ACTION RESEARCH ON IMPROVING RESEARCH PERFORMANCE AND FINANCE AT CTU IN TAIWAN

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ABSTRACT

Senge (1990a) advocated to build the learning organization (LO) by practicing five disciplines. Organizational learning (OL) is the main activity in a LO. The OL and renewed competence can help an organization or LO to better understand actual situation, learn new knowledge, and adopt effective, innovative and coordinated action to suit the fast changing environment. Kurt Lewin (1946) first brought up the phrase “action research”. Action research (AR) is a methodology that uses an action spiral of planning, action, observation, evaluation, and reflection to find facts, solve problems and improve performance.

The action researcher first reviewed the literature of OL and AR. Second, this study designed a systematic framework (the OL-WA model) including the organizational concern, organizational learning, willingness to act, and organizational performance to increase the research performance (i.e. main competitive advantage of university) at Chienkuo Technology University (CTU) in Taiwan. Finally, this study used AR to manage and enhance the research performance.

In AR Cycle 1-3, the action researcher found the OL is effective in improving research outputs at CTU, but it is not the key factor. The most important factor influencing CTU’s performance is leadership. In AR Cycle 4, this study found some new evidences to support this contention. The findings and competitive strategies should bring out some valuable academic contributions and constructive suggestions for the academic circles in Taiwan.

Key Words: Organizational learning, Action research, Research performance, Finance

I. INTRODUCTION

1.1 Background of the Research

The decreasing population has raised strong competitive pressures recently in the educational circles in Taiwan (see Figure 1.1). The problems of enrollment pose real threats to the majority of private universities and colleges in Taiwan. Reputable universities were first selected by students to pursue their studies. A reputable university often has excellent research performance and fine teaching quality. Therefore, it should be considered a top priority to accelerate and enhance the research performance and teaching quality among common universities and colleges.
Argyris (1985; 1996) explained the goals of learning are to act and change; action science (i.e. action research) is a strategic approach for designing situations that foster effective stewardship in any kind of organization and help individuals, groups, and organizations to develop a readiness to change in an often changing environment.

Chienkuo Technology University (CTU) has good faculties and a beautiful campus, but lacks good research achievements and incomes at present. The number of students, which is the main income of CTU, has also been decreasing from year 2002 to 2006 (see Figure 1.2). Therefore, the action researcher selected action research approach to increase CTU’s research performance and improve some financial problems.

1.2 Objectives of the Study
There are two main purposes of this study.
1. In AR Cycle 4, to observe new improvement of research performance and substantiate the findings in AR Cycle 1-3.
2. To bring out some strategies and methods for improving the finance of private universities in Taiwan

1.3 The Structure of the Study
The structure of this research is shown in Figure 1.3.

![Flowchart of Research](image)

**II. LITERATURE REVIEW**

2.1 Review and Discussion of Integrated Framework of Research
Kohli and Jaworski (1990) suggested the market orientation includes three core contents: (1) customer focus, (2) coordinated marketing, and (3) profitability. Narver and Slater (1990) pointed out that the market orientation includes five conceptions: (1) customer orientation, (2) competitor orientation, (3) interfunctional coordination, (4) long-term horizon, and (5) profit emphasis. According to their concept of competitive advantage, the market orientation is the most efficient and effective organizational culture. Day (1994) pointed out that the capability of staff is the complex combination of the skill and collective learning. When an organization develops the market orientation, it can learn two distinctive capabilities to keep competitive advantage: market sensitivity and linking to customers.
Slater and Narver (1995) noted that there is complementarity between market
orientation and organizational learning because market orientation and organizational learning together are useful to enhance organizational performance. Dawes (2000) reviewed 36 papers and found the correlations between market orientation and organizational performance were positive, weakly positive or null. Some researchers suspected there were other intermediate variables between the market orientation and organizational performance. Hwang (1999) found that organizational learning is an intermediate variable. Furthermore, Lin (2001) found the intermediate variables were organizational learning and innovation. Lin’s conceptual framework of industrial research is shown in Figure 2.1.

![Figure 2.1 Lin’s Conceptual Framework of Industrial Research](image)

The market orientation is an important subject that organizations should learn and research continuously but isn’t the only subject. The other important subjects include problem/issue solution, vision/goal achievement, etc. Totally important subjects are organizational concerns. Revans (1982) developed the concept of “action learning” and deemed there is not any learning that need not action and there is no reasonable action that can’t produce learning. Senge (1990b) believed that team learning needs to possess innovative and coordinative action. Dixon (1999) also pointed out a person who has understanding but hasn’t follow-up action is incompetent; and who has action but hasn’t through understanding is a fool. Learning, thinking and research leads to understanding; and the real understanding leads to proper action. Learning and action have reciprocal causation relationship. Furthermore, the innovations include new ideas, new research and development (R&D), new structures or new products that belong to the innovative actions (Mascull, 1996), and the important discipline of getting things done is “execution” (Bossidy and Charan, 2002).

According to the research of the above authors, there were positive correlations between the market orientation (i.e. a key factor of organizational concerns, e.g. marketing, service or enrolment, etc.), organizational learning (including
knowledge/information sharing); innovation (i.e. a key factor of the creative and zealous actions), and organizational performance (including output, improvement, advantage and profitability). If an organization lacks vision, learning, action and performance, then it will encounter difficulties and slow growth. We also need to think, learn, act and solve something when we meet the difficult problems, issues or tasks. Therefore, the first revised conceptual framework of general research, shown in Figure 2.2, is a conceptual model including four variables: organizational concerns, organizational learning, action, and organizational performance (Pai, 2004b).

![Figure 2.2 The Expanded Framework of General Research](image)

For example, the main meaning of market orientation (i.e. a key factor of the schools’ concerns) in the educational circles is enrolling sufficient and good students. Thus, the schools can obtain sufficient income to employ excellent teachers and continuously improve their teaching qualities and research outputs. If a school possesses good teaching and research reputation, then it can enroll sufficient and better students. Therefore, that will be a perfect cycle.

2.2 Definition and Types of Organizational Learning (OL)
Learning includes different levels of individual, team, community, and organizational learning. Hedberg (1981) explained the organizational learning including two processes: the organization learns to adjust itself to suit the actual environment and uses knowledge to improve the conflicts between the organization and environment. Fiol and Lyles (1985) expressed that organizational learning is the processes for improving actions through better knowledge and understanding.
Kim and Mauborgne (1993) considered that organizational learning is a capability to help an organization adopting effective action. It can be accumulated and achieved by personal learning, and the like. By way of improving mental models, we can set up the relevant framework among the individual, team, and organizational learning. Marquardt (1996) pointed out the organizational learning to emphasize ‘how’ and purported the processes of founding and making use of knowledge. Dixon (1999) pointed out that learning is a most effective method to change the present situation, and the community learning is more important than individual learning. She also compiled 11 different definitions of organizational learning, which included 4 common viewpoints: (1) expect to increase knowledge for improved action, (2) recognize the pivot relationship between organization and environment, (3) possess the community learning or sharing learning, and (4) obtain the condition of organizational change. Dutton (2000) brought out a concise definition: The organizational learning cultivates us to use as a clear and honest attitude to understand actual situation, thus it can help us to take an effective action for our shared vision. Lin (2001) reviewed 18 definitions of organizational learning and found 12 different and 6 similar viewpoints. There is no consensus on the definition of organizational learning at present. Yeung et al. (1999) brought out that there are four styles of the organizational learning (OL): (1) continuous improvement, (2) benchmarking, (3) competency acquisition, and (4) experimentation. The OL matrix (2*2) includes two dimensions: (1) learn from direct experience or from the experience of others, and (2) exploration or exploitation (see Figure 2.3).

Figure 2.3 The Types and Relationships of Organizational Learning and Action
Wenger, McDermott and Snyder (2002) pointed out that “communities of practice (COP)” are a group of people that share common problems, advantages, disadvantages, and enthusiasm for change. Thus, such communities can obtain deeper knowledge and disciplines in the interested area. The COP is a powerful tool of organizational learning that is made up of multi-department, multi-organization or multinational practitioners (e.g. specialists, managers, worker, or researchers).

Yang (2002) pointed out that the key factors of organizational learning are building learning organization, enabling organizational learning, managing organizational learning, and adopting applicable intervention models. The organizational learning and action are influenced by the context factors including leadership, strategy, management, structure, culture, and the internal and external environments.

2.3 Meaning and Definition of Action Research (AR)

Kurt Lewin (1890-1947) first brought up the phrase “action research” and exerted to encourage “action researchers”. Action research is a methodology that uses an action spiral of planning, action, observation, and reflection (including evaluation) to find facts, solve problems and improve performance. (Lewin, 1946; Abraham, 1997; Goldspink, 2003)

Argyris, Putnam and Smith (1985) pointed out that action science developed from the theories including two scholars -- John Dewey and Kurt Lewin. John Dewey criticized the inadequacy of separating knowledge and action; and set up an exploratory theory to integrate theory with practice. This thinking is the origin of action science.

Action research comprises the goals of both action and research, similar to much of the research conducted with qualitative approaches (APMI, 1997). The following is a detailed explanation of the AR methodology.

AR Methodology is to emphasize the action, followed by the accompanied research as fringe benefit. The research is conducted by direct involvement so as to enhance the understanding. The outcomes of the action research are to change the current situation, solve the problems, and the learning performance by these participants. Two approaches can be employed as follows.

1. To achieve the understanding, and obtain the experiences and knowledge followed by proper action.
2. To guide or adjust action with the help of the sufficient understanding and knowledge.

There are many terms for action research, including action method, deep action method, interaction research, role research, drama research, action-oriented research and action science (Dash, 1999). AR is a basic philosophy that can help managers and researchers to approach wisdom. Therefore, the AR methodology and action
researcher can help us to solve problems, learn and promote performance. Action research is popular among those education-focused universities, colleges, high schools and junior high schools, but is not understood at the technological universities and colleges (such as CTU) in Taiwan. There tend to be less action researchers at the technological schools. The reflection is a very important discipline for the teachers to become a cognoscitive, conscientious and continuous improving educator. That is a main defect for technological education in Taiwan (Pai, 2004a).

2.4 The Cycles and Characteristics of Action Research
Griffiths (1990) pointed out that action research is progressed by a self-reflective spiral/cycle through the real trial-and-error processes undertaken. In this spiral/cycle, feedbacks appear immediately and constantly in various forms. Basic AR spiral includes four steps: planning, action, observation and reflection (Zuber-Skerritt, 1991).

Action research as a vehicle and the so-called “action research methodology” is a research cycle (Grant, 1996). The five elements (including diagnosis, analysis, feedback, action and evaluation) of AR are an implementing change cycle to organizational development (Bate, Khan and Pyle, 2000). AR is, in fact, a distinct research methodology, valid alongside, and not beholden to, the experiment method and cycle (Smyth, 2001). AR has a large degree of messiness and unpredictability about it (Coghlan & Brannick, 2001).

AR is a planned journey that the researchers continuously introspect, monitor, adjust, improve and solve his/her or organizational problems. The purposes of AR include solving routine or specific problems, achieving individual or organizational goals, or finding new knowledge. AR is a powerful and effective learning mode that was accepted by the academic circle (McNiff & Whitehead, 2002). Therefore, AR is more useful for the teachers at specialized and technical schools in Taiwan.

2.5 The Meaning of Action Learning (AL)
Action learning (AL) isn’t a course; but a practical project and collaborative learning process through doing, working and learning synchronously (e.g. experience/knowledge sharing, meetings, discussions, challenging assumptions, raising issues, making suggestions or decisions, etc.); AL can supply staff and leaders with new methods and ideas for their work, management and development (Weinstein, 1998; Dash, 1999; Goldspink, 2003).

Both AL and AR assume that learning comes from active experience. The form of AR is more systematic and stricter than AL. All AR projects are the AL projects, but the converse does not hold true (Jiang, 1998). The AL is a type of organizational learning
that can be used by way of action learning meeting (i.e. action group meeting) and the like.

2.6 Educational Action Research

In the educational domain, action research is conducted by the educational practitioners who participate in the operations of practices, and researches systematically collect the data, analyze the problems, propose plans to improve performance, execute actions, and examine carefully the impacts of the reform. Educational action research is normally conducted in real educational environments to foster change by the staff members, especially the president, directors, and teachers. The research results are used for educational reform to enhance the educational and service quality (Wu and Wu, 2002).

Educational AR emphasizes that the teacher is a researcher. Its main characteristics are the changes arising from actions and collaborations between the action researcher and the person being researched. Action researchers are concerned about what actions should be taken for intervention, what collaborative supports should have from the person being researched and the organization, and how they are put together to improve the situation. Another important characteristic is reflection by the researcher. Action research on the education area attempts to impose the proper actions into the process of the teaching, research and service, and to make positive changes (Wu and Wu, 2002). The ten steps in the general educational and schools’ action research are presented in Table 2.1 (Tsai, 2003).

<table>
<thead>
<tr>
<th>Step</th>
<th>The Content of Educational and Schools’ Action Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To review and discuss the actual job and find the main research problem;</td>
</tr>
<tr>
<td>2</td>
<td>To review the literature initially, discuss and understand the essence of the main problem;</td>
</tr>
<tr>
<td>3</td>
<td>To decide the main focus problem;</td>
</tr>
<tr>
<td>4</td>
<td>To review the literature in depth;</td>
</tr>
<tr>
<td>5</td>
<td>To draw up the educational AR plan to seek solution;</td>
</tr>
<tr>
<td>6</td>
<td>To execute the educational AR plan for obtaining the solution;</td>
</tr>
<tr>
<td>7</td>
<td>To draw up the AR plan according to the data collected from steps 1~6;</td>
</tr>
<tr>
<td>8</td>
<td>To execute the AR plan for solving the main problem, monitor the proceeding action, take down the actual data and reserve them;</td>
</tr>
<tr>
<td>9</td>
<td>To evaluate the AR plan and results;</td>
</tr>
<tr>
<td>10</td>
<td>To amend the AR plan according to the actualities and redo for improving continuously until feel satisfaction.</td>
</tr>
</tbody>
</table>

2.7 Summary

Lin’s conceptual framework of industrial research includes four variables: market orientation, organizational learning, innovation, and organizational performance. This
The conceptual framework was expanded and modified to suit general research that included four slightly different variables: organizational concerns, organizational learning, action, and organizational performance.

The main indicators for organizational concerns (OC) are: market orientation, problem, issue, vision, goal, and mission. The organizational learning (OL) is indicated by individual, team, and community learning. The four types of the OL are: continuous improvement, benchmarking, competency promotion, and experimentation.

The main contents of organizational action (OA) are: innovative and coordinative action, action research, administrative and technical innovations, and execution. The main outputs of organizational performance (OP) are: problem solution, performance promotion, competitive advantage, profits, improvement and development.

The organizational performance at universities and colleges mainly includes teaching, research, and service quality & quantity. The research performance includes paper, governmental research project, academia-industry cooperation project (AICP), patented invention, technology transfer, technical report, and creation.

III. RESEARCH METHODOLOGY

3.1 Conceptual Frameworks

The basic conceptual framework of the study is presented in Figure 2.2. Figure 3.1 can be developed from Figure 2.2 that bases on the two reasons below. This study main adopts the framework (as calls it Pai’s OL-WA model) for improving the problems and performance of research at private universities and colleges in Taiwan.

The OL-WA model is a general research model that can be used to study the other management topics.

1. According to the literature review, the four styles of organizational learning explained in section 2.2 (see Figure 2.3). Therefore, the contents of second variable “organizational learning” can be modified that include the four styles.

2. The third variable of “action” can be modified as “willingness to act”. Because the original power of execution is we (including employees, managers and leaders) willing to do (i.e. enjoy oneself in action), therefore, the better variable is “willingness to act”.

Figure 3.1 The Conceptual Framework of the OL-WA model (Pai, 2004b)

Figure 3.2 is derived from Figure 3.1 to address the problems of organizational learning (OL). Figure 3.2 is a cyclic framework/model including the three strategic principles for the OL study. Figure 3.3 is the complete flowchart of Figure 3.2.

1. The learning obstacles are equivalent to organizational concern for our purpose;
2. The promotions of learning capabilities are equivalent to organizational learning and willingness to act; and
3. The organizational resurrection is indicated by organizational performance.

Figure 3.2 A Cyclic Framework for the OL Study Including Three Strategic Principles
3.2 The Methodology of Action Research
Action Research (AR) is one kind of methodology that includes both action objective and research objective. In general, it is a type of qualitative approach. To act is for improving problems; to research is for increasing understanding and advancing knowledge. The AR uses an action spiral of planning, action, observation, evaluation and reflection to find facts, solve problems and improve performance. The AR has been explained in section 2.3–2.6. Action researchers may apply different research methods to obtain qualitative and quantitative data in order to examine seriously a special situation. Besides improving the real situations, it can help discover the common phenomena or theory behind the situations. Since action research emphasizes the practice, participation, collaboration, reflection, illustration, qualitative methods and technology are generally employed, especially in case studies, etc. The success of the AR spiral/cycle of relies on the collaboration between the researchers and situational participants.

3.3 The Integrated Methods of Action Research and Organizational Learning
According to Figure 3.1, organizational learning (OL) and willingness to act (WA) mutually influence each other. Action research is a methodology through some action cycles. The cyclic and dynamic concepts of the OL-WA model are shown in Figure 3.4.

The next, the flowchart of the single-loop learning and double-loop learning using action research spiral is shown in Figure 3.5. The action learning of AR belongs to double-loop learning.

Figure 3.4 and Figure 3.5 are two integrated methods and processes of action research and organizational learning for this study and general research.
3.4 The Action Research Cycles Use OL-WA Model at CTU

The action research cycles at CTU in Taiwan are explained as follows.

1. **Basic step**: Organizational learning of continuous improvement and benchmarking.
2. **Cycle 1**: Organizational learning of competency acquisition (i.e. capability promotion of academic research).
3. **Cycle 2**: Revised plan from Cycle 1.
4. **Cycle 3**: Revised plan from Cycle 2.
5. **Cycle 4**: Observed and proved the findings in AR Cycle 1-3 and brought out some strategies and methods for improving the finance of CTU (i.e. this paper focuses on AR Cycle 4).

This study tried to integrate organizational learning theory and action research methodology for enhancing organizational research performance at CTU. The integrated conceptual model and flowchart are shown in Figure 3.1 and Figure 3.4. The integrated processes and its practices are summarized in Table 3.1.

Table 3.1 The Integrated Processes and Practices of Organizational Learning and Action Research
<table>
<thead>
<tr>
<th>Cycle</th>
<th>Action</th>
<th>Observation</th>
<th>Evaluation, and Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle 1</td>
<td>Bring out the first action plan.</td>
<td>Execute the first plan including four OL activities.</td>
<td>Observe the action outcomes and use Q1 to find some basic problems on teacher’s research issues and needs.</td>
</tr>
<tr>
<td>Cycle 2</td>
<td>Bring out the second improvement plan.</td>
<td>Execute the second plan including four OL activities.</td>
<td>Observe the action outcomes and use Q2, Q3 to find the important factors for improving research performance at CTU, and constructing the research modeling framework at universities.</td>
</tr>
<tr>
<td>Cycle 3</td>
<td>Bring out the third improvement plan.</td>
<td>Execute the third plan including seven OL activities.</td>
<td>Observe the action outcomes and use Q4 to find new problems in depth.</td>
</tr>
<tr>
<td>Cycle 4</td>
<td>Bring out the fourth improvement plan.</td>
<td>Execute the fourth plan</td>
<td>Observe the findings in Cycle 1-3 and new action outcomes.</td>
</tr>
</tbody>
</table>

### IV. FINDINGS AND ANALYSIS

#### 4.1 Findings and Analysis in the AR Cycle 1-3

According to AR Cycle 1, Cycle 2, and Cycle 3, there are some findings and analyses that are published at BAI2005 International Conference (Pai, 2005) and BAI2006 International Conference (Pai, 2006). The important parts are explained as follows.

According to the AR Cycle 1-3, the findings are summarized as follows:

1. CTU’s faculties responded to Q1 that the introductory seminar about how to produce technical reports is relatively helpful to them.
2. The most important factor influencing research outputs at CTU from Q2 is to improve the research environment (including space, hardware, software, materials) and resource sharing. Organizational learning is effective in improving research outputs, but it is not the key factor. The OL is an easier/cheaper method instead.
3. The respondents of Q3 from 123 universities/colleges thought that their university/college has not in place a mechanism for organizational learning and
has not implemented it accordingly. The three key factors influencing research performance at the surveyed universities/colleges were: (1) action orientation, (2) collaboration, and (3) continuous improvement.

4. CTU’s teachers responded to Q4 that CTU encourages individuals to acquire new competencies, and CTU frequently holds conferences and encourages the staff members to take part in learning. But CTU’s employees have little say in how their work is done at CTU. The two main learning disabilities and obstacles are lack of (1) empowerment, and (2) little knowledge sharing between each other.

5. The most important factor influencing CTU’s performance is leadership. The two critical success factors of research performance and administration at universities are a diligent President and his/her excellent leadership (e.g. at Feng Chia University--FCU and National Taipei University of Technology--NTUT). The key context factors (e.g. leadership, foresight) affect learning/research capabilities and actions, and an organization’s learning/research capabilities and actions eventually affect organizational performance and competitiveness (see Figure 4.1).

![Figure 4.1 The Context Factors Influencing the Four Variables in the OL-WA Model](image)

### 4.2 Observation and Verification the Findings in AR Cycle 4

The analyses and findings in AR Cycle 1-3, CTU continuously focus on the research performance of AICP that is a proper direction for the technological universities. The communications and dialogues at CTU are also unhindered. But the leadership of academic research and organizational learning culture are still weak (than the reputable private universities) at present. The most important factor influencing
CTU’s performance is leadership. Therefore, CTU’s Board of Trustees had decided to change the President of CTU. The voted a new President to take over CTU from August 1, 2006 to July 31, 2009.

The President first demanded the director of R&D department to promote the performance of paper publishing (including SCI/SSCI/EI) on September 27, 2006. Second, the President demanded the director of R&D department to promote the performance of research plan on November 8, 2006. The ratio of achievement (plans/faculties) is 95.44% on December 27, 2006.

Third, the President demanded the director of R&D department to promote the performance and revenue of R&D (including AICP) on November 22, 2006. The planned amount of money of R&D will reach NT$60,000,000 in year 2007 (see Figure 4.2).

![Figure 4.2 School Incomes and R&D Revenue at CTU from year 2002 to 2007](image)

(* Estimate on October 2007)

### 4.3 Strategic Planning for Improving the Finance of CTU

The decrease of school incomes from enrollment at CTU in 2006 (see Figure 4.2) that needs to be improved. In AR Cycle 4, the action researcher reflected the problem and brought out four improvement strategies (Porter, 1985) as follows.

1. **Cost advantage strategy:**
   
   (1) To reduce the credit points (including prescribed and optional course) of student from 142 to 128. Thus, the expenses of courses will be reduced obviously.

   (2) To reduce the number of academic staff member from 351 to 320 in three years. Thus, the main expenses of personnel will be reduced about
NT$10,000,000/per year.

(3) To encourage the old lecturers to retire. Thus, the expenses of personnel will be reduced about NT$3,800,000/per year.

(4) To stop the recruitment of administrative staff member.

2. Differentiation strategy:

(1) To analyze the value matrix of the 14 departments in CTU, and try to modify their enrollment strategies, characteristic courses and faculties to approach the education market in Taiwan (see Figure 4.3). The two departments include civil engineering and applied foreign languages that need be modified first.

(2) To train the second professional capability of academic staff member for the new needs of society and business.

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**Figure 4.3 The Value Matrix of the 14 Departments in CTU**

3. Focus strategy:

(1) To promote the teaching quality through organizational learning and practical training continuously. The strategy is for increasing the student satisfaction and stabilizing the enrollment. The efforts are also for re-obtaining
NT$55,000,000 from Ministry of Education (MOE) in Taiwan in year 2007.

2. To improve the performance and profits of extension education and training, and AICP.

3. To collect money donations from alumni.

4. Blue ocean strategy (Kim and Mauborgne, 2005):
   1. To enroll new students from Mainland China, Korea, Thailand, etc for avoiding the red ocean competition in Taiwan.
   2. To encourage the market-oriented patents/inventions and increase the profits of technology transfer.

V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

5.1.1 Performance Improvement in AR Cycles

According to the above-mentioned exertions and the observations from the action researcher in AR Cycle 1-4, the organizational learning and action research at CTU has obtained some improvement that is shown in Figure 5.1.

![Figure 5.1 Using the Four Learning Styles to Observe the Improvements of Learning and Research at CTU](image)

Note: The NTUT and FCU are two reputable universities that CTU can benchmark in Taiwan.

5.1.2 The Contributions and Implications in the Academic Area

This study first brought out the expanded research framework (OL-WA model), with preliminary verification of its reliability and validity (sampled the staff from 123 universities/colleges). The OL-WA model (see Figure 3.1, Figure 3.4, and Figure 4.1) are valuable innovations.

This study also integrated four learning types, innovation speed and two strategy styles (see Figure 2.3 and Figure 5.1) that can help us to observe the organizations’ advantages and weakness summarily.

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There are three general obstacles/issues in organizations are development direction (i.e. decision-making, foresight), communication, and leadership. The core problem is leadership. Figure 3.2 and Figure 3.3 are good methods and processes to improve organizational problems.

5.1.3 The Contributions and Implications in the Practical Area
This study first took a few processes in doing organizational learning and action research for promoting research performance at CTU from December 2003 to January 2007. The research findings and experiences on learning, action reflections, critical factors, and problems improvement would be useful for CTU, other private universities and colleges in Taiwan that are interested in improving their research performance and competitive advantage. Although it is still a long way, the action researcher hopes the leaders of Taiwanese private universities and colleges can promote the research performance and take advantages through action research, organizational learning, performance management, etc. The key factor influencing university’s performance is leadership (i.e. an excellent President).

Second, for improving the financial problem of private universities/colleges, the action researcher also brought out four strategies (including 11 important items) that are useful management methods in the private universities/colleges in Taiwan.

5.2 Recommendations
1. The Active Strategies, System Thinking and Action
The short-term active strategies for increasing performance at CTU include the reward, evaluation, teamwork, organizational learning, survey, political supports and taking the right action to correct the shortcoming. The critical factors should be the reward, organizational learning, and actual action.

The long-term active strategies at CTU, other private colleges and universities in Taiwan should be cordially inviting the research talents and investing in R&D and innovation. The critical factors should be the excellent organizational culture and leadership (including the macroscopic strategies and microscopic processes). The action researcher also suggested the leaders of private universities/colleges to adopt system thinking and action for improving school’s performance and finance. The flowchart of management and development system is shown in Figure 5.2.
2. Suggestion for further research:

(1) Figure 4.1: The context factors influence the four variables in the revised OL-WA Model. The relationship between the context factors and the OL-WA model is the first subject for future research.

(2) Figure 5.2: The system thinking and action of university’s management and development is the second subject for further research.

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