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A Program for University Student's IT Leadership Renovation

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Abstract

In this paper, we propose a new program for university student's IT leadership renovation. Automation and Artificial Intelligence(AI) are changing the nature of work. According to MGI report, they will change the skills needed in the workforce. Leadership is one of the skills needed more of in the future at workplace including IT industry. Leadership could be defined as having 5 level leadership. According to the 5 level leadership, a program was formulated to renovate university student's self-leadership, teamwork, team leadership and finally global leadership. We named the program as Stepping-Stone Platform for Student's IT Leadership Renovation(SSP-SLR). Each level of four stepping stones consists of one semester. Student can raise their leadership skills by the program step by step. Various instruction learning methodologies are adopted to the program, including Flipped learning which has been proved effective in many ways in the field of education recently.

1. Introduction

As we know, we are living in the rapidly changing world, especially in the midst of 4th industrial revolution era. In the meantime, automation and artificial intelligence (AI) are changing the nature of work. According to discussion paper of Mckinsey Global Institue(MGI), automation and AI will change the skills needed in the workforce. In the discussion paper, part of ongoing research on the impact of technology on the economy, business, and society, they present new findings on the coming shifts in demand for workforce skills and how work is organized within companies, as people increasingly interact with machines in the workplace. The research finds that the strongest growth in demand will be for technological skills, the smallest category today, and demand for social and emotional skills such as leadership and managing others will rise. Companies will need to make significant organizational changes at the same time as addressing these skill shifts to stay competitive. A survey of more than 3,000 business leaders in seven countries highlights a new emphasis on continuous learning for workers and a shift to more cross-functional and team-based work. As tasks change, jobs will need to be redefined and companies say they will need to become more agile. Almost half of the companies surveyed say they expect to take the lead in building the

workforce of the future, but all stakeholders will need to work together to manage the large-scale retraining and other transition challenges ahead. Firms can collaborate with educators to reshape school and college curricula. Industry associations can help build talent pipelines, while labor unions can help with cross-sector mobility. Governments will need to strengthen safeguards for workers in transition and encourage mobility, including with a shift to portable benefits, as ways of working and the workplace itself are transformed in the new era. Figure 1 shows 5 categories of skills needed in the workforce present and in the future. Technological, and social and emotional skills will suffer the biggest shift in demand. Demand for social and emotional skills such as leadership and managing others will rise by 24 percent, to 22 percent of hours worked[1].
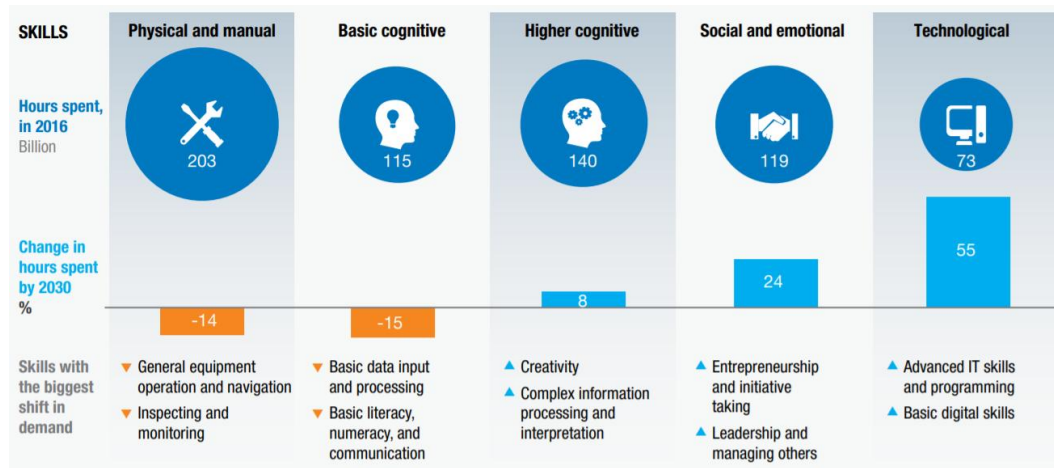
Figure 1. Five categories of skills needed in the workforce

Leadership ranks high in the skills of those employed by businesses. Among the 19 competencies required by employees in the United States, the top five items are collaboration, leadership, communication skill through text, problem solving skill and high work ethics. Leadership is second in the list. Leadership is such important present and will be more needed skill in the future, so education for the university student's leadership is also needed much more. University students are potential employees in the near future. If they can learn appropriate leadership skill in the university, they can do jobs more efficient way in the workplace.

In this paper, we propose a new program for university student's leadership renovation. A program was designed according to the 5 level leadership and comprises 4 stepping stones of self-leadership, teamwork, team leadership and global leadership. The program was named as stepping-stone platform for student leadership renovation(SSP-SLR). In order to make the program practical, we used many resources including leadership diagnostic tools, 49 character qualities, leadership training course of Junglim Architecture co. and Google's rework which is Google's new manager training resource.

2. 5 level Leadership

Leadership is somewhat the #1 talent issue facing organizations today. With technology accelerating at an unprecedented pace, companies need employees with both the technical know-how and leadership acumen to move their industry forward. What is leadership and how is it exercised? John Dickson describes leadership in his book, 'Humilitas', as the art that inspires people to make the best contributions to their goals in a team[1]. He says character is most important element in leadership. Jim Collins, a business analyst at Stanford University, argues for five levels of leadership in his book, 'Good to Great'. The leadership hierarchy he claims comprises level 1:highly capable individual, level 2:contributing team member, level

3:competent manager, level 4:effective leader and level 5 executive. Level 5 executive has characteristics of Steel-like determination and humility. Stephen Covey, an outstanding strategist in leadership, speaks of character and competence as two pillars of leadership[2]. In his book, '7 habits of highly effective people', he divides the leadership stages of highly effective people into dependence(self-leadership), independence and interdependence(interpersonal leadership)[2]. Dependence comprises 'be proactive', 'begin with the end in mind' and 'put first things first'. Interdependence comprises 'think win-win', 'seek first to understand, and then to be understood' and 'synergize'. They make up 7 habits of highly effective people with 7th habit, 'sharpen the saw'. Habits 1, 2, and 3 are focused on self-mastery and moving from dependence to independence. Habits 4, 5, and 6 are focused on developing teamwork, collaboration, and communication skills, and moving from independence to interdependence. Habit 7 is focused on continuous growth and improvement and embodies all the other habits[3]. Later he wrote another book titled 'The 8th Habit: From Effectiveness to Greatness.' The eighth habit is 'Find your voice and inspire others to find theirs.' Voice is Covey's code for unique personal significance. He insists that those who inspire others to find theirs are the leaders needed now and for the future.

To develop leadership program for university students, we used 5 level leadership concept which was devised by Junglim Architecture co. Figure 2 shows hierarchy of 5 level leadership and a brief description of each level.

Figure 2. 5 level leadership

3. Stepping-Stone Platform for Student's IT Leadership Renovation

A new program for university student's IT leadership renovation was designed according to the 5 level leadership and comprises 4 stepping stones of self-leadership, teamwork, team leadership and global leadership. We call it a stepping-stone platform for student leadership renovation(SSP-SLR). Figure 3 shows a diagram of Stepping-stone platform. Stepping stone 1 is for self-leadership which corresponds to the dependence and independence of the 7 habits. It focuses on self-mastery and moving from dependence to independence. Stepping stone 2 is for teamwork which focuses on building teamwork using Google's rework program. Stepping stone 3 is for team leadership which focuses on raising team leadership skill using Google's rework program. Stepping stone 4 is for global leadership which focuses on developing global leadership based on cross-cultural understanding. As it is known that character and competence are two pillars of leadership, so developing of character qualities for the students are incorporated in the program. Students who are participating will take surveys to identify their own type of leadership and cultivate character qualities according to their type. The contents of stepping stones are shown in table 1, 2 and 3.

Figure 3. A diagram of stepping-stone platform

Table 1. Contents of the stepping stone 1

Self-leadership	
class	Description
Introduction	**Leadership introduction** **Continuity of maturity**
Responsibility in choice	**Stimulus & response** **Proactive focus & reactive focus**
Design of Life	**Mission statement** **Understanding myself**
Priority in time	**Time management matrix** **Time schedule according to priorities**
Communication in relationship	**Emotional bank account** **Empathic listening, I-Message**
Wrap up	**4 Dimensional renovation** **Teamwork outline**

Table 2. Contents of the stepping stone 2

Teamwork	
class	Description
Introduction	**Teamwork introduction** **Understanding of various persons(Firo-B)**
Team communication 1	**Emotional Intelligence** **Listening & speaking How tos**
Team communication 2	**3 Elements of feedback** **Receiving & giving feedback**

Team communication 3	**Conflict resolution** **Conflict resolution How to**
Team influence and contribution	**Job Crafting** **Personal meaning & responsibility**
Wrap up	**Teamwork review** **Team Leadership outline**

Table 3. Contents of the stepping stone 3

Team leadership	
class	Description
Team effectiveness	**What is a good leader?** **Understanding of team effectiveness**
Emotional Intelligence	**Emotional bank account review** **Psychological security how to**
Coaching	**Coaching Grow model** **Coaching how to**
Feedback	**3 Elements of feedback review** **SBI feedback model**
Decision making	**Methodology in decision making** **Decision making training**
Wrap up	**Team Leadership review** **Global Leadership outline**

Table 4 shows an example of curriculum of Self-leadership for a semester. Curricula for teamwork, team leadership and global leadership are being developed.

Table 4. Curriculum example for self-leadership

week	Contents of class
1	Course Introduction, and Leadership and Character Development Methodology
2	Introduction of 49 character qualities, understanding and application of attentiveness
3	Practice and Sharing of Attentiveness
4	Understanding and application of Self-control
5	Practice and Sharing of Self-control
6	Virtue and effective leadership
7	Self-leadership: Paradigms and Principles
8	Midterm presentation and evaluation
9	Self-leadership: Be proactive(Self-Driven Life)
10	Self-leadership: Begin with the end in mind(Goal Setting and Action)
11	Understanding and application of Responsibility
12	Practice and Sharing of Responsibility
13	Understanding and application of Gratefulness
14	Practice and Sharing of Gratefulness
15	End of term evaluation

4. Conclusion

In this paper, we present a new program for university student's IT leadership renovation. This program will be presented at conference of Hanseatic League of Universities in the future. In the business world including IT related business, leadership is one of the qualities or skills needed more than others. Automation and artificial intelligence(AI) are changing the nature of work. They will change the skills needed in the workforce. Leadership is one of the skills needed more of in the future. However in universities, there are a few classes where students can learn leadership skills. A program for student's IT leadership is needed. Leadership could be defined as having 5 level leadership. According to the 5 level leadership, a program was formulated to renovate university student's self-leadership, teamwork, team leadership and finally global leadership. We named the program as Stepping-Stone platform for student's IT leadership renovation to adopt into Chungwoon University.

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