruited into the team. All student leaders experienced some form of campaigning and networking activities to increase support or legitimacy for the role they took on.

Phase 2: Induction

There are 2 important processes in this phase, trainings provided by the organization and handovers from predecessors of the role. Most student organizations conduct their handover socially. Little made references to the handover documents passed on to them. Most handover processes are conducted socially without documentation. Respondents also indicated their preference of a mentor as compared to a handover document.

This, however, requires the predecessor and successor to have a neutral or positive relationship. We have not gathered sufficient evidence that this can work in the event of a hostile succession. This process models the socialization phase of the SECI model. The transfer of tacit knowledge between two individuals is best done socially.

Phase 3: Execution

Many respondents stated that they learn most from the job itself. Adopting the learn-by-doing approach, student leaders shared that they familiarize themselves with routines and are becoming more proficient in their tasks gradually. There is consensus that respondents "get used" to their role before summer, spanning between three and four months into their role. This is more distinct for individuals who described that their roles are more administrative than social.

This process models the externalization phase of the SECI model where individuals apply their knowledge to the job. This aims to transfer the individual's tacit knowledge into explicit knowledge. One way to improve learning is to adopt quarterly reviews to ensure that the individual learns from the experience. This is supported by our interviews as none of the participants reflected about their personal development prior to the interview.

Phase 4: Problem-Solving

Only some respondents reported their experience of addressing problems beyond their job scope. Nevertheless, all respondent who reported such a phenomena shows indications of the use and combination of different skills to develop a solution. Both task specific and people skills were demonstrated for participants who indicated the occurrence of such an event.

This models the combination phase of the SECI model where individuals use interdisciplinary knowledge to solve a problem. This requires the customization and combination of different skills and experiences. This is evident during negotiations when student leaders claimed to have used different skills such as prioritization, empathy, and presentation to achieve their objectives.

Phase 5: Consolidation & Application

There is a trend for the applicability of skills. Respondents indicated that work-related skills are more applicable during their internships and they were not able to apply people-related skills during their internships. This is largely due to the difference in autonomy and power in the environment they operate in. Respondents also reported the application of hybrid skills to manage expectations. These skills include negotiation, networking, presentation, and teamwork. These skills learned from student leadership is useful in internships. From this, we note that there is a knowledge retention deficit from both the organization and individual. Skills learned from student roles has limited immediate applicability to internships.

6. Recommendations

In this study, we have identified and defined skills that students claimed to have learned from their experiences as student leaders. Nevertheless, there is more that can be done to improve the quality of student leadership and enhance the learning experience of students. Comparing the graduate outcomes and the skills identified by the interview, we suggest to have subsections within the graduate outcomes. Alternatively, graduate outcomes can be redefined and tailored to the skills learned by student leaders based on bottom-up feedback from student leaders. This will present a more accurate depiction of skills used and developed as students undergo the SMU student-life experience.

Next, there is consensus from the interview responses, showing that extended and guided mentorship procedures are preferred as compared to handover documents. This is consistent to the SECI Model, stating that tacit knowledge transfer is best done by social processes.

Additionally, there is a call for specific formal trainings to be provided to all student leaders on an optional basis. Interviewees shared that they are unable to host trainings at a specific level due to the limited interest. However, by expanding the target audience to include all student leaders on an opt-out basis, the school can achieve the required scale to host formal skill trainings. Alternatively, the school can leverage on existing student interest groups to conduct skill trainings to improve the performance of student leaders. SMU can also leverage on the annual Leadership Symposium to develop skills identified in this research. These skills can then be reflected in the student's CCA record, acknowledging their development in the course of their services to the CCA and school.

Finally, we propose to conduct a study on leaders who have graduated and gotten a job. From the interviews, participants shared that skills they've developed from student leadership had limited applicability during their internship. This is largely the result of the lack of responsibility and autonomy given to interns in the private sector. However, this might not reflect the applicability of these skills as a full-time employee. Hence, another study should be conducted on student leaders who has recently graduated to assess the applicability of these skills as an entry-level employee.

7. Limitations

Firstly, the quantitative study is limited by the definitions of the graduate outcomes. (Steckler, McLeroy, Goodman, Bird, & McCormick, 1992) From the results section, we concluded that the definitions of the graduate outcome are purposed as a marketing tool rather than a research framework. Hence, we have recommended and conducted a follow up study to identify specific skills developed by student leaders.
Next, the interviews are sampled based on quota sampling methods and might not be reflective of the skills developed by the student population. (Coughlan, Cronin, & Ryan, 2009) Furthermore, many of the identified interviewees did not respond out our invitation. This resulted in the relatively skewed result of the interview, and hence we are unable to compare and identify the general factor as mentioned. Finally, this reflects the general flaw of interviews. We have no way to accurately validate the claims of the interviewees. This is because it will be resourcefully intensive to conduct a multidimensional interview to assess one subject. Hence, we must work with the assumption that the interviewee is truthful with their claims.

8. Conclusion

Student leadership can develop employability skills if the institution places sufficient emphasis on specific skills it intends to develop from these leaders. While the SMU Graduate Outcome is a good marketing tool, it inaccurately describes the skills developed by student leaders. Hence, we are unable to use its definitions for research purposes to derive purposeful conclusions. Nevertheless, interviews with student leaders gave us clarity in the skills they developed and applied over their term of service. This allowed us to categorize skills into three main categories; task-based, relationship-focused, and hybrid skills. This method of developing and defining skills increases the accuracy of its definition due to the bottom-up, user-centric approach. Hence, improving its applicability for future quantitative research.

We have also observed that interviews from student leaders reported that their development during their term of service mirrors the SECI model. This has implications on handover processes and trainings for student leaders. Due to the preference of a more social process for handovers, we suggest for the elections fever to be brought earlier into their term to facilitate and mandate effective handovers and on-the-job trainings.

Formal trainings for specific skills identified in this study can be provided to all student leaders. Various platforms can be used. This includes but are not limited to skills-based CCAs, the annual leadership symposium, and additional workshops hosted throughout the year. Skills training can also be tailored to the general phase of development for the student leaders based on the SECI model. Skills developed from these trainings can then be included into the student's CCA records.

Finally, the applicability of skills developed during student leadership cannot be observed while students are still undergraduates. This is due to their role as an intern as they are given little job autonomy and formal responsibilities. The research can be better supplemented by interviewing graduates who are already in the workforce, and had served as a student leader when they are undergraduates.

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Contact email: kennethtan@smu.edu.sg