

The Influence of Leadership Competency Education on the Development of Leadership Potential: Enrichment Courses for College Students

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Abstract

Leaders are important resources in businesses, schools, society and nations. Therefore, the cultivation of leaders has received attention from governments, universities and businesses. The goal of this study is to help college students first understand the meaning of leadership and then discover the leadership potential that they can develop so that they can become first-rate leaders of society.

The teaching of leadership competency includes six content areas: 1) basic principles of leadership, 2) sense of humor, optimism and leadership, 3) creativity and leadership, 4) planning ability and leadership, 5) character education, and 6) multiple intelligences. Participants were 126 students in the departments of Engineering, Finance and Applied Foreign Languages as well as 32 students in the Character Leadership Society. The students participated in six weeks of leadership competency education. Enrichment teaching and integrative teaching were the methods of instruction. This study aims to understand the relationship between leadership competency education and the development of leadership potential as well as offer recommendations to help college students develop their leadership potential and become leaders in a variety of fields.

Keywords: leadership education, leadership potential, college students, multiple intelligences, character education

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I. Introduction

A. Significance of the Study

In recent years, global competition has increased in terms of talent cultivation, economic growth, political environment, social welfare, and social ethics. As we step into 2008, rapid progress has been made in several countries in Northern Europe such as Denmark, Sweden, Norway, and Finland which have been listed as among the top 5 in global competitiveness and environmental protection. Zhao-Shun Zheng (2007) has visited Denmark, Sweden, Norway, and Finland to observe their society and education and has discovered a strong focus on character education in elementary and secondary schools. The politicians lead by example and strive to create a better life for the people. The reason for the stable society and harmonious development originates from the high level of social ethics. The people trust the government. All government financial statements are searchable on the Internet. Honest and capable governments and citizens of good character have created the most competitive countries and investment environments, countries that have also been honoured as some of the happiest

In analyzing the reasons for progress in Northern European countries, we discover the following reasons: 1) excellent leaders, 2) high national morality, 3) character education taught in schools, 4) emphasis on ethical and lawful behavior in the society, and 5) respect and tolerance in politics. It can be said that these countries have achieved what Confucius called “a harmonious world.” Countries like Finland, Sweden, Norway and Denmark led the development of green resources and environmental protection and became the international models of sustainability.

The progress of countries, societies, businesses and families depend on first-rate leaders to offer vision, provide care, bring happiness and make the greatest effort for the harmony and growth of the group. Therefore, the cultivation of leaders in all fields is closely related to a country’s future human resources, competitiveness and continuous development. Chih-Li Kang (2000) points out that for a country to make progress as a whole, it needs to cultivate leaders in all fields. In Taiwan, the cultivation of leadership competency is an area often neglected especially in

technical-professional education.

B. Research Motivation

In the Special Education Act announced in 1997, Taiwan formally included leadership education into the category of gifted education. However, in the educational system in Taiwan, very rarely is leadership education part of the required courses at any level. Higher education should take on the bulk of the responsibility for offering courses to cultivate excellent leadership talent through a system of free and multidisciplinary modern education. This will raise the quality of the talent to face strong international competition and build a stable and harmonious society with a continuously rising quality of life. Leaders are needed to create a harmonious, stable, happy, sustainable society.

Kenichi Ohmae (2006) points out that in recent years the Taiwanese and Japanese societies have been developing into M-shape societies. Children in under-privileged families lose out at the starting point in their elementary and secondary educations. Many children from impoverished families can only attend professional schools or technical universities in the vocational-professional system when they reach high school or college age. To ameliorate the effects of an M-shape society, technical universities can offer a better education. They should offer courses in leadership competency and development of potential that can encourage the development of leadership competency, one's potential and intellect. This will allow young people to leave college competitive and able to make greater contributions to the business world, society and family.

Roberts (1997) points out that leadership education frequently happens in the professional world. Systematic cultivation of leadership competency rarely occurs at the secondary and college levels. There are numerous obstacles in offering leadership education in college. International scholar Roberts (1997), Zhen (2007) and others believe that the education of leaders in all fields faces many challenges and barriers.

1. Teachers at the different levels of the educational system do not have a holistic view of the field of leadership (Roberts, 1997).

2. Teachers do not know how to use effective teaching methods to cultivate students' leadership potential (Roberts, 1997).

3. The content of leadership courses is very broad and will expand according to the development of society. Courses could include the following topics: 1) the nature and principles of leadership, 2) problem-solving and crisis resolution, 3) planning and strategizing, 4) decision-making, 5) clarifying and determining values, 6) increasing group motivation, 7) communication and coordination, 8) emotional management and 9) creative leadership (Meyer, 1996).

4. The development of leadership competency should be closely related to multiple intelligences, service intelligence, and character education. The cultivation of an outstanding leader should also include knowledge of multiple intelligences, emotional intelligence, global worldview, self-efficacy and flexibility, character development, service learning, creativity, planning ability, optimism and sense of humor, and principles of leadership (Zheng 2007; Zhao-Shun Zheng 2007-a).

5. The content of leadership competency and the construction of an assessment instrument is not easy. Leadership traits include: enthusiasm, sense of responsibility, determination, sense of humor, optimism, etc. Leadership competencies include: interpersonal skills and the ability to make decisions, to create, to organize and to plan. Currently, secondary schools and colleges rarely offer specialized courses in these leadership traits and competencies because it is not easy to cultivate faculty able to teach leadership competencies (Sheng-Min Zheng, 2006).

C. Research Goals

As stated above, the cultivation of leaders is not easy and leaders are sought after for the continuous development of countries, businesses and other fields. The cultivation of leadership potential can help young people from impoverished families perform better. In an M-shape society, it also gives them the opportunity for upward mobility.

Goleman (2005) and others have pointed out that the content of leadership courses have emerged from new knowledge and principles discovered in studies in educational psychology, neuro-psychology, and management. The content continues to increase and expand to accommodate societal development in the future. For example, new courses are needed to understand the world in transition, increase one's emotional quotient, cater to multiple intelligences and teach character education. As

an educational experiment with members of the Character Leadership Society and students of different departments who were taught leadership competencies, this study sought to understand the relationship between and the results of leadership competency education and the development of leadership potential. The main research goals of the study were:

1. Investigate the content of leadership education;
2. Analyze models used to provide leadership education to college students and design a leadership education curriculum;
3. Conduct leadership education courses and analyze their results;
4. Propose recommendations related to cultivation of leadership talent.

II. Literature Review

The principal aim of this study is to investigate the effects of leadership education on the leadership potential of technical university students.

A. The Meaning of Leadership Competency

The phrase leadership competency can be literally taken to include the ability to plan, model, motivate, and guide to help an organization or group achieve expected goals. Chan (2007) proposes that basic leader competencies include the following four: 1) personal traits: leadership competency is a specialty and a passion that includes an individual's character, abilities, specialty, self-efficacy, flexibility in thinking, ability to learn and experience; 2) personal leadership competency and social intelligence: leadership potential is a kind of integrated ability including planning, communicating, coordinating, integrating resources, interpersonal skills, problem solving, tolerating, forgiving, respecting and caring; 3) ability to meet goals and accomplish missions: leadership competency is a form of executive ability including whether the leader can help an organization or group to learn and grow, collaborate and achieve goals, and pursue excellence and be competitive; 4) possess multiple intelligences and be a model of integrity: leadership competency is a kind of ability combining character and multiple intelligences. Leaders need to face a variety of problems, thus need to have multiple intelligences. Moreover, they need a high level of character cultivation, must be able to turn obstacles into energy, have a global worldview, possess high emotional

quotient, and be able to anticipate the future.

As the definition of giftedness, Marland (1972) proposed that it refers to one or more kinds of outstanding performance in a specific field or the possession of outstanding potential in five abilities including: 1) leadership competency, 2) creativity and thinking ability, 3) average intelligence, 4) special academic orientation, 5) visual and performance art ability.

In 1997, Taiwan formally included leadership competency in the field of special education. According to Article XVIII of the Gifted Student Assessment Standards, outstanding leadership competency refers to outstanding ability to plan, organize, communicate, coordinate, decide, evaluate and anticipate. In addition, outstanding performers in handling matters related to a group having the personal traits that include enthusiasm, responsibility, ease in communicating with people, abundant energy, strong ability to solve problems, high motivation to achieve, etc. (Ministry of Education, 2003).

Wu- Dian Wu (1991) and Sisk (1993) point out that leadership competency is a kind of ability to influence others and the process of motivating a group. Possessors of leadership competency are called emotional leaders. They value the individual needs of each member of the group.

Stogdill (1974), Chao-Shun Cheng (2007) and others propose the following as the content of leadership competency:

1. Leaders have innate and learned qualities that make them worth following:

Born leaders often have the traits of being eager to serve, genuine, caring and humorous. Learned traits include being persistent, having determination, creativity, and the ability to communicate, coordinate, execute and anticipate. Great leaders have innate and learned qualities.

2. Leaders have specialized abilities that people can identify with and are willing to follow:

Quing-Shan Wu (2000) believes that leadership competency involves having specialized abilities that allow people to identify with the leaders, trust them, and be willing to follow them. Katz (1978) believes that leadership competency includes two abilities: 1) implicit interpersonal emotional connections (including the leadership

competency of interpersonal relationship and interpersonal identification), 2) explicit specialized and professional skills (being able to increase productivity, having job-related competencies, and performing well at work).

3. Leadership competency is having the ability to communicate, coordinate and solve problems:

Wen-Xiong Jiang (2000) notes that leadership competency should include the ability to compromise. People say “great people make great compromises; everyday folk make small compromises.” Making compromises includes communicating ideas, coordinating and cooperating, assuming responsibilities and completing missions. There would not be leadership without communication, coordination, and conflict resolution.

4. Leadership competency is being able to develop the potential of subordinates, bring vision to an organization, and transform ideals into reality:

Bass (1993) points out that competent leaders can appreciate the special talents of their subjects, can encourage and help so that people can perform better than expected. This kind of ability is a leadership competency. Leaders can help subordinates find the meaning of life, value and enjoyment in their work, allow them to think so that they can become active problem-solvers rather than followers of orders.

Bennis (1999) suggests that leadership competency not only helps an individual develop his or her potential but can also help an organization make progress in its growth including: 1) finding projects and establishing visions, 2) communicating effectively to establish common views, 3) using kind and caring actions including sharing resources and building trust, and 4) helping achieve the organization’s and each individual’s goals.

5. Leadership competency is analogous to being a coach who needs to possess the ability and skills to guide the members of a team to accomplish the goals of the organization:

Yuji Moriya (2005) notes that leadership competency is similar to being the coach of a ball team. One has to teach, model, and motivate. One has to stress the principles of: 1) understanding—understand the strengths and weaknesses of the organization,

reduce weaknesses, construct effective models, increase productivity; 2) repetition—remind employees of procedures, priorities and how to form beneficial teams; and 3) motivation—stimulate learning, growth, maturity so that people enjoy their work and accomplishments are doubled given the same amount of effort.

In summary, leadership competency includes the following meanings: 1) leadership competency includes wisdom and actions, 2) specialized abilities and enthusiasm, 3) specialized ability in leadership including creating a vision, planning, communicating, coordinating, integrating resources, 4) leadership competency is a kind of executive ability that can help an organization or a group to learn, grow and achieve goals, 5) leadership competency should include multiple intelligences, global worldview, the power to anticipate, and good moral character to serve as models for followers, 6) leadership competency includes innate and learned qualities which make leaders worth following, 7) leadership competency includes interpersonal abilities and professional knowledge, 8) leadership competency means being able to develop the potential of subordinates and organizations, realizing the vision of organizations, 9) leadership competency is akin to coaching, realizing common pursuits and benefits, maintaining good relationships and increasing influence.

B. Leadership Competency Education

Leadership competency education includes: 1) designing appropriate leadership competency courses; 2) proposing effective teaching methods to teach leadership education so that the goal of cultivating leaders can be met; 3) providing suitable learning environments for the cultivation of leaders (Roberts, 1997).

1. The Content of Leadership Competency Courses

Sisk (1987) established the Center for Creativity, Innovation and Leadership at the University of Florida. Every year, she co-sponsors educational courses for gifted teachers, for developing creativity in gifted students and courses in leadership competency. The leadership competency courses that Roberts (1997) proposes include:

1. Basic concepts in leadership: including the meaning of leadership, the nature of leadership, models of leadership and influence.

2. Techniques of interpersonal communication: meaning and factors in interpersonal communication, basic theories of interpersonal communication, practical techniques in interpersonal communication.
3. Strategies in goals and values: analysis of the source of problems, understanding of the phase of goals, creating strategies for achieving goals
4. Planning and strategizing techniques: planning methods, rational decision-making methods.
5. Group motivation techniques: techniques for raising morale, stimulating growth, promoting sharing and cooperation.
6. Problem-solving and crisis resolution techniques: problem solving, stimulating creative thinking and encouraging the development of potential.
7. Exploration of personal aptitudes: using exploratory courses to understand the limits and characteristics of one's physical capabilities, intelligence, endurance, and emotional quotient.
8. Organizational strengths and increasing competitiveness: cultivating integrative ability of small teams and groups and making use of integrated abilities to increase competitiveness.

The Taiwanese scholar Zhen-De Wang (2002) organized at the Taiwan Normal University a leadership competency summer camp for adolescents whose courses included: 1) principles of leadership, 2) interpersonal communication techniques, 3) emotional quotient and leadership, 4) creativity and problem solving, 5) planning and leadership, 6) models of leadership and image creation of leadership.

Chao-Shun Cheng (2002) conducted experimental courses in leadership competency at San Min Junior High School, Longhua Junior High School, and Shih Chuan Elementary School. The content of the eight courses included: 1) principles of leadership, 2) group motivation and analysis of well-known leaders, 3) love and caring for society, 4) management of emotions, 5) interpersonal conflict and resolution, 6) creativity and leadership, 7) planning and problem solving, 8) interpersonal relationships and sharing.

2. The Focus of Leadership Education

Sheng-Min Cheng (2006) concluded that leadership competency education should

focus on three aspects:

1. Cultivation of personal leadership traits: Leaders must possess integrity, be self-aware, have the ability to perceive one's shortcomings, be able to self-regulate and self-motivate. In this way, leaders can self-improve, increase one's character development, increase one's potential and become a model of leadership talent.
2. Enhancement of interpersonal skills and social intelligence: Leaders must first be able to appreciate other people's strengths, make use of people's strengths wisely, stimulate people's motivation to work, increase subordinates' ability to work, possess good communication skills, stimulate shared visions, provide models, and continuously provide encouragement. Interpersonal and intrapersonal abilities are deemed to be the core intelligences of leaders (Gardner, 2005).
3. Increase goal-oriented ability: Abilities in this category include professional knowledge, professional skills, ability to deal with work matters, ability to manage performance goals, environmental resources, develop specialties, increase competitiveness, and undertake challenging missions.

Renzulli (1983) believes that leadership competency education should reinforce the cultivation of the following four core competencies:

1. Exceptional personal traits: increase personal charisma such as good moral character, enthusiasm, caring, service and devotion; cultivate ability to adapt to one's environment in difficult situations, tolerance and ability to face challenges and improve.
2. Basic knowledge of leadership: caring for others, sharing with others, appreciating other's strengths and specialties, good at encouraging others, ability to help increase other people's and an organization's competitiveness.
3. Ability to pursue excellence: through investigation, thinking, creating core goals and values, be equipped with sense of responsibility and sense of calling, be able to propose projects, establish organizations, take action, deliver results and performance.
4. Ability to enhance the development of one's own potential: Using one's leisure time wisely, broadening one's knowledge, increasing one's life experiences, making good use of one's relaxation and leisure time to develop one's potential.

Chan (2007), Lickona (2005), Chao-Shun Cheng (2007) and others have proposed some directions for cultivating core leadership competencies:

1. Enhancement of personal traits and moral character: The charisma of a leader derives from the enhancement of an individual's professional knowledge, conscientiousness, enthusiasm, warmth, sense of humor and appreciation for quality. Even more important are the good qualities of trustworthiness, sense of responsibility, love, respectfulness, fairness, sense of calling, devotion, and perseverance.
2. Possessing professional skills and leadership knowledge: Leaders of the 21st Century cannot merely rely on their natural endowments. They must have professional skills, use their professional knowledge wisely, integrate the professional knowledge of others and integrate a multitude of professional knowledge so that the function of information, resources, integration and organization can be used for the greatest benefit and growth of the individual and the organization.
3. Augmentation of abilities in multiple intelligence, emotional intelligence and worldview: Leaders must keep pace with the rapidly changing society of the 21st Century. They need to understand their dominant intelligence, make good use of other people's dominant intelligence, increase their open-mindedness, interpersonal skills, emotional intelligence, tolerance for failure, rich life experiences and worldview to be able to grasp decision-making opportunities and increase their ability to respond appropriately.

In conclusion, the content of leadership competency courses include: 1) personal charisma and traits, enthusiasm to serve, and cultivation of good moral character, 2) systematic cultivation of leadership knowledge including creating vision, planning, organizing, communicating, making decisions, being efficient, 3) cultivation of multiple intelligences, emotional intelligence, ability to excel, and worldwide view, (In the age of global competitiveness, leadership competency needs to be integrated with the development of information in the world and make use of intelligences in the whole brain to increase one's emotional tolerance.) 4) focus on lives, wisdom and creativity of leaders, 5) understanding the life journeys of outstanding leaders, continuously learning from the growth experience of outstanding leaders. Only courses integrating the five leadership competencies stated above can cultivate

outstanding leadership talent for the new century. Providing students with sensible materials can help them enhance their leadership intelligence, ability and skills.

3. Methods and Environment to Cultivate Leadership Competency

Roberts (1997) proposed the following as the methods and environment to cultivate leadership competency:

1. Establishing programs teaching practical leadership knowledge: The main goal is to teach professional knowledge and practical skills in leadership competency such as planning and coordinating, communication skills, group motivation, performance assessment, problem solving, conflict resolution, etc. The teaching environment is the classroom in the form of lectures, small group discussions and sharing of experiences.

2. Cultivating leadership competency through extra-curricular activities: With leadership training for members of student organizations as the focus, the members register voluntarily. A curriculum including basic principles of leadership, service learning, group motivation, character education, problem solving, creativity and leadership, and interpersonal communication is designed. Leadership competency is conducted in an outdoor natural setting where the learning environment is more free, relaxed and cheerful. Because the activities are freer, the interactive factors are more dynamic.

3. Academic research and leadership competency education: All academic researches emphasize scientific procedures, empirical evidence and concrete results. Gifted scientists believe that social environments can be controlled and results replicated. Therefore, leadership competency can also be studied, replicated and disseminated.

4. Roberts (1988) believes that effective leadership competency cannot be learned through books or in class but through participating in service learning organizations such as youth organizations, church groups, and service organizations at schools. Students can learn group motivation, organization of work, integration of resources, devotion to a cause and vision for society and thus increase their leadership knowledge.

4. Leadership Competency Teaching Strategies and Implementation Methods

Sisk (1987), Renzulli (1985), Zhen-De Wang (2002), and Chao-Shun Cheng (2007)

proposed a more holistic teaching strategy and implementation method for leadership competency.

(1) Teaching strategy: in the cultivation of thinking skills, interpersonal interactions, and views of the future such as:

- a. High-order thinking and questioning techniques
- b. Interpersonal communication and ability to motivate a group
- c. Creativity and problem-solving ability
- d. Ability to achieve results and anticipate
- e. Emotional management and ability to relax

C. The Assessment of Leadership Competency

Zhao-Shun Cheng (2007), and others have proposed methods to assess leadership competency which can be categorized into observation, interviewing, nomination, testing, self-assessment, analysis of background information, and assessment of indicators in prominent leaders. In terms of the assessment of leadership competency, scholars focus on different aspects and use various assessment methods. According to their developmental principles, these can be roughly discussed in six directions:

1. Leadership traits: observing the innate traits of enthusiasm, sincerity, caring, sense of humor and focusing on learned traits such as perseverance, creativity, ability to communicate, to coordinate, to execute and to anticipate.
2. Leadership behavior: understanding theory, practice, problem solving and concrete leadership behavior.
3. Leadership style: focusing on a leader's leadership style: is he or she innovative, conservative, integrative, marketing-driven, practical and stable, or research-and-development-oriented.
4. Leadership effectiveness: assessment of planning, execution, and evaluation of efficiency and effectiveness. For example, using Kaplan's (2004) balanced scorecard method including human capital (employees' knowledge), information capital (knowledge management system), organizational capital (culture, leadership, team), and customer service performance (innovation and strengthening of service image).
5. Interpersonal abilities: focusing on interpersonal skills: caring, communication,

coordination, encouraging group effort.

6. Abilities of leadership thinking: focusing on higher-order thinking skills, strategic thinking, anticipatory thinking, and meta-thinking.

Observation

Zhao-Shun Zheng (2007) and others state that observation refers to the evaluation method involving the observation and recording the behavior of a leader in a leadership situation. For example, when conducting the study of a topical plan, the people who find the topic first, propose a summary of the content, present the content of the plan and do so well during the course of the discussion can be given points for leadership competency.

Interviewing

Ru-Xian Li (1993), Sheng-Min Zheng (2006) and others state that interviewing is done through the evaluator conducting structured or assessment interviews with the student participant of leadership competency training. From the interviews, one learns the individual student's progress in leadership knowledge, leadership needs, personal motivation, ability to handle problems, and interpersonal skills.

Nomination

Ru-Xian Li (1993) proposed a nomination method by which evaluators such as professors, experts, teachers, and peers discover and holistically put in sequential order a person's ability to communicate, willingness to take initiative, willingness to serve, interpersonal skills, leadership efficiency, creativity and outstanding behavior from leadership competency activities. This method is often used to elect important leaders such as executive officers and leaders in the business world and presidents and department chairs in the academic world.

Testing

Chao-Shun Cheng (2007) and others have proposed testing methods. Depending on the goals of the assessment, appropriate content is selected and instruments that can be integrated are selected. A pre-test of leadership competency is conducted and after teaching leadership competency, a post-test is done. Statistical analysis is then conducted to understand how leadership competency has improved.

Multiple Assessment Methods and Integrative Methods

In studying the content of leadership competency in secondary school students, Sheng-Min Cheng (2006) proposed that the effective factors in leadership competency include the three variables of personal traits, interpersonal skills, and ability to grasp leadership concepts. Thus, in understanding a person's leadership potential, one cannot use only one kind of observation or one test. Cheng (2007) proposed that the assessment of leadership competency should not only include professional knowledge about leadership but also efficiency in completing tasks, creative thinking and flexibility, and worldwide vision.

Summarizing the analysis of the evaluation methods, we find that national and international scholars currently use the following methods to evaluate leadership competency: 1) observation to understand a leader's leadership behavior, 2) interviewing to facilitate understanding of personal experiences and growth, 3) nomination to understand a leader's ability and image from different perspectives, 4) testing to purposely collect related materials and make scientific analyses and comparisons, 5) multiple assessment and integrated methods because leadership competency knowledge, ideas and strategies will change with time and will therefore need multiple assessment methods and integrate with new knowledge of the time.

1. Leadership Competency Training

Arens (2004), Roberts (1997) and others have found through research that leadership attitudes and behaviors can be improved significantly through leadership courses. Students who have taken courses know more about leadership, society, interpersonal skills and are more able to communicate, make decisions and cooperate.

2. Participation in Student Organizations

Komives (1998) noted that through participation in student organizations, students can understand themselves, get to know others, respect others, and increase their sense of responsibility and commitment towards their calling. An improvement in the ability to interact with people is an important indicator of the increase in leadership competency. Therefore, participation in student organizations can increase students' socialization and is closely related to the development of leadership competency.

3. Leadership Competency Education and the Development of Leadership Potential

Jia-Yu Cai (2003) studied 30 business leaders and analyzed the important aspects of leadership competency and business performance. The researcher discovered: 1) high-level leaders must have abilities in constructing vision, understanding the environment, and decisively adapt to societal changes, 2) mid-level managers must have abilities in controlling missions, directing work and delegating appropriately, and 3) ground-level leaders must have abilities in planning and evaluating and portraying a righteous and honest image. These eight leadership competencies are related to enhancing business performance.

In conclusion, experience in student organizations and service learning can influence the development of leadership potential in adolescents. Empirical research has shown that they can: 1) increase service experience, 2) encourage formation of interpersonal relationships through caring for other people, 3) enhance problem-solving ability and sense of responsibility, and 4) increase cooperation and coordination among people. Therefore, a service-oriented student organization or a service-learning course can help enhance leadership competencies including problem solving, caring for people, and ability to plan and collaborate.

III. Research Methodology and Implementation

This section describes the design of the leadership competency courses, research hypotheses, participants of the study, research instruments and analysis of the data.

A. Design and content of leadership competency courses

Gardner (2007), Zheng (2007) and others believe that besides principles of leadership, multiple intelligences (MI), emotional quotient (EQ), social quotient (SQ), and worldwide thinking (WT) are necessary contents in the cultivation of outstanding leaders.

Table 3-1: Themes of Courses in Leadership Competency Education

Themes of Courses in Leadership Competency Education	Summary of Course Content
1. Basic Principles of Leadership	The meaning of leadership, the nature of leadership, models of leadership, basic principles of leadership, and leader competencies such as planning,

	organizing, communication skills, decision-making strategies, and group motivation
2.Optimism, Sense of Humor and Leadership	Providing encouragement, helping people find the meaning of life, after a conflict, giving encouragement and support for rebuilding one’s life so that one can find vitality and the value of life everyday
3.Creativity and Leadership	The meaning of creativity, developmental stages in creativity, methods of creativity and the relationship between creativity and leadership competency
4.Planning Ability and Leadership	The meaning of planning ability, steps in the planning process, the relationship between planning ability and leadership competency
5.Moral character and Leadership	love and caring, integrity, sense of calling, honesty, gratefulness, self-awareness, able to help others, society and country grow. Good moral character is a necessary prerequisite of outstanding leaders.
6.Multiple Intelligences and Leadership	possessing and being able to integrate multiple intelligences to confront different problems, discovering one’s dominant intelligence, cultivating good habits and replacing bad habits

B. Research Hypotheses

The participants of this study were students from the College of Engineering, the College of Liberal Arts, and the College of Business of Kao Yuan University. The hypotheses of this research study were:

Hypothesis 1: Students taught through the integrative teaching method and the enrichment teaching method are different in their leadership knowledge, attitudes and behaviors.

Hypothesis 2: Leadership knowledge, attitudes and behaviors are different in pre and post tests.

C. Research Participants and Research Design

To increase the leadership potential of technical university students, the participants of this study were students of Kao Yuan University. The university has 96 day-school classes. One class from the College of Engineering, the College of Liberal Arts, and the College of Business was randomly selected to participate in the study. Members of the university’s Character Leadership Society also participated in the study.

Table 3-2 : Experimental Design for Leadership Competency

Group	Pre-test	Treatment	Post-test
Students in Experimental Classes from Different Departments	N=131	X	N=131
Students in Character Leadership Society	N=29	X	N=29
Control group	N=29		N=29

D. Research Instruments**1. Leadership Potential Self-evaluation Inventory**

Given the goals of the study and its research design, the investigators constructed an instrument based on Roberts' (1997) Leadership Skills Inventory (LSI).

2. In-depth interviews

In the process of conducting leadership competency courses, it was discovered that in-depth interviews could be used to understand: 1) the main reasons why leadership courses influenced the students and understand the implementation results of the courses and which courses need to be improved, 2) understand the implementation of leadership competency education, whether classroom integration or outdoor enrichment methods are more effective

IV. Research results and discussion**A. Experiment term and control term of leadership teaching**

Table 4-1 showed the growth and progress analysis of leadership traits of gifted students such as "creation," "humor," "character," "planning" between experiment term and control term reached an extreme significant level of $P < .01$; "theory" and "Multipleintelligence" achieved to a significant level of $P < .05$. This has proved that leadership education demonstrates significant teaching results in the promotion of leadership traits to students.

Table 4-1 : experiment term post-testing and control term-testing analysis of leadership program

	Term	Number	Average	Standard deviation	T-testing	Significance
theory	experiment term	131	9.5191	2.35781		

Humor	control term	29	6.5862	1.68008	5.059	.026
	experiment term	131	10.0763	2.65335		
creation	control term	29	6.8621	1.52887	12.953	.000
	experiment term	131	9.9084	2.40016		
Multiple intelligence	control term	29	6.4828	1.12188	17.370	.000
	experiment term	131	9.7481	2.46621		
character	control term	29	6.8276	1.87214	3.226	.044
	experiment term	131	9.5267	2.41574		
planning	control term	29	6.6552	1.42116	7.047	.009
	experiment term	131	9.8244	2.50071		
	control term	29	6.5172	1.27113	13.678	.000

B. The different results of character leadership methods

Table 4-2 showed that there were different results to use “topic enrichment” and “integrated” teaching method in different classes. The growth and progress analysis of leadership traits of gifted students such as “theory,” “humor,” “multiple intelligence,” “character ” between “topic enrichment” and “integrated” teaching method reached an extreme significant level of $P < .05$; This has proved that leadership education

	Teaching Method	Number	Average	Standard deviation	T-Test	Significance
theory	Topic Enrichment	29	10.4138	2.30709	2.356	.020
	Integrated Teaching	102	9.2647	2.32049		
Humor	Topic Enrichment	29	11.1379	2.79954	2.490	.014
	Integrated Teaching	102	9.7745	2.54429		
creation	Topic Enrichment	29	10.6207	2.21059	1.827	.070
	Integrated Teaching	102	9.7059	2.42343		
Multiple intelligence	Topic Enrichment	29	10.8966	2.35045	2.923	.004
	Integrated Teaching	102	9.4216	2.41052		
character	Topic Enrichment	29	10.9310	2.17011	3.719	.000
	Integrated Teaching	102	9.1275	2.34065		
planning	Topic Enrichment	29	10.1379	2.72192	.764	.446
	Integrated Teaching	102	9.7353	2.44109		

demonstrates significant teaching results to use “topic enrichment” and “integrated” teaching method in different classes. The results of “integrated” teaching method were better than the results of “topic enrichment” method.

Table 4-2 : The results of conduct “Topic Enrichment” and “Integrated Teaching ”method in different classes

C. Character trait observation record (Cheng Chao-shun, 2008).

What are the main factors affecting the growth of leadership competency?

Through individual interviews, the participants of the study have expressed that the formation of leadership competency derives from: 1) innate leader qualities (30%), 2) learning, education and the social environment (40%) and 3) through service and devotion (30%). Most of these participants admire illustrious social leaders such as Al Gore, Ang Lee, Buddhist priestess Cheng Yen and Bill Gates because these people care about society and have promoted social progress.

V. Conclusion and recommendations

Through the analysis of the literature, the design of leadership competency courses, and the teaching results of leadership courses, the following conclusions and recommendations can be offered.

Conclusions

1. Well-designed Leadership competency courses require long-term experimentation and research: National and international scholars believe that leadership competency courses will change with the development of society and with discoveries made in research in psychology, sociology, and the development of potential. These will continuously broaden the content of leadership competency courses. For example, courses such as multiple intelligences, emotional intelligence, character education, sense of humor and optimism, creativity and leadership, and planning and leadership are gaining attention.
2. There are many different methods to teach leadership competency: The ways to cultivate leadership competency include doing academic research, participating in character leadership student organizations, integrating leadership competency into a variety of courses, and participating in training courses for leaders of student organizations. The most significant effect was seen in the implementation of leadership education as enrichment courses. The effect of enrichment education for participants in student organizations was superior to integrated education in the areas of principles of leadership, sense of humor and optimism, multiple intelligences, and character behavior.
3. The effects of leadership competency courses have significant effects in participants from student organizations and classes: Through six leadership competency teaching activities, it was found that the experimental group of students from the student organization and the classes in different departments outperformed the control groups of students in principles of leadership, sense of humor and optimism, creativity and leadership, multiple intelligences, character behavior and planning ability.
4. There are differences in the leadership behavior among people of different genders and personalities: In terms of college students, male students outperformed female

students in areas such as creativity and leadership, multiple intelligences, planning and leadership. Female students outperformed male students in sense of humor and optimism, moral behavior and principles of leadership. Outgoing college students performed better in theory, optimism, creativity, multiple intelligences, moral behavior and business leadership than students whose personalities were rational, reclusive and conservative.

5. The development of leadership potential is not limited to classroom instruction: Outdoor hiking activities, student organization activities and leadership courses all contribute to the development of leadership potential such as love and caring, humor and leadership, nature intelligence, hiking activities, international viewpoint, principles of leadership, planning and leadership, and creativity and leadership. Because outdoor activities are more relaxed and facilitate the sharing of what was learned and the expression of service behavior, they are effective in cultivating leadership competency.

6. What are the main factors affecting the growth of leadership competency? Through individual interviews, the participants of the study have expressed that the formation of leadership competency derives from: 1) innate leader qualities (30%), 2) learning, education and the social environment (40%) and 3) through service and devotion (30%). Most of these participants admire illustrious social leaders such as Al Gore, Ang Lee, Buddhist priestess Cheng Yen and Bill Gates because these people care about society and have promoted social progress.

Recommendations

In light of the research goals, course design and teaching, and the results obtained through the measurement instrument and statistical analyses, we offer the following recommendations:

1. All fields should emphasize the cultivation of leaders. The theory and practice of leadership should receive equal attention: Leadership education in all fields should emphasize the principles of leadership, multiple intelligences, character education, humorous leader traits, creative and strategizing abilities. In addition, the theory and practice of leadership should be combined with social service, so that leaders can combine their knowledge with their actions as well as focus on leadership competency and character.

2. More studies into teaching methods and measurement of leadership competency should be conducted to understand the effects of leadership education: There are many ways to cultivate leaders such as classroom instruction, outdoor training, hiking, and service organizations. Combining them with good leadership courses and appropriate ways to assess leadership behavior can help us understand the results of

leadership competency education.

3. Interested participants should be invited to take part in leadership competency training to increase the effects of training: College students believe that 70% of leadership competency is formed by post-natal guidance and learning as well as service learning. Only 30% of leadership competency is an innate quality. Therefore, anyone interested in cultivating leadership competency can develop his or her leadership potential through long-term cultivation and enthusiastic devotion.

4. Colleges and universities can offer elective leadership competency courses and establish character leadership student organizations: Colleges and universities can offer elective leadership competency courses to allow students to obtain comprehensive knowledge of leadership and have the opportunity to grow through service. In addition, colleges and universities can create character leadership organizations to provide students with extra-curricular opportunities to experience leadership cultivation and character development and explore their own leadership potential.

5. Beginning with the cultivation of excellent faculty to teach leadership competency and continuing with long-term cultivation of leaders can raise competitiveness. To increase the country's and businesses' competitiveness, we can begin by cultivating excellent faculty to teach leadership competency. By developing systematic leadership competency courses and starting long-term cultivation of leadership talent early, we can help develop leaders that can promote progress of the country and society as a whole.

6. Emphasize society's core values, cultural atmosphere, and political figures as models. Society's core values, cultural atmosphere, and the functioning of political figures as models can lead society. A new president will be elected in Taiwan in early 2008. His leadership team will be met with high expectations in terms of academic achievement, practical experience and moral character. The president and his cabinet will be the best models of leadership and character for the next generation. Only with integrity and good conduct can they lead society into becoming one that is industrious, pragmatic, grateful, humble, respectful and harmonious.

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