# Chapter IV

Research Experiment

The various problems, especially a lack of the EP vision mentioned above occur in the EP's workplace at Montfort College, which are related to Western staff, Eastern staff, and administrators. These serious problems impact on the day by day managing of the EP. Thus, to solve the problems of the EP management, this research starts by confirming the cross-cultural communication phase to indentify and specify problems based on the initial investigation in the English Program at this school (see Figure 4.1).
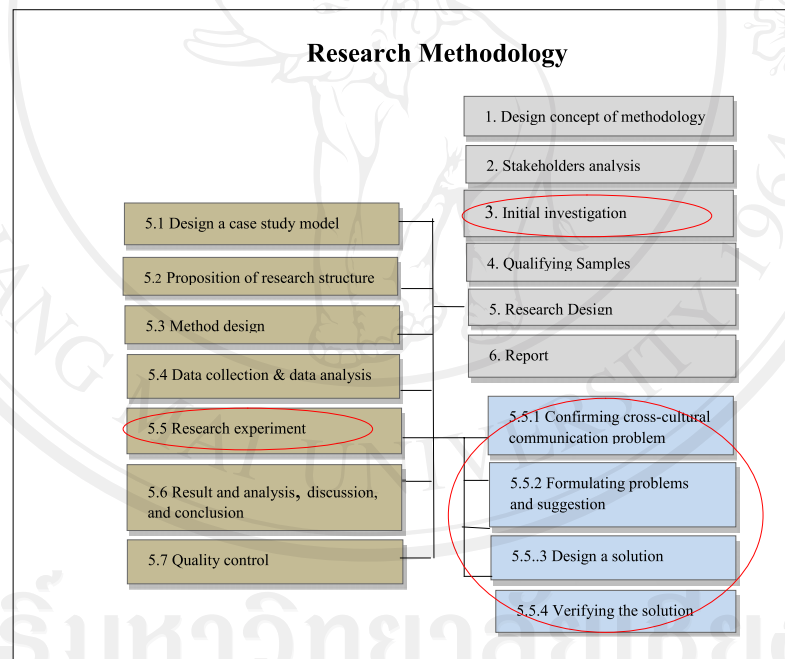
Figure 4.1 Research Methodology

The following illustrates the research investigation, which consisted of four phases. The phases are listed step by step as follows:

4.1 Research experiment

The research experiments are investigated four phases as follows:

4.1.1 Phase 1: Confirming cross-cultural communication problems

The purpose of this phase is to focus on specifying and identifying the root causes of problems in the EP management in terms of cross-cultural (see Figure 4.2). The confirming phase is investigated based on a case study (Creswell, 1998) which is the framework of this study.

4.1.1.1 Methodology

- **Population/Sampling**

According to confirming problem in terms of cross-cultural communication, this phase captures data from all staffs of the EP as the entire population with 25 participants. For the reason, this phase uses population is the study needs the data from all staffs' opinions for specifying and identifying the root cause problem based on initial investigation. Thus, population is all the EP staffs, which is comprised of Western staff: 2 British, 2 Americans, 1 Australian; Eastern staff: 1 Chinese, 1 Indian, 6 Filipino, 7 Thai; and 5 administrators.

- **Data collection**

Data collection were collected on sited via in-depth interviews of 25 the EP staff, who expressed their opinions concerning the key problems of the EP management. The theme for the in-depth interview questions was created by studying individualism vs. collectivism theory; searching the concerned journals and reviewing the literatures; and studying diverse workforce management based on preliminary study as the initial investigation (see Appendix A).

In addition, "wording of questions should be flexible, the interviewer can answer questions and make clarifications, the interviewer may add or delete probes to interviews between subsequent subjects" (Berg, 2004.)

There are three tasks providing the agenda and a method for searching the specified and identified root causes of problems in terms of cross-cultural communication as follows (see Figure 3.5).

Task 1: Creating the interview occasion: the researcher sets up a schedule of interviews. Data are knowledge and experiences all EP staff as stakeholders.

Task 2 : The researcher prepares proper questions for the interview.

Task 3: Knowledge Capture: the researcher interviews by asking questions to capture knowledge from the stakeholders and also records the data by using audio recorders.

Agenda 1: List names of the EP staff and set a schedule as suitable for each staff member's availability for interview.

Agenda 2: Introduce the objective of the interview.

Agenda 3: The researcher interviews participants one by one as on the schedule list.

Agenda 4: The interviewee expresses opinions about the root causes of problems based on cross-cultural communication.

The formulated questions are:

1. "Hello, I think you know very well that I come to see you for doing my research. So, this time I need your collaboration for investigating the EP problems and I do know that you are the one who really desires to improve the quality of the EP management. Thus my question is straightforward and aims at searching for the root cause problem.

2. "As your organization is comprised of different nationalities and diverse cultures of staff, who seem uncomfortable to participate in school activities and collaborate on well together amongst the staff, including the administrators, in your own opinion what are exactly the problems at your workplace?"

In order to triangulate data, data were gathered from each staff member's opinion on the same phenomenon). The collected data were recorded as fundamental raw data, which are validated by the EP staff as stakeholders. These data served as significant/specified and identified problems, which served as the root causes of problems for the upcoming analysis.
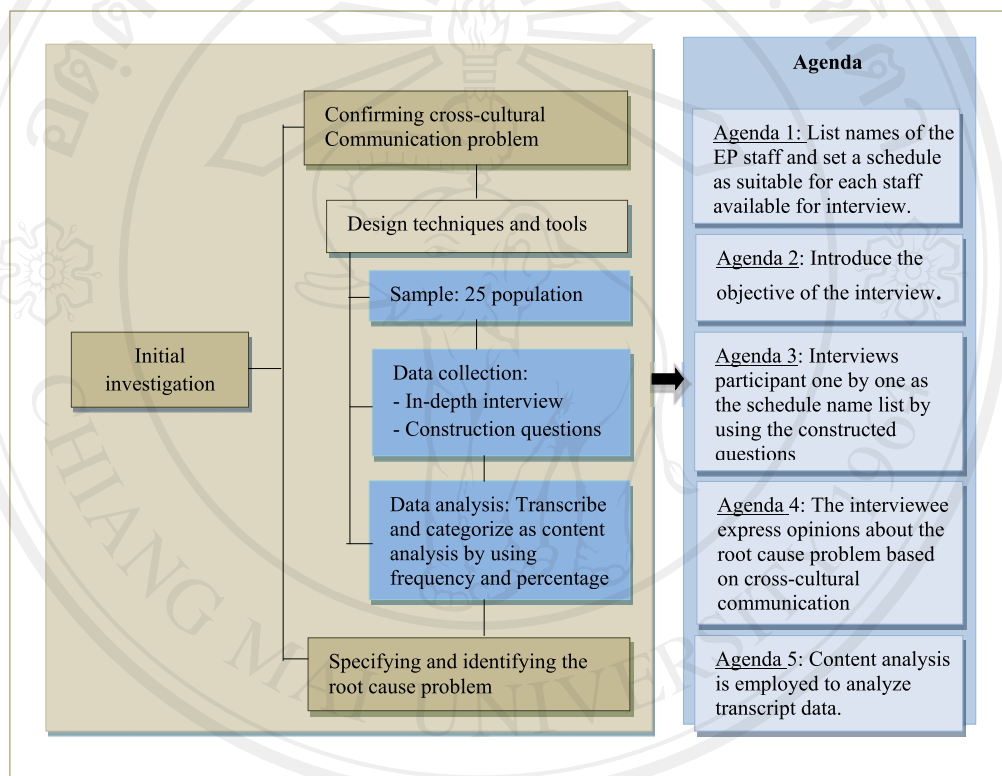
- **Data analysis**

The document analysis, content analysis and thematic extraction used the formulated questions, which are based on the interview and questionnaire data. Then data are transcribed from the records for their reliability and validity. Next, content analysis is used to analyze and categorize the data, and the topics are arranged in form of thematic patterns (Kaartinen & Kumpulainen, 2002).

The researcher conducts the data analysis as follows:

Task 1: The content analysis is employed to analyze transcript data.

Agenda 1: The collected data from the participants are transcribed from video recordings.

Agenda 2: The transcribed data are analyzed and categorized in the form of thematic patterns by using frequency and percentage.

Figure 4.2 Research method of confirming phase

Therefore, the investigation of this phase plays a major role as evidence in supporting the analysis and validating data. The confirmed problem as delineated above exhibits the root causes of problems of the EP management based on the opinions of each staff: Western staff, Eastern staff and administrators, which is the most significant problem of this phase as shown in Figure 4.2. However, the specified and identified problems from this phase are further investigated to formulate problems in the next phase.

4.1.2 Phase 2: Formulating problems and suggestions

The purpose of this phase is to formulate ideas and opinions about the details of the root causes of problems (Phase1) from a representative of each nationality of Western and Eastern staff, by using focused group interviews as a tool for obtaining data. The research investigation is based on individualism vs. collectivism theory (Hofstede, 2001) and type of *ba:* originating *ba* and dialoguing as a KM technique **(**Nonaka, *et al.,* 2000)**.** The originating *ba and* dialoguing *ba* are applied with this methodology as a physical environment because these two types of *ba* are a place, which provides full-furnished facilities for participants sharing ideas, experiences, knowledge and new meanings through interaction. In addition, the concept of *ba* is a shared space for emerging relationships, which can be *physical space* (e.g., an office, a room, a forum, conference room etc,) *mental space* (e.g., shared experiences, ideas, knowledge etc.), and *virtual space* (e.g., computer, teleconference, e-mail, etc.).

This phase emphasizes a plan, which represents the why and how each step is conducted based on applied knowledge management as knowledge sharing. In addition, it is purposeful, precise and systematic, which will ensure that the investigation leads as near as possible to the truth.

The investigation in this phase is conducted via four tasks based on the initial investigation (see Appendix A) and confirming problems (phase 1).

The following are five tasks as the investigated steps for implementing a group of teaching staff and a group of administrators in terms of knowledge management, (see Figure 4.3, 4.4).

Task1. Provide a physical environment for participants' interaction by the applied originating *ba* and dialoguing *ba* as physical, virtual, and mental constructs.

The researcher creates a relaxed environment for interaction at the first meeting of a group of representatives of Western and Eastern staff; and a group of administrative staff. The originating *ba* is applied in this step. Thus, this *ba* is very important for a good start for different nationalities and diverse cultures of participants who first confront with each other to share feeling and mental model, and so on (see Figure: 4.3, 4.4). A facilitator runs the tasks as follows:

Agenda 1: Provide a fully furnished room with a round table and refreshments for the participants.

Agenda 2: Create relaxed atmosphere as an informal forum.

Agenda 3: Organize as a democratic meeting.

Task 2 Construct questions for data collection in terms of focused group interviews based on individualism vs. collectivism theory, research objectives and research questions.

Agenda 1: Study theory and the perform literature reviews.

Agenda 2: Study research objectives and questions, initial findings, preliminary research.

Agenda 3: Construct guideline questions as follows:

1) What kind of working culture would enable you to enjoy working here? Please explain?

2) Do you want to see the working culture that you mentioned, including the EP's development? Yes/No?

3) What are visions that are necessary for building our work culture? Why? Let's share ideas for improving/developing the EP.

4) Since our organization comprises different nationalities claiming to be diverse working cultures, how can we improve our team climate?

Task 3. Prepare samples groups as purposive samplings by designing two groups of participants; the first is a group of representative of each nationality: Western staff and Eastern staff, the other is a group of administrative staff.

Agenda 1. Select a representative of each nationality of teaching staff who has a sense of belonging to the organization, who likes to express intentions or purposes, and is an enthusiastic person who is able to work together with other staff members in a group.

Task 4: Prepare a role of facilitator, who paves the way as follows:

Agenda 1: Stimulates participants to realize the EP's problems.

Agenda 2: Encourages them to give suggestions, meanwhile makes them feel full of ideas and enthusiasm.

Agenda 3: Control time by using the guideline questions, which are mentioned as above. The questions will be asked of each participant (focus group interview).

Task 5: Obtain knowledge from the participants of each group: a group of teaching staff and a group of administrators. Then, a facilitator allows them to express

heir ideas, experiences, and knowledge as suggestions based on the root causes of problems by using questions as a guide. Meanwhile, dialoguing *ba* as a facilitated physical environment will be applied in this step, *via* face to face interaction.

Thus, knowledge capture begins with interviewing the participants of each group: teaching staff and administrative staff as follows:

Agenda 1: Introduce the objectives of the interview

Agenda 2: Interview each participant by using guideline questions, which are the constructed questions.

Agenda 3: The interviewee expresses ideas about suggestions and problems.

Therefore, the formulated solution is obtained from the suggestions based on the root causes of problems of the EP management with positive cross-cultural environment.

The study utilizes focus group interviews as a tool with the constructed guideline questions to obtain knowledge. Meanwhile, the provided full furnished physical environment as democratic atmosphere by using the applied originating *ba* and originating *ba* also support two groups of participants feel free to express their ideas, knowledge and experiences as suggestions based on the root cause problem.

In addition, the provided environment is organized a facilitator, a technician, and two non-participants observing for supporting the investigation, which lead the researcher to obtain the data (see Figure 4.3 and 4.4).

The explicit knowledge as knowledge sharing, including the two types of *ba* are KM tools and techniques, which are required in this phase.
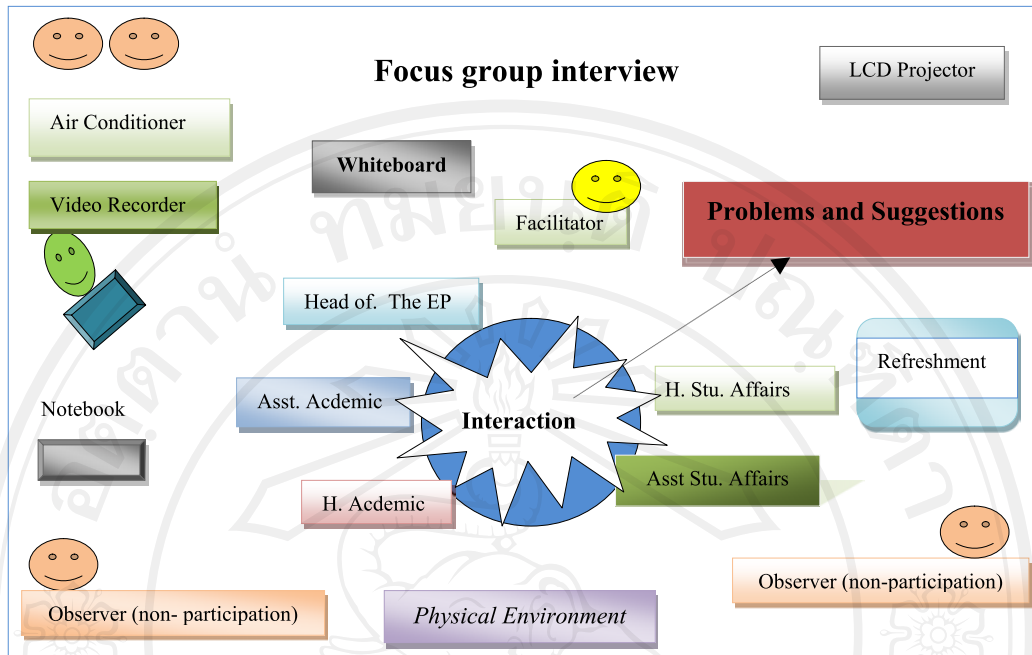
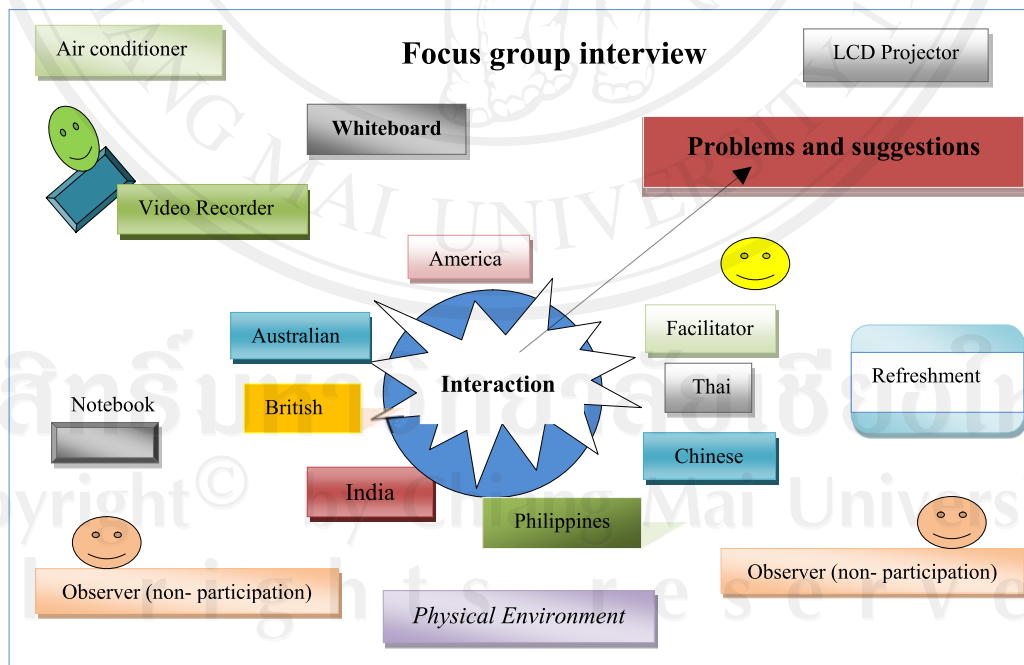**Figure 4.3**: The physical environment for interaction between administrative staff

Figure 4.4: The physical environment for interaction between Western staff and Eastern staff

4.1.2.1 Methodology

This phase was conducted from the 19th of September to the 27th of December, 2008 period. The methodology of this phase is designed as a qualitative case study of the EP at Montfort College. The study uses focus group interviews as a tool, including documentary research, intensive interviews and questionnaires, non-participation observation, and participation (Creswell, 1998). The methodology is consisted of population sampling, data collection, and data analysis, which are explained as the follows:

- **Purposive Samplings**

This study used purposive sampling because the selected participants were familiar with the EP and aware of the EP's problems. In addition, most had the courage to express their opinions. Many of them in fact complain about the EP management. However, the sampling in this study is limited because nine foreign teachers have been replaced and six members as the head of the EP rotated in the first four years. Purposive sampling is often employed as a strategy to enhance understanding of selected individuals or groups' experience(s) for developing concepts.

Therefore, participants in this study were split into two groups: one group of teaching staff and the other group of administrative staff. *The first group* consisted of a representative of each nationality: Western staff: British, American, Australian and Eastern staff: Chinese, Indian, Filipino, and Thai with 7 participants in total. In order to obtain unbiased data, this group will be facilitated by an Italian teacher, who has no concern with the EP. *The second group* is a group of administrative staff: the Head of the EP department, the Head of Academic Affairs, the Assistant Head of Academic Affairs, and two Assistant Heads of Student Affairs with 5 participants in total. This group is run by the researcher, because she has the same position as an administrator (see Figure 4.3, 4.4).

- **Data collection**

Data were collected group by group: the first group of teaching staff: Western and Eastern staff; the second is a group of administrators. The two groups are in the

same physical environment; time: allow 60 minutes per group. The theme for the focus group interview and the questions were constructed by studying individualism vs. collectivism theory; searching the concerned journals and reviewing the literature; studying diverse workforce management based on specified and identified problems (Phase 1). In addition, "wording of questions flexible, interviewer can answer questions and make clarifications; interviewer may add or delete probes to interview between subsequent subjects (Berg, 2004.)

According to triangulate data, it is gathered from each staff's opinion in same phenomenon (Denzin,& Lincohn, 2000) by using video recorder. Then, it is transcribed as word by word from the video recorder. After that, the transcription is validated by all participants before analyzing and categorizing, which is served as significant formulated problem for the upcoming analysis.

- **Data analysis**

Document analysis, content analysis and thematic extraction were used to formulate the questions. The transcript was analyzed by content analysis and the thematic extraction was used to analyze the transcripts, and to relate the data from two nonparticipating observers (Kaartinen and Kumpulainen, 2002).

The analyzed data also lead to various ideas concerning knowledge and experiences from the diverse cultural workforce. However, the content analysis, thematic extraction, and comparison analysis of participants' opinions as to the problems and suggestions were synthesized for searching the issues that identify workers from individualist countries and collectivist countries.

Therefore, this phase represents that the investigation is conducted as focus group interviews tool with the constructed questions based on the specified and identified problem; research objective and questions; and individualism vs. collectivism theory. Sample group uses purposive samplings as participants. In addition, the provided originating *ba* and dialoguing *ba* as physical environment also supports to capture ideas, experiences, and knowledge from the two groups of participants, which is mentioned as above. Then, the data collection is recorded by using video recorder. Finally, the data must be transformed to scripts for analyzing and categorizing in thematic pattern by using frequency counts and percentage.

The formulated problem phase can capture knowledge as the variety of suggestions and problems from participants, which is representative of seven-nationality of teaching staff and administrative staff. In addition, the synthesized themes and issues demonstrate the distinguished characteristic diverse cultural workforce of individualists: Western staff; collectivists: Eastern staff; and administrators (see Figure 4.5). Importantly, the most significant issue, which is the overlapped problems and suggestions between the three groups of participants are investigated for further study as *the designed solution in the next step* (see Figure 4.6).
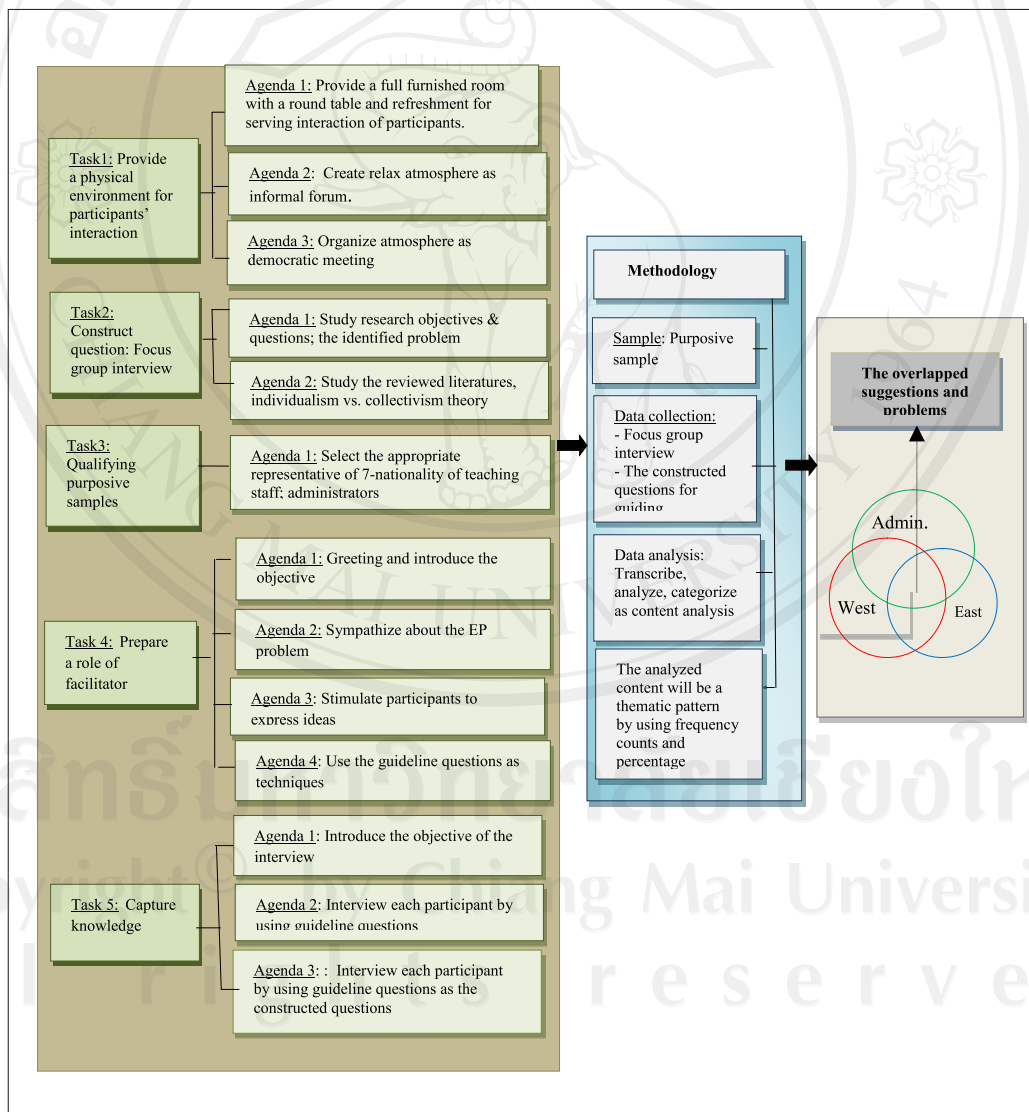
Figure 4.5: Research methodology of formulating problems and suggestions

4.1.3 Phase 3: Design solution

Designing a solution is conducted based on formulating problems and suggestions. The purpose of this phase is the exploration of knowledge: building a shared vision, which is designed as a system requirement in terms of co-creating. The system requirements are to answer research questions and may relate to the most significant findings of the problems and suggestions step.

4.1.3.1 System requirements

System requirements of this phase are the explored knowledge: co-creating, which is elicited based on the analyzed results and the research questions. Then, it is confirmed based on research questions as building a shared vision, which consists of steps in the process of building a shared vision of the EP in terms co-creating: personal vision, team-vision, and inter-team vision.

For determining the accuracy of the results: work relationship problems, the system requirements were investigated as to personal vision, team-vision, and inter-team vision as *the core disciplines, which are practice level, principle level, and essences level* (Figure 4.6).
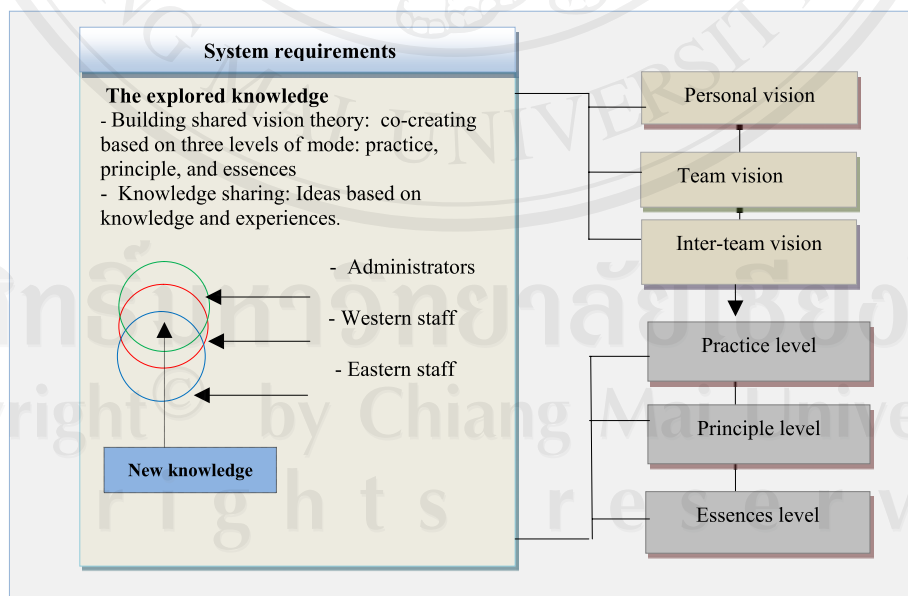
Figure 4.6: The components of system requirements

The follow is agenda of system requirements.

Agenda 1: *Staff's collaboration* is to take part for developing shared vision;

Agenda 2: *Mutual understanding* is to begin with building mutual learning and understanding in terms of shared vision with one another;

Agenda 3: *Building a shared vision* is to create shared vision based on personal vision and collective vision, which leads to organization vision. It has to clear enough to apply for individual's task;

Agenda 4: *The enabling of an organization's success* is the effort of every member of the organization making use of the EP vision to ensure its success.

Therefore, these can help the study of this phase operating step by step as shown in Figure 4.7.
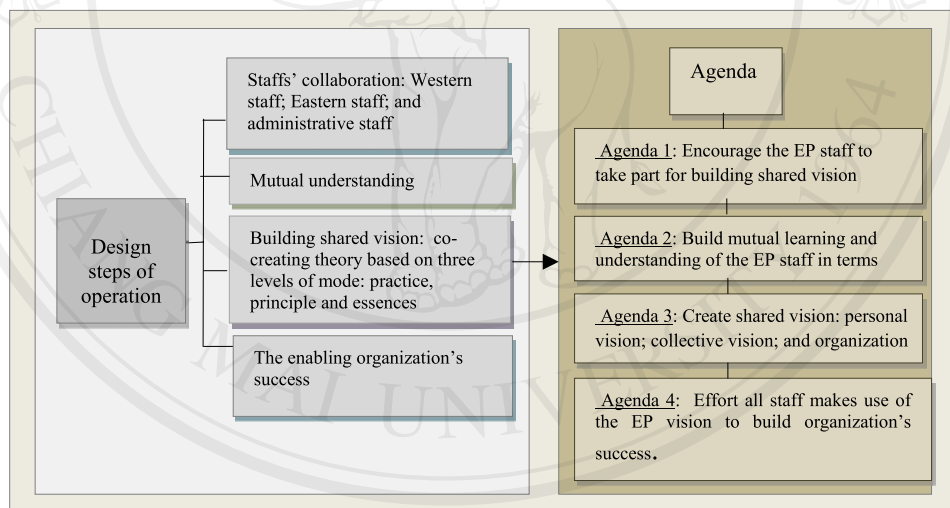
Figure 4.7: Design steps of operation

4.1.3.2 Steps of operation

Steps of operation represent the characteristics of KM. These are aimed to design the steps of the process of solution as co-creating in terms of system requirements in order to justify the purpose of a design solution phase.

According to the four main components, the strategy for building a shared vision (Senge *et al.*, 1994, p: 322-328) is comprised of five modes: telling; selling; testing; consulting; and co-creating. Each mode is used in different situations. This

study will utilize the co-creating mode for building the EP vision: "the boss and members of the organization through a collaborative process build a shared vision together". The co-creating mode starts with a personal vision, which is designed from innovation associates: *First,* articulate a personal vision; *second,* evolve from the perceived organization and realized building a shared vision; *third,* gain a mutual understanding of current realities; *fourth,* begin to take action on strategic leverage points to close the gap (Senge *et al.,* 1994).

In addition, this mode is integrated with three distinct levels: "*Practice*: what you do; *Principle*: guides ideas and insights; *Essences*: state of being of those with high levels of mastery in the discipline" (Senge, 1995, p: 373).

Therefore, co-creating is the suitable mode for designing solutions as the EP vision based on the research questions because: 1) it evokes and allows a personal response to a creative orientation; 2) it builds a culture of leadership at all levels of diverse cultures of Western and Eastern staff; 3) it mobilizes everyone; and 4) it opens multiple interdependent visions.

There are four main component steps in the process of building a shared vision: 1) the provided environment as suitable for each situation; 2) the reported formulation of problems and suggestions as the findings for all the EP's members;
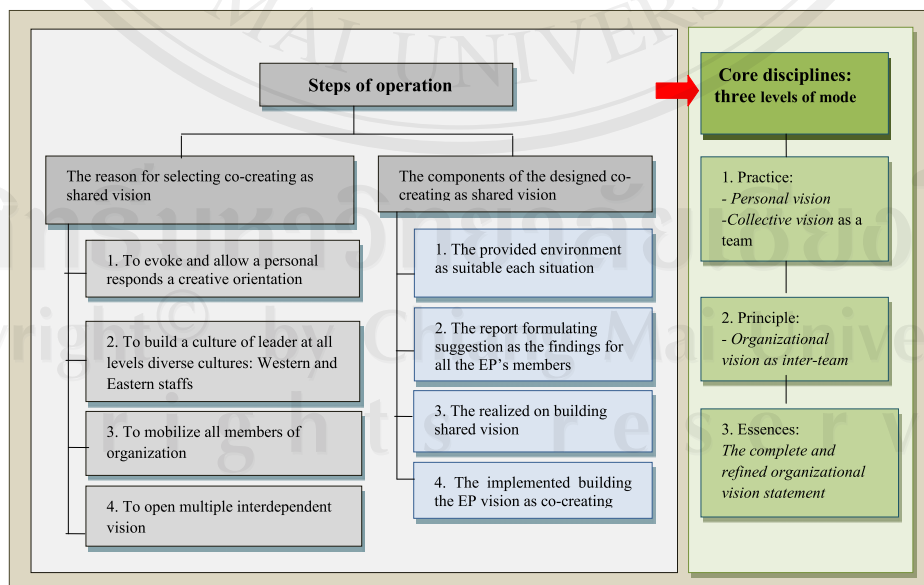
Figure 4.8: Steps of operation as co-creating: practice, principle, and essences

3) the realizations concerning building a shared vision; and 4) the implemented building of the EP vision as co-creating in terms of three levels of mode: 1) Practice; 2) Principle; and 3) Essences (see Figure 4.8).

- **Practice Level**

<u>**Step1:**</u> *Personal vision*

The practice begins with the personal visions of Western and Eastern staff as well as administrative staff. Personal visions will begin with the designed format in terms of a shared organizational vision by integrating and refining the shared vision's ideas of each group of nationalities and administrators. The steps of the methodology are as follows:

Agenda 1: Introduce the objective of building a shared vision.

Agenda 2: Articulate personal visions by stimulating the all staff to build a personal vision by sharing tacit knowledge, which is related to their sense of belonging.

Agenda 3: Hand out the form of open-ended question in terms of the EP vision to all EP staff with 26 participants for writing his personal vision.

Agenda 4: Collect questionnaires from each staff member.

Agenda 5: Classify the data about personal vision by dividing into 8 groups based on nationalities: British, American, Australian, Chinese, Indian, Filipino, and a group of administrators.

The conduction of this step shows that each staff expresses his own ideas to create personal vision to be as his picture about the EP. These visions will be run in the next step as collective vision (see Figure 4.9).

<u>**Step 2:**</u> *Team vision*

The purpose of this step is to search on collective vision by a group of each nationality. It shows that they help together to merge each personal vision with mutual understanding to be as collective vision based on their nationality.

Thus, this step has eight the EP's visions, which is merged by a group of each nationality (see Figure 4.9).

Next is to create collective vision as follows:

Agenda 1: Invite each group of seven-nationality of staff and a group of administrator as participants.

Agenda 2: Introduce the objective to created collective vision, which is based on personal vision of eight groups of staff: seven groups of Western and Eastern staff, and one group of administrators.

Agenda 3: Integrate and refine personal vision by each group of nationality as collective vision in terms of the EP vision. Thus, the practice level of this step will have eight the EP's visions, which are the integrated visions by a group of each nationality of Western and Eastern staff, and a group of administrators.

Therefore, the created personal vision can be obtained by the expressed ideas of all EP staff based on their perceptions of the EP. In addition, they take part as a group to integrate and refine personal visions to become a team vision. These eight groups of team visions are presented as the EP's picture in the future of each group nationality in terms of the perspective of the EP based on personal vision (see Figure 4.9).
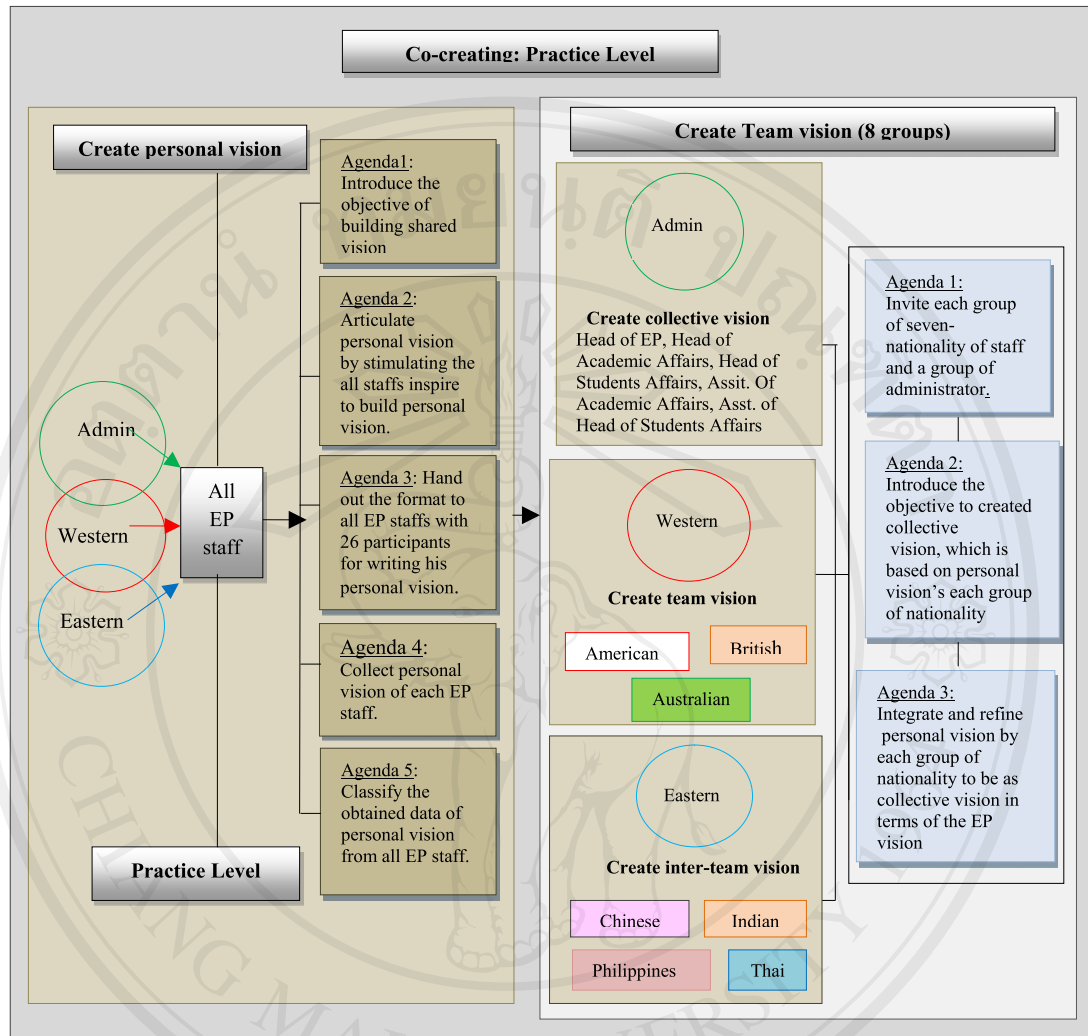
- **Principle Level**

The purpose of the principle level is to gain ideas and insights to create an organizational vision (Inter-team vision). The focus here is on the eight team vision statements. It is created by representatives of each staff group, including the Head of the EP and Head of Academic affairs. The investigation emphasized the combination of explicit knowledge among representatives of these three groups of the EP staff. The study was comprised of two tasks as follows:

Task1: To extract explicit knowledge in terms of the eight EP vision statements: a collective vision will be shared among seven representative nationalities of Western and Eastern staff and two representative administrators.

Task 2: To discuss together for integrating and refining the eight visions t to be one vision as a completed organizational vision.

Figure 4.9: The created personal vision and team vision in terms of practice level

The following agendas show how to implement the level of principle.

Agenda 1: Invite a representative of seven-nationality of EP staff and administrator to present the EP vision based on his own nationality.

Agenda 2: Introduce the objective of building the completed of EP vision.

Agenda 3: Integrate each nationality's vision and administrators' vision, which are eight EP visions to be merged as one vision.

Agenda 4:   Refine the integrated vision as a completed organizational vision.

In short, the principle level exhibits the refined EP vision in terms of co-creating theory (see Figure 4.10).

Co-creating: Principle Level: Inter-team vision

The created organizational vision as inter-group

Head of EP

Head of Acade. Aff.

Admin

Australian

Western

Eastern

Philippines

British

Indian

American

Thai

Chinese

A representative each group of seven-nationality of Western staff; Eastern staff; and Administrative staff

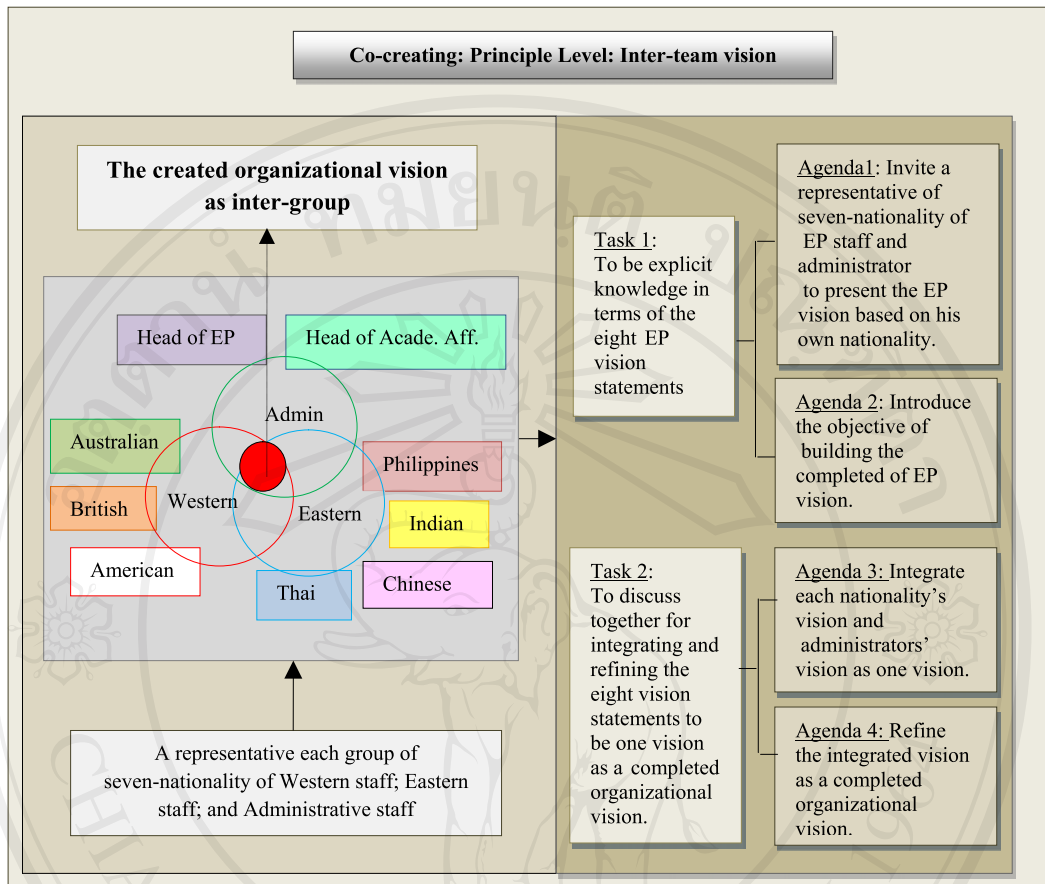Task 1: To be explicit knowledge in terms of the eight EP vision statements

Agenda1: Invite a representative of seven-nationality of EP staff and administrator to present the EP vision based on his own nationality.

Agenda 2: Introduce the objective of building the completed of EP vision.

Task 2: To discuss together for integrating and refining the eight vision statements to be one vision as a completed organizational vision.

Agenda 3: Integrate each nationality's vision and administrators' vision as one vision.

Agenda 4: Refine the integrated vision as a completed organizational vision.

Figure 4.10: The created organizational vision as the principle level

- **Essences**

Essences level is a state of being of those with high levels of mastery in the discipline in terms of individuals; a group/team; and inter-group/inter-team. It shows that the EP vision is built by the collaborating EP staff, who have a variety of knowledge and experience as a culturally diverse workforce based on different nationalities and backgrounds.

The researcher can obtain the EP vision at the essences level, which consists of two key issues: partnership and commonality of purpose. This step is conducted according to the created conceptual design, which presents in verifying the solution: phase 4 (see Figure 4.11).
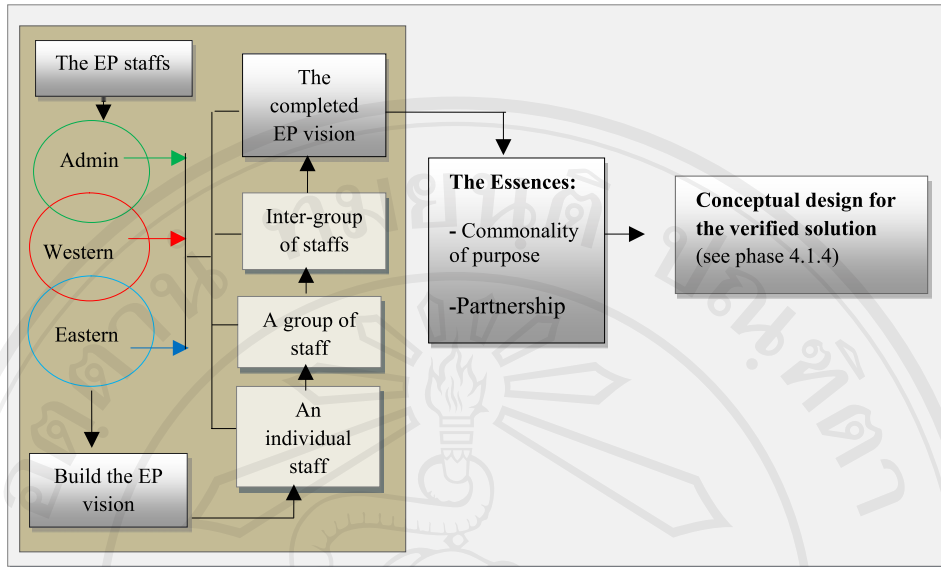
Figure 4.11: The investigated organizational vision as the essences level

The steps of operation addresses the integrated new skills and capabilities of the diverse cultural nationalities of the staff's visions in order to build the EP vision for achieving the organization's vision. The designed steps of operation encourage all the EP staff to shares ideas, experiences and knowledge as follows:

The refined EP vision starts with individual personal visions, then a team vision, and finally building up from an inter-team to an organizational vision. The achievement of the EP will be evolved by the collaboration of individual staff of the EP, which is a system requirement based on the steps of the process.

To enable an organization's success, all staff should realize the organizational vision by applying it to their job duties. Then, all staff can operate together as a team, building up to inter-team, and to the organization as a whole. This shows how the collaboration of all staff can develop the organizational vision, which is the most important part of the essences level (see Figure 4.11 and 4.14 verifying the solution).

4.1.3.3 Methodology

According to design solution phase, this phase is related to functional specification and design specification, which is comprised of three components as the core disciplines: 1) Practice level; 2) Principle level; 3) Essences level. The

methodology of this phase is conducted via two core disciplines as 1) practice level and 2) principle level (Figure 4.12). The essences level is conducted in verifying the solution (phase 4).

The following is the methodology of the practice level and principle level: population/sampling; data collection; and data analysis.

- **Population/Sampling**

This phase utilizes both population and purposive sampling for collecting data, which are selected as the appropriate level of the core disciplines.

1) Practice level:

Step1: *Create personal vision* as an individual vision. This step is used all EP staff as the sampled population, because the *design solution phase* is based on co-creating theory for solving problem. Co-creating starts with a personal vision created by all EP staff.

Step 2: *Create collective vision* as a team. This step is performed by a group of each nationality of Western staff: British, American, and Australian; Eastern staff: Chinese, Indian, Filipino, and Thai; a group administrative staff. The study is comprised of 8 groups with 26 participants in total.

2) Principle level:

The principle level involves *created organizational vision*. This step uses purposive sampling of the participants. The purposive samples are groups of participants as in the formulating suggestion phase, which were selected from representatives each group nationality of EP staff. Importantly, data collection can elicit the eight participants' ideas, knowledge and experience in terms of the EP's situation as accurate data at a very detailed level.

- **Data collection**

To obtain the data, the researcher plans to divide the analysis into 2 steps based on personal vision, collective vision; and organizational vision as follows:

1) Practice level (see Figure 4.12 and 4.13)

Step 1: *Personal vision.* As co-creating theory starts with personal visions, data collection uses all EP staff as the population with 26 participants in total. The researcher also constructs the questions based on the research question. The interview question is in the form of an open-ended questionnaire.
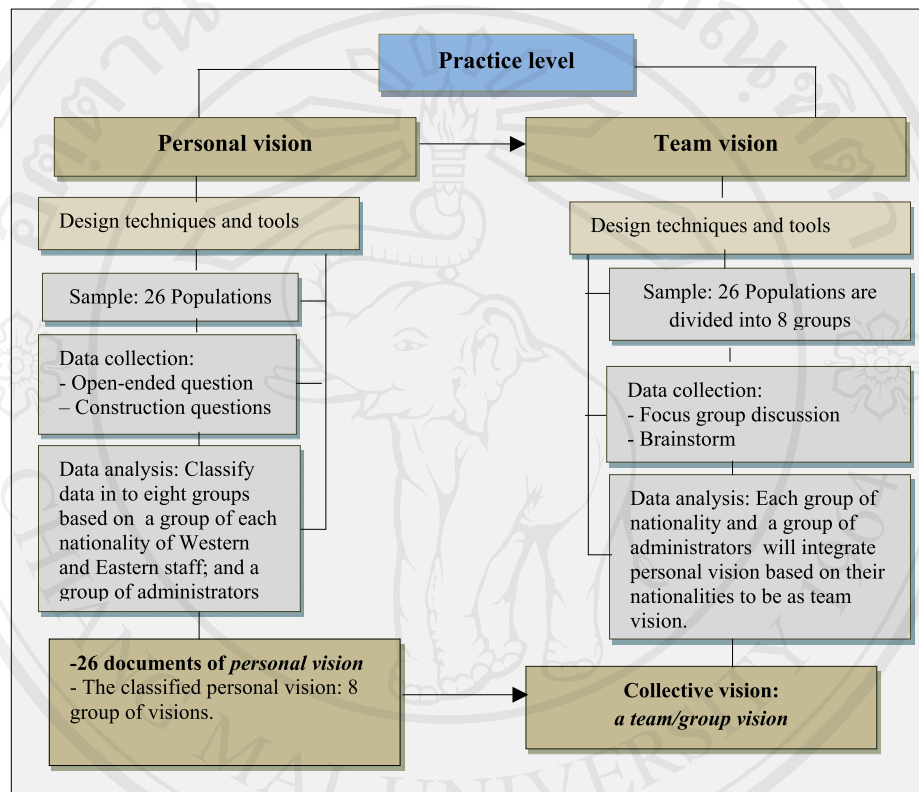
Figure 4.12: Methodology of practice level in terms of system requirements

- **Data collection**

    To obtain the data, the researcher plans to divide the analysis into 2 steps based on personal vision, collective vision; and organizational vision as follows:

2) Practice level (see Figure 4.12 and 4.13)

Step 1: *Personal vision.* As co-creating theory starts with personal visions, data collection uses all EP staff as the population with 26 participants in total. The researcher also constructs the questions based on the research question. The interview question is in the form of an open-ended questionnaire.

Twenty-six documents containing personal visions were classified into eight groups based on staffs nationality: Western staff: British, American, and Australian; Eastern staff: Chinese, Indian, Filipino, and Thai; the latter is a group of administrators. These eight documents were studied in the next step as to finding a team vision.

A form of writing personal vision

Question: *"As your organization is comprised of different nationalities and diverse cultures of staffs, who seem obscure the EP's direction and goals because of the EP vision is based on Regular Program (RG). If the EP is independent, what would like to see the EP as the picture in the future?*

....
....
....
....

Written by ……………………….(Nationality)

Step 2: *Team vision.* The data were used in a focus group discussion, which comprised eight groups: British, American, and Australian; Chinese, Indian, Filipino, and Thai; and a group of administrators with 26 participants in total as the population (see Figure 4.12*).* The classified data from step 1: personal vision were integrated and created as collective visions by eight groups of participants.

3) Principle Level

The data will be collected by using focus group discussion, with 9 participants as a purposive sample (the same samples as in the formulating suggestions phase). The data collected in this level were the eight collective visions (from step 2: practice level) for integrating to build organizational vision. Thus, the study of this level will obtain organizational vision.

- **Data analysis**

This phase will focus on creating personal visions as individuals; collective vision as a group or team; and organizational vision as inter-group/inter-team. The data analysis will be performed by the EP staff as participants as follows:

1) **Practice level**

Step 1: Each personal vision is classified into one of eight groups by the researcher

Step 2: The classified visions are integrated and created as a collective vision by 8 groups of participants as mentioned above.

Thus, the methodology of the phase is focused on building personal visions, collectivism: team vision; and organizational vision: inter-team. The three visions are investigated based on the core disciplines as 1) practice level; 2) principle level and 3) essences level. This phase is conducted as two core disciplines: practice level and principle level (see Figure 4.12 and 4.13).
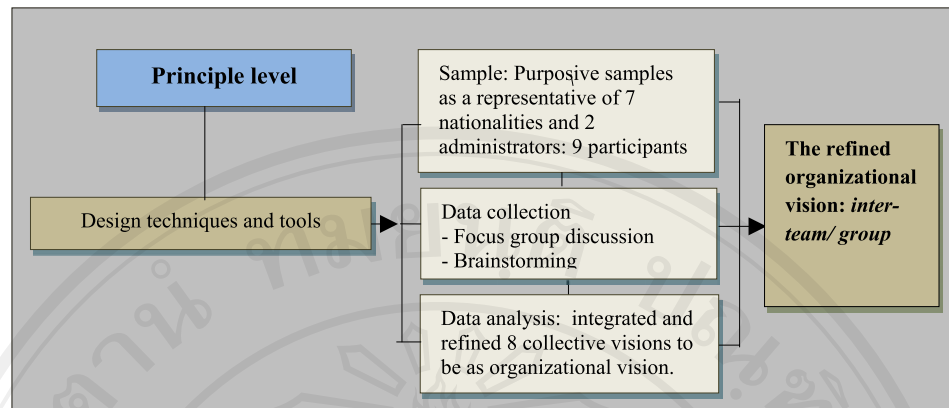
2) Principle level

Data analysis of this level is run two steps:

Step 1: The eight collective visions are integrated and created to be as organizational vision by 9 participants: a representative of 7 nationalities of Western and Eastern staff; and 2 participants of a group of administrators.

Step 2: It is refined again to be as the organizational vision statement.

Thus, the methodology of the phase is focused on building personal vision, collectivism: team vision; and organizational vision: inter-team. The three visions are investigated base on the core disciplines as 1) practice level; 2) principle level and 3) essences level. This phase is conducted as two core disciplines: practice level and principle level (see Figure 4.12 and 4.13).

Figure 4.13: Research methodology of design a solution phase: principle level

The methodology *of the essences level* is conducted in Phase 4: verifying the solution.

4.1.4 Phase 4: Verifying the solution

The purpose of verifying the solution is to validate the refined EP vision in terms of practice level and principle level to be as essences level based on the ideas of all EP staff: Western staff; Eastern staff; and administrative staff. The validated solution is addressed using the conceptual design: CommonKADS methodology: OM-1, OM-5, and OTAM-1 worksheets, which are related to system requirements. The steps of the process of verifying the solution depend on what the concepts are intended to achieve from the conceptual design. During the steps of the process of conceptual design, the finished design is mirrored in whole, for operation feasibility and reality of the EP vision.

In this phase the researcher divides the test into three steps by using open-ended questions, because open-ended questions can also yield useful information, especially when researchers need to explore complex issues that do not have a finite set of responses (Creswell, 1998).

4.1.4.1 Conceptual design

Conceptual design of this phase is focused on applied knowledge engineering, using the CommonKADS methodology: OM-1, OM-5, and OTAM-1 worksheets

(Schreiber *et al*., 1999). The reason for using CommonKADS is to provide information based on the EP vision. In addition, it can offer tools to cater to this need. These tools for organization and task analysis achieve several important goals, and are used for making decisions concerning organizational context, problems, and solutions.

The following are the components of the conceptual design of this study (see Figure 4.14).

- **Organizational Model-1: OM-1 worksheet**

Conceptual design based on OM-1 worksheet is list possible solutions for the perceived problems and opportunities. The purpose of the used OM-1 is to investigate shared vision process of the EP in terms of practice level: personal vision and team vision based on the EP context, so as to put the listed opportunities and problems into proper perspective, which is vision of the EP.

- **Organizational Model-5: OM-5 worksheet**

The purpose of the OM-5 worksheet is to carry out a feasibility study, focusing on business, technique, and project. It is important to have a consensus between the knowledge engineer, managers/administrators, and experts. The worksheet OM-5 includes the main proposed conclusions and decisions (Schreiber *et.al*.,1999) as the following:

- **Business Feasibility:** Problem and opportunity in business view

- **Technical Feasibility** Problem and opportunity in technical view

- **Project Feasibility:** Problem and opportunity in project view

- **Organizational Task, Action and Model-1: OTAM-1**

The purpose of the OTAM-1 is to carry out an impact and improvements study for the selected target solution. The worksheet focuses on the impact on the organization: how changes excessively affect current jobs; job duties and staff: if changes excessively affect staff's current jobs; improvements and suggestions.

- **Impact in organization:** structure, business process, staff, budget, knowledge and information technology, culture and power.

- **Task and staff-specific impact:** change in task process, task condition, task quality, task competence, staffing, position and responsibilities of staff, knowledge and competence, and communication.

- **Proposed Actions:** develop knowledge management approaches to facilitate knowledge sharing in terms of cross-site teams.

- **Improvement and suggestion:** capability in change management, support in task, knowledge and information technology, capability in developing task in the future, budget reduction, time reduction, more benefit, opportunity to change administrators' minds.

This phase is designed in three steps:

4.1.4.1.1 The first step: **OM-1**

Test1: The purpose of the first step is to test the refined statement of the EP vision: inter-team vision, which is validated by all the staff. To confirm the completed EP vision's statement, the researcher uses the OM-1 worksheet, which is for identifying knowledge-oriented problems and opportunities in the organization (Schreiber *et al.,* 1999): (see also Figure 4.14).
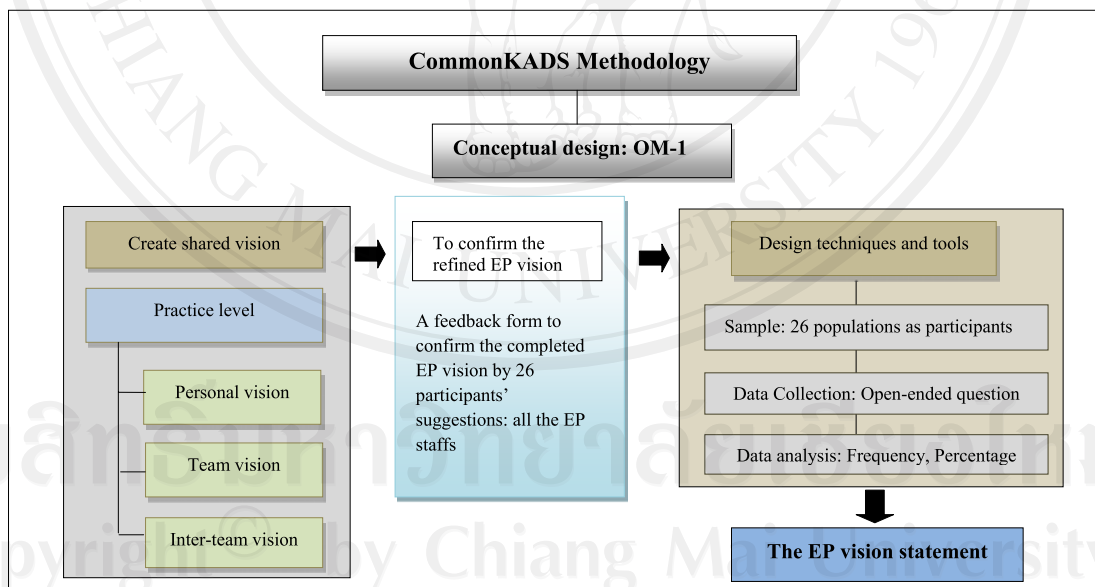
Figure 4.14: Conceptual design in terms of OM-1: problem and opportunity

Data collection uses open-ended questions with "agree" or "disagree" and gives suggestions on the feedback form. Then, the collected data are analyzed by using frequencies and percentages as statistics.

The following presents the conducted **OM-1** as individual agendas.

Agenda 1: The refined vision statement is returned to all the EP staff to be re-examined by checking a feedback form as agree or disagree with the completed EP vision, and to make some suggestions.

Agenda 2: Make appointments for collecting the data.

Agenda 3: The rechecked data from all EP staff in terms of the EP vision's statements are collected and analyzed using frequencies and percentages.

The following is the feedback form used to confirm the completed EP vision by 26 participants' respondents: all the EP staff.

The feedback form about the

Direction: According to the personal vision of the EP staff, this is the common vision statement of the EP, which is refined and integrated by brainstorming of mutual agreement based on the proposed vision of the representatives of seven-nationality of teaching staff and administrators. Please, read the common vision statement of the EP carefully as follows and put ✓ in the agreement column OR put ✓ in the disagreement column and give some suggestions as you think it should be.

The common shared vision of the English Program
……………………………………………………………………
…………………………………………………………………….
…………………………………………………………………..

The feedback form for the EP's members to review: agree or disagree with the completed EP vision.

Agree	Disagree	Suggestions

Written by   …………………………………..(Nationality)


In order to verify the EP vision based on *Test1*: OM-1, all EP staff is asked to check the feedback on the refined EP vision and whether they agree or disagree with the refined EP vision.

Thus, all EP staff will give suggestions in the feedback form as above. However, the results from this step is investigated more in-depth level in term of operation feasibility (OM-5 worksheet) in the second step.

4.1.4.1.2 The second step: OM-5

Test 2: The purpose of this step is to test the topic and theme of the completed EP vision statement by using CommonKADS methodology in terms of worksheet OM-5. The data are analyzed by using the mode as a statistic to examine the feasibility of the EP statement vision. However, the approaches: open-end interview questions and focus groups will serve a different purpose and have different preparation and instrumentation requirements (Denzin & Lincoln, 2000) see Figure 4.15.
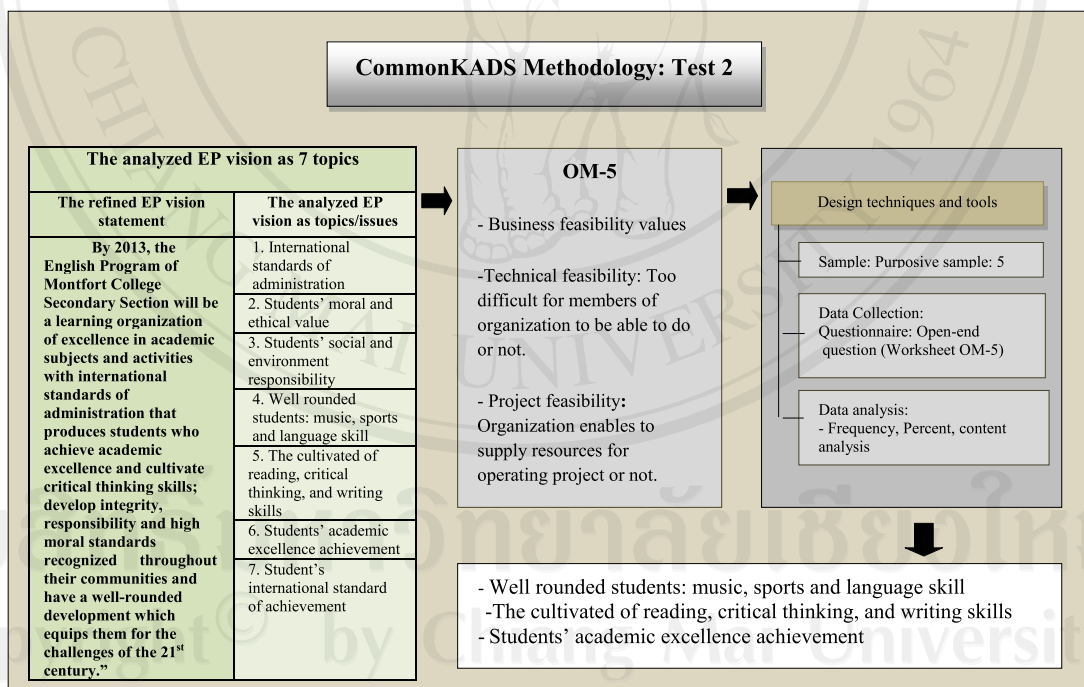
Figure 4.15: Conceptual design in terms of OM-5: Business feasibility, Technical feasibility, Project feasibility

The purpose of this step is to confirm the results of *Test 1* searching for the definitive vision. Test 2 is validated by using the OM-5 worksheet: business

feasibility, technical feasibility, and project feasibility. This step addresses the verified EP vision's the key issues based on the refined vision statement. It presents the confirmed solution to become the completed organizational vision, which is tested for feasibility and reality of management as follows:

Task 1: The researcher analyzes the completed vision statement based on Test 1 in the form of key concept issues as topics or phrases.

Task 2: The researcher applies CommonKADS by using the templates of OM-5 to test each topic as shown in Tables 3.4 – 3.6.

Task 3: The researcher obtains knowledge by using the worksheet of OM-5 as open-ended questionnaires from five administrators. Data collection will be from 1) Head of Academic Affairs department, 2) Head of the EP department, 3) Head of students Affairs department, 4) Assistant Head of Academic Affairs department, and 5) Assistant Head of Students Affairs department.. The interviews are organized as follows:

Agenda 1: Introduce the objective of the interview

Agenda 2: Explain to the administrators the purpose of worksheet of OM-5.

Agenda 3: The administrators express their ideas, knowledge, and experience by doing the as shown in Figure 4.16, Tables 3.6-3.8.

Thus, this step is based on conceptual design and is able to obtain the EP vision as inter-team vision in terms of the principle level. In addition, the tested inter-team vision as the principle level is based on administrators' opinions and presents the EP vision as commitment, advantage compliance and hologram, which is the core discipline (Senge, 1990).

4.1.4.1.3 The third step: **OTAM-1**

Test 3: The purpose of this step is to test the topic and theme of the completed EP vision statement by using CommonKADS methodology in terms of worksheet OTAM-1. The data are analyzed by using the mode as a statistic and using the data to identify the impact on the organization based on the findings from the OM-5 worksheet in terms of the EP statement vision. However, the approaches: open-end interview questions and focus group will be used for a different purpose and thus have

different preparation and instrumentation requirements (Denzin and Lincoln, 2000 (Figure 4.16).

This step focuses on the verified EP vision statement as to 7 topics by using OTAM-1 based on conceptual design: CommonKADS methodology. It presents the completed EP vision at the essences level. The utilized worksheet of OTAM-1 is based on administrators' opinions concerning each topic for investigation: 1) Impact on organization: changes excessively affect on current jobs or not, and can it be managed or not; 2) Impact on job duties and staff: changes excessively affect on staff's current jobs or not, and can it be managed or not.; and 3) Improvement and suggestions: it should be operated according to the vision or not (Schreiber *et.al.,* 1999). The experiment is run as task 1 to task 3 as follows:
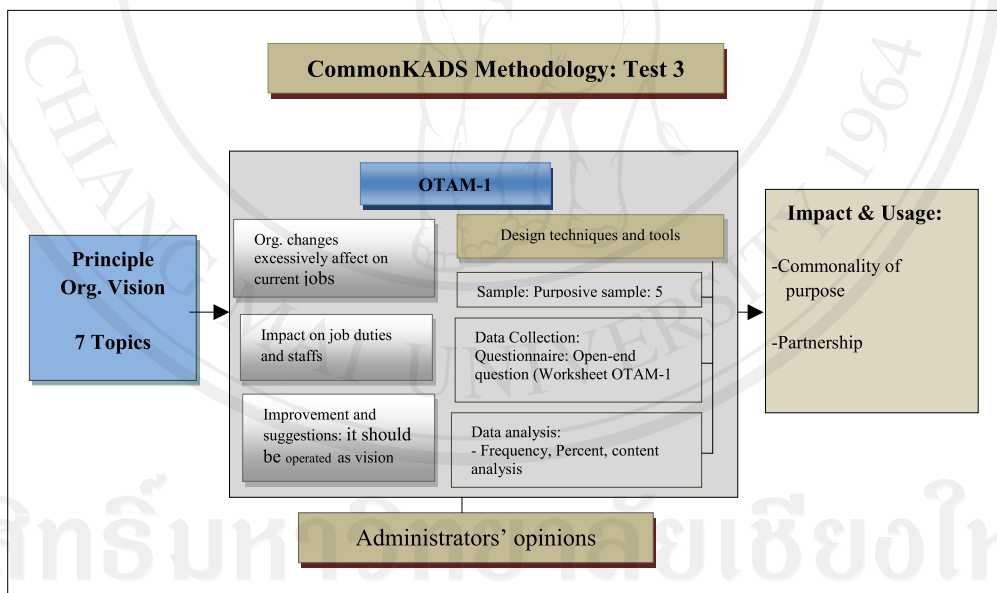
Figure 4.16: Conceptual design in terms of OTAM-1worksheet

Task 1: The researcher analyzes the completed vision statement based on Test 2 as 7 topics comprising key concept issues.

Task 2: The researcher applies CommonKADS by using the OTAM-1 worksheet to test each topic as shown in Tables 3.7 – 3.9.

Task 3: The researcher obtains knowledge by using the worksheet of OTAM-1 (see Table 3.9-3.11) as an open-ended questionnaire from five administrators. Data will be collected from 1) Head of Academic Affairs department, 2) Head of the EP department, 3) Head of students Affairs department, 4) Assistant Head of Academic Affairs department, and 5) Assistant Head of Students Affairs department.

Agenda 1: Introduce the objective of the interview

Agenda 2: Explain to the administrators about the worksheet OTAM-1.

Agenda 3: The administrators express their ideas, knowledge, and experience by doing the checklist as shown in Figure 4.16 and Tables 3.9-3.11.

Thus, the experiment of this step is based on the conceptual design to obtain the completed EP vision in terms of essences level. In addition, the shared vision process of test 3 as essences level is based on administrators' opinions demonstrating the EP vision as a commonality of purpose and partnership, which is the core discipline (Senge, 1990).

In short, the refined vision is based on design the solution and is tested via three tasks, which concern verifying data from worksheet OM-1, OM-5 and worksheet OTAM-1. *Task 1*: use the OM-1 worksheet to confirm the refined EP vision's statement based on personal vision, team vision, and inter-team vision, which is validated by all the staff to recheck as a feedback form (agree and disagree). In addition, *task2:* OM-5 is used to validate the EP vision based on task1, which is analysis of the statement in regard to seven topics. Importantly, *task 3* is conducted in order to obtain the completed EP vision as essences level: commonality of purpose or partnerships, using the OTAM-1 worksheet (see Figure 4.17).
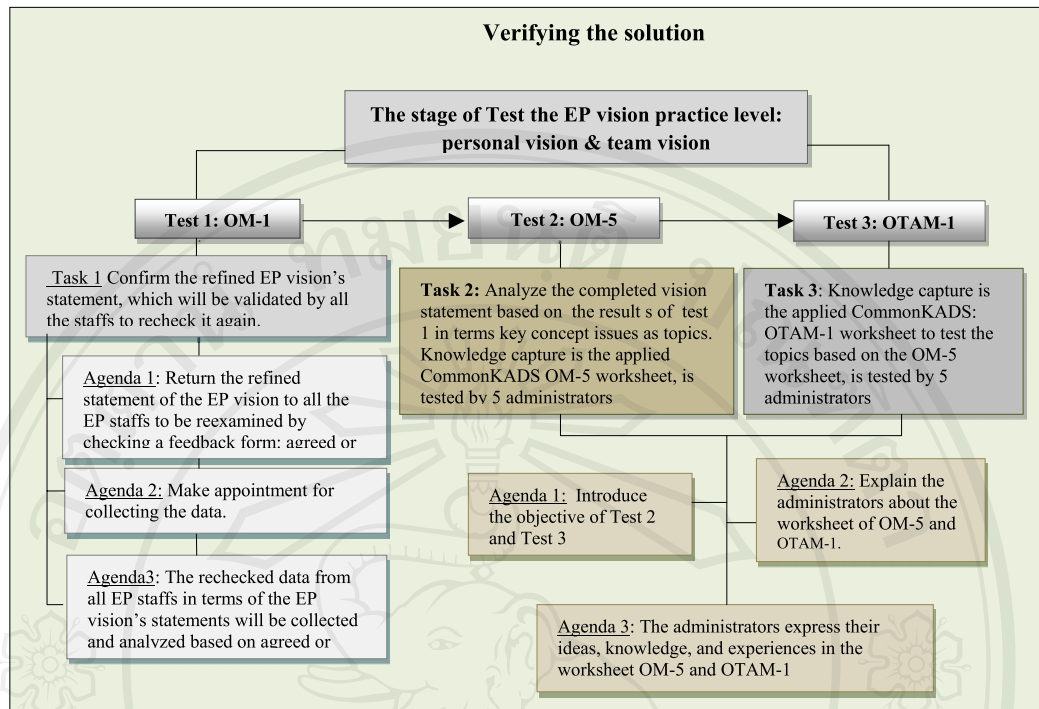
Figure 4.17: The overview of conceptual design: OM-1, OM-5, and OTAM-1

Conclusion:

This case study was conducted according to a design concept methodology, which was based on case study theory (Creswell, 1998). The concept was derived as a set of paradigms, procedures, frameworks, and KM tools and techniques, which provided and simplified the process of system requirements and conceptual design. To obtain a conceptual design of methodology based on systems requirements more declarative, reliable, and valid, the study was divided into four phases.

Phase1: *Confirming cross-cultural communication problem*s was investigated for specifying and identifying problems as the root causes of problems considered in this case study. The literature review in terms of diverse workforce management provided a focal direction. Findings were specified and identified problems were based on cross-cultural communication.

Phase 2: *Formulating problems and suggestions* was clear, concise, completed and agreeable to analysis, and turns out to very complex tasks, which were the expressed ideas of problems and suggestions among individualist and collectivist staffs; and administrative staff based on the specified and identified problem. The theories of this phase for supporting the formulation are individualism vs. collectivism (Hofstede 2001) and type of *ba*; originating *ba* and dialoguing *ba* as physical environment (Nonaka *et al.,* 2000). The findings of this phase were the overlapped ideas of problems and suggestions from representative of teaching staff; and administrators.

Phase 3*: Design a solution as co-creating based on building shared vision* created a coherent strategy as collaboration. The designed method of this phase for supporting the solution was building a shared vision: co-creating (Senge *et al.*, 2004) by starting with a personal vision from all the EP staff, team vision by using brainstorming of each group nationality of teaching staff and a group administrative staff, and inter-team: a representative of each nationality of teaching staff: Western and Eastern staff; and administrative staff refined the EP vision statement.

Thus, this phase was able to obtain the refined EP vision, which was labeled the inter-group vision.

Phase 4: *Verifying the solution*: was to analyze the EP vision statement in the form of issues/topics. Then, each topic based on the organization vision statement was validated as to the requirements in terms of principles and essences, which are the core levels of disciplines (Senge, 1990).

In short, the proposed methodology of applied CommonKADS knowledge engineering using OM-1, OM-5 and OTAM-1 worksheets, helped the researcher to design the system to obtain knowledge from the experts, five administrators of the EP at Montfort College, Secondary section. Importantly, CommonKADS methodology is a strong method for analyzing an organization's vision statement.

Thus, the EP can gain new knowledge as the completed essences vision statement is based on knowledge management.