

## CHAPTER 2

### Literature Review

In this study, the researcher had studied the concepts, theories, and relevant documents in order to obtain data regarding the development of career education model for highland and remote areas, which is presented as follows.

1. The concepts and principles related to career education for highland and remote areas.
2. The conditions, problems, and methods of career education for highland and remote area schools:
  - 2.1 Potential of community and school context
  - 2.2 Participation and synergizing of educational development
  - 2.3 Management of resources and learning resources
  - 2.4 School curriculum development
  - 2.5 Learning management
  - 2.6 Supervision, tracking, and assistance
3. Concept and theories relating to the model and its development:
  - 3.1 Meaning of the model
  - 3.2 Elements and qualifications of a good model
  - 3.3 Development and monitoring of the model
  - 3.4 Lesson learned visualizing after model employment
4. Development of career education model
5. Concepts and theories relating to mixed methods research
  - 5.1 General information about mixed methods research
  - 5.2 Mixed methods research design
  - 5.3 Mixed methods research patterns

## **2.1 The concepts and the principles of career education for highland and remote area schools**

It is said that education is significant for the development of a country because it is a process to lead people to better social lives. Also, education is a process of bringing up people to have a good behavior to be able to work with other people appropriately (Patchaya Waysarat, 2011, p.3). According to John Dewey (1944, p. 70), the educational philosopher of Progressivism, “education is growth.” This growth means the growth of human life.

In addition, in Buddhism, Phra Bhramagunabhorn Prayudh Payutto (also P.A. Payutto) (2008) has said this in the same way, but he emphasized the aim of sustainable education. He said, “To develop a human to be a perfect being is the real meaning of education, which means to be developed in order to deeply understand nature following the relationship of all causes and effects. When a person is developed to be a cause of all performance, this person should then be employed to act as a centerpiece in the sustainable development system.”

This changing world of society, economy, politics, and technology is accelerating, widespread, and more excessive than in former times. This means that the growth of knowledge and necessary information are producing quickly and continuously; moreover, the social conditions have become bigger with different traditions and cultures with various jobs.

Therefore, the content of education that needs to be provided is miscellaneous, and the point of education needs to cover various ways of life, behaviors, ways of making relationships with others, and the possibilities of society from the past and the present on to the future regarding knowledge, understanding, and carrying on professional techniques (Patchaya Waysarat, 2002, p.4). Thus, schools need to adjust their direction to produce learners responding to the needs of society by integrating the potential of their locality with learning activities, creating and connecting to school networks, and sharing and making relationships to interested persons in order to have a chance at reinforcing and changing to sustainable learning development (UNESCO, 2006).

In Thailand, the importance of sustainable education development is specified in the 1999 National Education Act and the 2002 Amendment (second edition) of The National Education Plan, and it said that education management has to be provided for improving

Thai people to be perfect in physical health, mind, intelligence, knowledge, virtue, morality, and in the culture of living, including happily being with other people. To give priority to career education in education management prepares youth to know their aptitudes and potential so that they can foresee the image of their future jobs. Learners will have been continuously provided from kindergarten to university by adjusting teaching and learning for students to have more experience doing various jobs and practicing necessary skills by having good qualifications for jobs that agree with their aptitudes, their interests, and their potential. Also, a school should have curriculum administration in order to prepare the students' knowledge, skills, and characters, which is consistent with matters of further study and future careers for student to enhance both local and national strength (Office of the Basic Education Commission of Thailand, 2010).

Amaret Silaon (2009 References Office of the Basic Education Commission of Thailand, 2011, p.2), Sumon Amornwiwat (2012), and Prawet Wasi (2012) stated that studying in the academic stream is important while career education is more important. In the past, education, especially the vocational stream, created people who cannot do anything. It can be stated that the vocational stream education is separated from the students' lives, so children do not know what they are expert in and what they should study afterwards. Therefore, most students study what they are skilled in. Thus, the improved method is to separate children in what they are skilled and to help them understand themselves which stream they would like to study further between the academic or vocational stream, and this to enhance students in choosing what they are skilled at and how they can exactly understand that.

Previously, Sawat Udompoach (2000), studying the information related to the vocational education system and training in Canada, recommended that Thailand should adopt the notion of Career Education and apply this to the basic education level from kindergarten to high school since it can upgrade career education to respond to the national economic and social plan and be consistent with the Office of the Basic Education Commission (2011, p.3), which indicates the students' characteristics deriving from basic education to careers in respect of enhancing students' honesty, diligence, patience, self-sufficiency, responsibility, and sacrifice. These students' characteristics are vital for trustworthy workers. The students understand the popularity of their vocations and choose careers which are agreeable to the needs of the community, society, and the future world,

including their interests and aptitudes. Also, students can have opportunities to be trained and receive some payment, and these make students realize how to spend money economically and how to be a wise consumer. More importantly, the philosophy of sufficiency economy is brought into their happy lives with honor and dignity. It can be said that all these aspects are agreeable to the concept of sustainable education.

According to the principles mentioned above, there is a clear goal of the educational method aimed to support people in an area to have their own jobs. In each area, curriculum regarding various vocations needs to be improved depending on the difference of context in each area and learners' interests. It is believed that if learners are well-prepared and realize the value and the importance of working, they will also discover their abilities and realize their affections, interests, proficiencies, and potential of their future careers. Also, learners can learn to reach the career goal. Hence, this is a meaningful learning method and can ensure learning achievement and their working life. This understanding and envisioning becomes the principles of the career education and is agreeable with the sustainable education principle.

Particularly, education for learners in highland and remote areas, in which hill tribes have different beliefs and culture than ethnic groups living in the plains, foothills, or valleys, have difficulties of communication needs different from common systems. As a result, flexibility of the area conditions and context should be varied in order that children in those areas can have the opportunity to educate and improve their life quality following the purpose of the National Education Act (Office of the Basic Education Commission of Thailand, 2012, p.7).

Therefore, the government is in charge of providing the education in all area in order to be the balance and sustainable improvement which is considered to the area condition appropriately. Office of H.R.H. Princess Maha Chakri Sirindhorn's Projects (2012, p.1-2) (Office of the Basic Education Commission of Thailand, 2010). The Ministry of Education (2010, p.5) proposed the principle of career education and the principles of the developmental operations for children in wilderness areas, and these could be concluded as follows:

1 . Use schools as a developmental base because schools are the place for children in each community. It is easy to approach all children and to organize them. Schools cannot be the only source of knowledge with the teachers who are at the center of

teaching and improving students' knowledge and skills, but a learning resource for all people in that community.

2 . Adhere to self-sufficiency as the principle of learning about career experience, which aims to provide knowledge, skills, and attitudes with desired characteristics and to find a way for students' future careers. Children and youth should be encouraged to practice by themselves through learning and practicing in 4 aspects: moral education, mechanical properties, and physical education. The students can apply these four skills to their lives and eventually improve themselves.

3 . Employ community participation by inviting people in the community to join all school activities in order to learn through practice, knowledge, and technology together, and they, then, can develop their community. This is to say it is the way to strengthen their community and be a self-reliant one. This enhances the quality of community regarding sustainable development. To support the community in participation in education is to support education in which a school cooperates with its community to specify the aims of education management. To respond to community needs, design and complete the action plan while utilizing learning resources from all parts of the community. Schools for community learning support can reflect on the characteristics of community lives for students' roles while it is also the learning resource of community (Charach Jantarasombat, 2010, p.179).

According to the concepts mentioned, schools have to study the community context to know what the environment and the natural resources are, what the group the population is, what the ethnic groups are, what their beliefs, culture and traditions are like, and what wisdom, innovative solutions, and jobs there are, etc. Those educational contexts can help us analyze the strengths and weaknesses of the community, including specifying a further direction of the school. The schools have to design the curriculum and learning activities, and the teachers can create their own curriculum for their students themselves. The administrators also need to plan school activities to urge the community and society to participate in education management.

4 . To use the potential of areas and resources most economically and effectively, the procedure of development needs support in many parts of deficient communities; for example, technology, knowledge, materials, equipment, and budget in some parts of projects. According to those elements, the personnel from both the

government sector and private sector need to cooperate effectively and not repeat actions. Since the policies and strategies in 2012, the Ministry of Education has emphasized that the schools need to consider the potential of areas regarding the school budget, what characteristics affect the quality of production, making differences, and bringing competition at the local, national, and global levels.

The potential of the country can be comprised of five aspects of budget: 1) resources, such as minerals, wood, biodiversity, or resources that can be developed 2) climate, such as weather and atmosphere that influence agricultural products, traveling and so on; 3) topography, such as landscape as each location plans for the efficient use of resources for tourism management, planting, fishery, and other development; 4) cultures in Thai areas full of arts and cultures with different and unique traditions that can be a selling point of tourism; and 5) human resources, such as Thai characteristics of being friendly that can support the potential of Thai people to be qualified labor in services, tourism, and hospitality.

According to the concepts above, it can be said that the career education in highland and remote areas is necessary and important because education management is a process to get more experience in changing attitudes, cultivating good moral traits, accumulating skills, understanding things clearly, and implanting social values, religious beliefs, arts, and cultures. Those are the aims to create a population having growth in wisdom and intelligence to earn a living suitably, have positive social values, and live with others happily. The aim of education becomes a path of preparing learners for living and working by focusing on school-based management emphasizing the local potential in responding to personnel needs and communities. Also, the learners can enliven their knowledge, skills, and good character by working, including taking charge of the development of community and country in the aspect of economy, living, human relationships, and culture. These employ the concept of creative participation so as to solve educational problems and to support continuous development.

## **2.2 Problems and solutions of career education of highland and remote area schools**

Government and authorities are aiming to concentrate on improving the quality of education of mountainous and rural schools. Especially, in the results of the 44<sup>th</sup> Educational Cabinet of Southeast Asia Conference and the 4<sup>th</sup> Educational Cabinet of

ASEAN Communities Conference held on 6-8 April 2009 at Sheraton Grand Laguna Phuket, Thailand, the committee focused on the importance of providing an education for everyone effectively and equally. It should be primarily done at the primary educational level. The problems of quitting school early and providing education for students with less opportunity, like the handicapped, the homeless, and immigrants from bordering countries, should be also dealt with. The first goal of educational management is to broaden the opportunity of better education for learning-aged citizens in mountainous and rural areas. The education will be provided with various types of processes and systems. Another goal of educational management is to advocate the schooling provision for children with less opportunity to let them have access to different kinds of materials and processes. The following purpose is to provide vocational education for a student which enables them to survive in their future career. This educational management will create more opportunities for those students who are in need of finishing the secondary education level and to develop themselves in the future. They can apply what they have learned at school and the skills they have encountered for years to earn their living according to their ability and competence. The advantages of learning are having additional income while studying and reducing the parents' expenses as well. It also supports learning processes for students, constructing consciousness, value, and morality according to the philosophy of sufficiency economy. Students can make the products and means of production themselves based on creative economy. They can make profit by increasing the value of their products and services in their local area.

The educational management at the primary level for students in highland and remote areas is different from the educational management for students on flat plain areas. The most distinguished issue is the difference of race, language, and culture. Educational management in hill tribe communities is cooperated on by various government sections, including regional education offices, non-systematic education offices, special education offices, and petrol police stations. Most parents have put their children through schools more often in the past few years with a good hope that their children will have a better opportunity and bright future. However, the curriculum of primary education is basically aimed to prepare students for survival in the agricultural sector to ameliorate their lives as agriculturists in mountainous areas. Education plays an important role on instructing hill tribe villagers to become more knowledgeable. So there will be more students who graduate

from secondary schools. This will benefit the labor market sector. There are more and more hill tribe workers coming to work in the city, even though there are not many people who graduate from universities. But the number of university graduates is increasing every year. And of course, these people have better opportunities in joining and working in both governmental and private sectors.

The results of a study conducted by the Office of Strategic Administration in Upper Northern Provinces (2011, p.12-14), the committee of strategic policy of the educational development for schools in highland and remote areas (the Foundation of Educational Management Office, 2011), and the research of primary educational management for future careers (the Foundation of Educational Management Office, 2011, p.12-21) show that there are some problems and obstacles in educational management for future careers among schools in highland and remote areas which are related to one another. And there are suggestions and solutions for providing education in some aspects as follows.

### **1) Capability of the community and school context**

The communities in highland and remote areas are located on the hills and mountains along the national borders. This place is the origin of wells and rivers of about 88 percent of the water supply of our country. The population consists of hill tribe villagers of various races, like Karen, Meo, Yao, Akha, Lisu, Lua, Thin, Khamu, and Mlabri. There are also other hill tribe minorities, including Palong, Tongsu, Taiyai, and Tailu. The hill tribe communities are located in the forest region in the northern provinces of Thailand and in the western part of Thailand, including Karnjanaburi, Chiang Rai, Chiang Mai, Tak, Nan, Phayao, Pitsanulok, Petchaboon, Mae Hong Son, Lampang, and Uttaradit. The conditions of each community depends on the center to associate members with one another. So the community is much valuable for people in the village. The size of each community is related to economic and social conditions. It also depends on a suitable location. In each community, it consists of 20-30 houses which are related to one another like a family. For example, one is a brother's house and the others are brothers' or sisters'. In each community, there is a chief who is elected by all the members. The chief will guide and control the community himself depending on members' agreements. In each race of those hill tribe people, there is no main commander or chairman, but the relationship is quite stable. All the members will stick to the community's strengths. They live together in unity. It can be expressed by their clothing, culture, traditions, and religious rites. Most

members of each community earn their living by doing agriculture. It is called subsistence. The aim of their economy is to feed the members of each family sufficiently. It depends on economic plants and crops which are used for food and utensils. The subsistent economy includes growing plants for food and for sale such as opium, corn, sugarcane and so on. These crops are grown to be kept for food and to be sold for profit. (The Research Institute on Highland Development Project, 2013)

The results of the study by working groups on proposing the education management strategy plans for highland and remote area schools (OBEC, 2011), research projects on career education method (OBEC, 2011 p.12 – 21) and the Office of Strategy Management Upper Northern Provincial Cluster 2 (2011, p. 12-14) reveal that the potential of communities and school contexts could be a strength which becomes coherent with opportunity for development as follows.

**Table 2.1** The results of data synthesis by the Office of Strategy Management of Upper Northern Provincial Cluster 2, the strategy plan for education development of highland and remote area schools, and research project as for career education in the aspects of the strengths and the opportunities for development

Issue	The Office of Strategy Management of Upper Northern Provincial Cluster 2	Strategy plan for education development for highland and remote area schools (OBEC.)	Research project for career education (OBEC.)
1. A community with unique local wisdom with its strengths applied for learning.	✓	✓	✓
2. A community is abundant in learning resources.	✓	✓	✓

**Table 2.1 (continued)**

<b>Issue</b>	<b>The Office of Strategy Management of Upper Northern Provincial Cluster 2</b>	<b>Strategy plan for education development for highland and remote area schools (OBEC.)</b>	<b>Research project for career education (OBEC.)</b>
3. A community has the wisdom of culture and tradition for education management.	✓	✓	✓
4. A community is gathering and living with sufficiency economy, which also fosters good values.	✓	✓	✓
5. A region and society need people to have various careers, particularly-skilled jobs and crafts.	✓	✓	✓
6. A community appreciates education and applies it for their living and earning a living, so the compulsory education rate is also high.	✓	✓	✓

From Table 2.1, the information of community and school context, which is the development opportunity, is in accordance with the study by the Office of Policy and Basic Education Commission (2011) about operating a career education project for underprivileged child in highland and remote areas, and the study stated that the schools joining in the project showed their potential of area in learning management of career education for learners in respect to art and culture, traditions and ways of life, natural resources, human capital, climate, topography, and location. The schools joining in the project created curriculum for career education, which is accordance with the career groups sorted in descending order as follows: agriculture, creative thinking, management and services, business, and industry.

In the study by Siriphan Suwanmaka et al., (2011) about the study of the methods of basic career education having the best practices from 24 schools in 4 regions, it was found that career education needs local wisdom in learning procedures to support these three successful careers: agriculture, including farming, planting, raising animals, and fishing; in art and culture comprising of weaving, matting, performance of art and culture, and music; and in trading comprising of the co-operative, school bank, school shop, salon, and club as well as projects related to careers.

Besides, Supot Prapaipet (2008) stated that the special characteristic condition of Thai hill tribe children, gathering groups found in child cohabitation, cultural diversity, and conditions of community were peacefulness of community, the strength of community, the community resources, and giving honors towards other tribes, all which could influence the achievement of mountainous school administration.

Meanwhile, the results of study by the Office of Strategy Management Upper Northern Provincial Cluster 2, (2011, p. 12-14), the committee of drafting the strategy plan for education development of highland and remote area schools ( OBEC., 2011), and research project as for career education method (OBEC., 2011, p. 12 – 21) revealed that the obstacles to development were as follows:

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**Table 2.2** The results of data synthesis by the Office of Strategy Management Upper Northern Provincial Cluster 2, strategy plan for education development of highland and remote area schools, and research project as for career education in aspect of the potential of community, and school context as the problems and obstacles to development

Issue	The Office of Strategy Management Upper Northern Provincial Cluster 2	Strategy plan for education development of highland and remote area schools (OBEC.)	Research project for career education (OBEC.)
1. The diversity of hill tribe races with different ethnic groups have difficulties to provide education and develop their educational development.	✓	✓	
2. Most parents are uneducated, so they cannot give children advice about education.		✓	✓
3. Local languages are agreeable but not similar to the Thai language, so this causes an obstacle to providing children learning management and results in low achievement.	✓	✓	✓

**Table 2.2 (continued)**

<b>Issue</b>	<b>The Office of Strategy Management Upper Northern Provincial Cluster 2</b>	<b>Strategy plan for education development of highland and remote area schools (OBEC.)</b>	<b>Research project for career education (OBEC.)</b>
4. The problems of parents who are farmers and have uncertain amount of income and the poverty of the community with low per capita income are difficulties to support the educational resources. This causes a lack of learning materials and the children quit school to help their parents work instead.	✓	✓	✓
5. Preferring social values to having local jobs, parents have an attitude towards career education for their children.		✓	✓
6. Since most schools are remote and have a frontier with neighboring countries, the problems is the population smuggling and drug trafficking.	✓	✓	

From Table 2.2, it shows the significance of the potential and the school context which influences the effectiveness of career education for the highland and remote area schools. This is in accord with Nongram Sethapanich et al. ( 2010) , who studied the administration and management of secondary education in promotion of having their own

business and entering in small business to achieve the vocational education for secondary schools, said that choosing the learning style in accordance with the customs of the community's main production should be considered with the needs of the community. Also, it relates to the suggestion of the Office of the Basic Education Commission (2012, p. 11 - 19) saying that the schools in highland and remote areas comprised of ethnic groups, learning resources, knowledge, and unique local wisdom, which are able to be applied to learning management well.

### **Participation and synergizing of educational development**

There is a chance for stakeholders to take part in the educational management. They can share some ideas, discuss the advantages and disadvantages, and make a decision to run the project. This is a most significant process, especially when technology is so advanced nowadays. The useful and necessary information is widely transmitted via the internet without borders. The campaign of cooperation does not only relate to administrative principles, but it also promotes understanding in working. It provokes such an acceptance that the gap between communication and conflict are resolved. There is less risk involving failures. This is a result from sincerity and concern of the giver which affects the success of the operation and the project sustainably. (The Office of Secretariat of Educational Council, 2011, p.1)

From the results of a study of the Office of Strategic Administration in Upper Northern Provinces (2011), the committee of strategic policy of the educational development for schools in highland and remote areas(the Foundation of Educational Management Office, 2011), and the research of primary educational management for future careers (the Foundation of Educational Management Office, 2011), it was found that there were some problems in cooperation of educational management relating to one another. Nowadays, there are laws and policies of the government giving a chance for Thai people to take part in education by gaining the right and opportunity to learn in a school that is appropriate for their needs. The government provides the budget to promote and advocate education in the first place, more so than any other part of the national budget. There are also other organizations that support education, including private organizations, local administrative sectors, social associations, and strong communities. These organizations are ready to support and participate in educational management.

However, there are some obstacles in the cooperation of primary educational management for future careers of schools in mountainous and rural areas. The administrative policies have often been changed, and this causes discontinuation in the working process. The main cause is that the schools have to operate following their administrative offices. They need to work on processes depending on their headquarters. So, this is the biggest problem in working processes. The government cannot allocate and provide the budget and manage the education for all schools in every region. It is because the environmental and geographic conditions of target schools are not accessible and suitable for action. And there are some considerable problems concerning governmental regulations, such as teacher recruitment, classroom management, and authentic assessment.

In authentic educational management, the coordination and connection of the educational management between offices and organizations are not effective enough. It is not covered in every part of the system. Another problem is that the local administrative office does not concentrate much on education. One more aspect is that the relationship with other sections and the connection with the community are not associated to each other. So, the solution for better educational management could be participation of the community. As Nongram Sethapanich and his team (1990) and the Office of Primary Educational Committee (2012, p.11-19) mentioned that the factors and conditions contributing to the educational management for schools in mountainous and rural areas and affecting the administration and management of successful teaching for future careers in the cooperation and support from communities around schools and outer-communities in human resources, thoughts and ideas, budget, and students' product distribution are the most important factors that assist schools in teaching students for future careers successfully. This help and support depends on the relationship between schools and members of each community, which is the main connection.

Furthermore, Supot Prapaipetch (2008) studied in a key to success of the effective administration in hill tribe schools. There was a condition from outer organization. They were conditions of the community including peace, cooperation, strength, respect between races and parents network. There were also conditions of the primary educational committees of schools, including the sense of school belonging, the members of the committee, and the prominent chairman of the committee. Also, there are other conditions of outside organizations, such as the Office of Regional Administration, which affect the

effectiveness of a school. Nonram Setthapanich (1990) suggested that the community should have some important roles as follows: 1) taking part in school's curriculum management, 2) cooperating in defining the content of school's curriculum, 3) being an information source and creating a learning network for learners to get experience in real situations, 4) supporting creation of some learning activities, and 5) taking part in examining and evaluating the results of educational management and recommending some solutions for ameliorating educational quality.

It can be concluded that cooperation plays an important role in the successful primary educational management for future career. Especially for mountainous and rural areas, there are many strong organizations in both the government and private sectors supporting and cooperating with one another in educational management. Therefore, coordination and the system plan should be made to properly connect to every sector.

### **Resource and Learning Center Management**

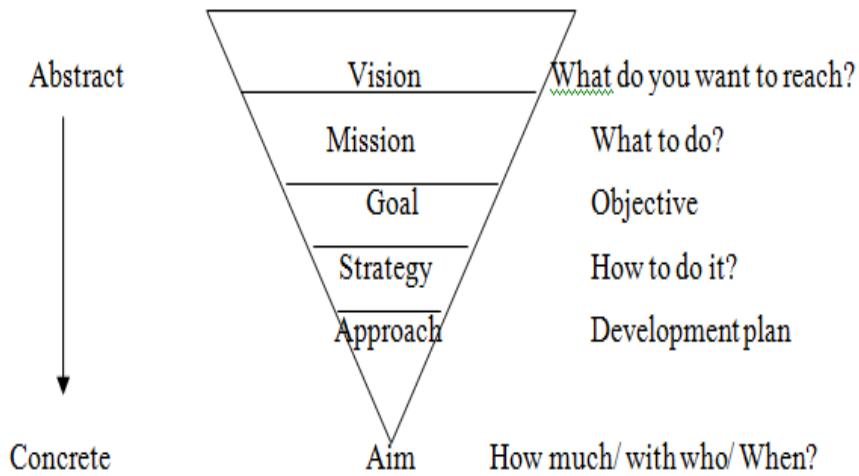
Management is the key to the development of education, no matter which direction each academy is heading in. The quality and efficiency of such development depend on the management of the system itself. Effective management in a school contributes to teaching and learning activities as well as affecting the quality of students. It is necessary that school administrators have a well-planned system, such as a tool for management. In addition, the plan must be formed through participation. The goal should go along with school status and with the cooperation of all parties. There should also be a systematic evaluation of performance, and the quality of students should be emphasized.

Somchai Phagaphasvivat (2000) had discussed Strategic Planning in that it is a decision-making process to determine the future direction of the school by imposing conditions that must be achieved in the future and imposing strategies to achieve such plans based on the fundamental data of the system.

Strategic Planning is required to answer three main questions:

- 1) Where are you going?
- 2) What is the environment?
- 3) How do you get there?

There are many important processes in Strategic Planning Processes, starting from setting a vision, mission, purpose, or aim for development (Goal), issues or strategy (Strategy), and the strategy or development approach.



The projects and programs which include various activities are carried out under the framework of a project that has a certain beginning and ending date for each activity.

If the school sets a certain direction in education for careers, a message will appear clearly from the vision, mission, purpose and identity, in which it is linked to strategic developments, projects, and related activities.

School administrators who truly recognize and understand the role of management and practice it seriously and continuously will help the school reach its goal of development effectively. School administrators should change their role as commander to coordinator instead. This means school administrators should participate in planning and practice as well. There should be a clear goal in promoting teaching in the career-academic aspect. Also, school administrators should have a spirit of developers and should build good relations with the community and teachers to encourage teachers to engage in their work. (Nongram Setthapanich and Committee, 1990)

Regarding the study results from the Strategic Planning for the Development of Education in highlands and Wilderness Areas Committee, (OBEC, 2011), the Office of Strategy Management of the Upper Northern Area 2 (2011, p. 12-14), Career Education Project (OBEC, 2011, p.12-21), as well as various research, it was found that conditions and problems in the management of resources are as follows.

For the management aspect, it was found that schools have structured administration. There is a clear understanding towards work among the personnel, so they can accurately perform their roles. Besides, in highland schools and wilderness areas, the processes of management are set, and there is a utilization of technology in terms of ICT as well.

Considering the employee aspect, teachers and staff are a compatible new generation that has the knowledge, ability, potential, and operational efficiency for the work. They have the good intentions, spirit, and ideals of a teacher. They are also diligent and patient in nurturing students in the highland schools and wilderness areas.

In addition, schools can also raise resources by outsourcing to use in school administration. The budget management is clear and accountable. Schools can carry out procurement of demanded supplies and use local resources wisely.

Previously, Songwut Thepraksa (2001) has studied the management of teaching in elementary schools in highland communities under the Office of Primary Education, Chiang Rai Province. He finds that the school administrator implemented teachers, a Committee of Basic Education, and students to be involved in the formulation of policies and programs of the school. Also, teachers were encouraged to attend seminars to improve themselves and were assigned to teach subjects in which they have appropriate knowledge and skills. Adequate space was provided for teaching and learning activities. Lastly, there was a supply of equipment and materials to facilitate teaching and learning.

However, the study results from the Strategic Planning for the Development of Education in Highlands and Wilderness Areas Committee, (OBEC, 2011), the Office of Strategy Management of the Upper Northern Area 2 (2011, p. 12-14) and Career Education Project (OBEC, 2011 p.12-21) still shows that there is a problem of learning resource management for career academics in highlands and remote areas as the following shows.

A lack of decentralization is found in management. Budget and resource management are not very effective and lack continuity. Administrative structure in the schools is in a form of a school committee, and according to the Ministry of Education this does not fit schools in highland areas because people who live in highlands rely and trust their community leaders better than committees. This causes difficulties in implementation. In addition, most schools have a vision focused on developing a strong academic school, so the curriculum is mostly focused on academic skills.

For the personnel aspect, it was found that there is not enough manpower, so teachers and educational personnel have to be responsible for heavy workloads, and they spend more time on assistance than teaching. This affects the quality of learning. Some teachers are also not qualified for the subjects they have to teach and have no continuing self-improvement. Moreover, school administrators are often changed, which leads to

discontinuous implementation of ongoing policy. It was also found that school administrators and teachers still lack a clear understanding of the concept of education for careers in primary schools. This affects the curriculum design and teaching management.

For the educational materials and budget aspect, it was discovered that there are not enough facilities, or that some are too obsolete, such as buildings, dormitories, teacher houses, IT operation rooms, and so on. Regulations on parcels are not conducive to the procurement of materials in highland areas as materials are too expensive. Schools face budget problems as the budget is insufficient for management, and most of them are small schools. Meanwhile, funding on a headcount imposed by government is not helpful enough for the problems of schools in highland areas because the funds cannot meet the cost of materials or media for education.

Siriphan Suwanmaka, Chayapim Ausaho and Prawaneeya Suwannutachot (2011) studied the career education model for the 24 Best Practice Schools in four regions and stated that the factors and conditions of achievement of career education comprises of these following aspects:

1. Policy: it can be stated that the policy of the organizations, such as a command unit, local department, or other departments relating to career support, includes school policy in driving distinguished learning development for careers.

2. Personal knowledge and attitude: school administrators, teachers, parents, school committee, and community have visions, gives priority to career skills and determines to accomplish the career education goals.

3. Administration Process: the administrator has a policy in administration, development, and preparation for learning resources by gathering the resources of both administration and local wisdom to connect to outside organization as a factor to bring career education success.

Besides, school administrators and teachers should go on having a good relationship with the community, making a database for careers and local learning resources to be beneficial for children as well as participating and supporting the community and outside organizations to encourage the education management. Also, important persons in local areas can be lecturers for schools so as to inspire and link children with a chance to discuss or interview them about various careers.

At the same time, schools need to clarify and clearly understand the concepts and principles of career education in making curriculum as well as in the learning process. Then, parents need to participate in learning support, such as career surveys, being special speakers, and training, which are able to change the attitudes and values of working for persons that have responsibility, patience and so on. In addition, teachers need to improve in gaining knowledge and working skills by having been trained or having study trips to enhance teachers' friendliness towards the community as well as other accessories to improve their knowledge by following updated information and fostering the children's faith (Nongram Sethapanich, et al., 1990).

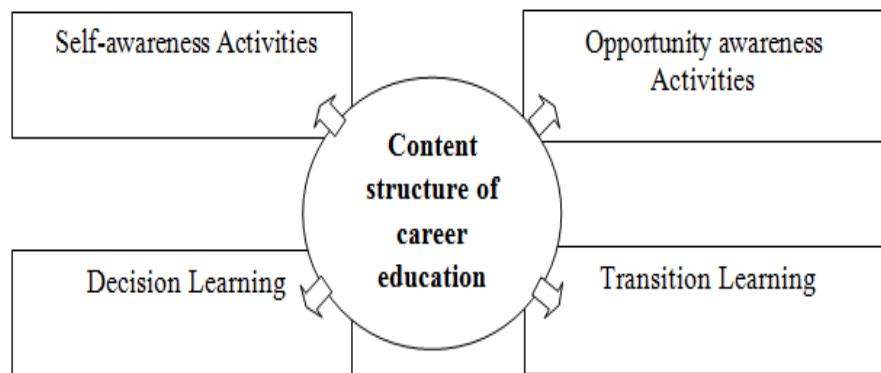
This is to say, the administration can be considered as a special character of each area that the local area can cooperate with a school-based administration to solve problems differently because bringing the school policy to practice needs various factors of support. Thus, the same understanding by accessories and the understanding about the concepts and the principles of career education are important for administrators and teachers in organizations. Also, the benefits for learners is making curriculum and learning cooperation by focusing on the integration of all subjects. Besides, the community context can influence the local curriculum in accordance with the characteristics of the community. More importantly, it does not change or increase the teachers' workload but focuses the learning process in connection with deep, detailed concepts and the principles of career education. Learners can also realize their values and have a positive attitude towards working and future careers.

### **School curriculum development**

Curriculum and learning about basic school needs should be organized deliberately and inclusively in the main aim of career education in order that the students can be aware of the value and rationality of working, collect knowledge and necessary skills of work, find their own chance to work, and explore the world of working.

According to the study of documents and research, it was found that the content structure of career education can be organized into six groups as follows: 1) the world of careers, 2) the values of working, 3) habits of working, 4) satisfaction and adjustment to careers, 5) decision of careers, and 6) decision on working. These six groups are in accord with the principle of career education in Australia; for example, in Queensland, activities are provided for students to be Self-Awareness Activities that support them in discovering

and realizing their values during Opportunity Awareness Activities, Decision Learning, and Transition Learning to be ready for both impromptu and prepared career plans (Evans, Hoyt, & Mangum, 1973 qtd. OBEC. 2011, p.5). These can be concluded in the following figure 2.1.



**Figure 2.1** The principle parts of career education

For the Basic Education Core Curriculum B.E. 2008 (A.D. 2008), education aims at the learners having competent physical health, mentality, and intelligence with the knowledge and necessary skills for making a living and having a national standard in order to be capable of maintaining a competitive position with other people in the world community. This feature can be comprised of educational provisions, principles, aims, learners' key components, desired characteristics, standards and indicators, strands, and Learning Time Structure and Criteria for Learning Assessment. The Basic Education Core Curriculum for all levels in every school is implemented as learning management so as to improve all learners to reach the determined educational standard. Relating to the conditions of the community and locality is provided by Educational Service Area or involved local organizations, which are in charge of the main organization to cooperate between schools and communities. To compile all documents, the framework of local curriculum needs to include important information relating to the aim or the main emphasis of learners' development in local areas, strands, and assessment for the local level. Also, it is not necessary to specify an additional standard for the local area level. Additionally, Nongram Sethapanich et al., (1990) studied both the administration and management of secondary schools from both schools that had achieved and had not achieved the management of a career education program. In addition, it was found that those schools that had achieved one

would launch the program that responded to the community's needs and the community's production plan. Thus, some content and learning procedures were determined in accordance with the needs of the community.

From the synthesis of documents, the study of Strategic Planning for the Development of Education in Highlands and Wilderness Areas Committee, (OBEC, 2011), the Office of Strategy Management of the Upper Northern Area 2 (2011, p. 12-14), Career Education project (OBEC, 2011, p.12-21), it was found that schools made school curriculum by referring to the national curriculum, and the local curriculum created learning management for careers according to distinct local characteristics with having curriculum adjustment in integration of the philosophy of sufficiency economy, the new theory agriculture for earning a living, and integration all eight subjects. This helps career education have a much more obvious cohesion. Some areas determined to have vocational stream learning together with the academic stream in some additional courses.

Moreover, the Ministry of Education ( 2008, p. 1- 35) proposed the development of career education in addition to the development part of schools, which can be organized in accordance with the appropriateness of the school's main emphasis depending on interests, demands, and students' proficiency in order to improve learners' capacity and their potential at a high level. Educational institutions can be organized as follows.

### **1. The structured school curriculum**

School management of structured curriculum emphasizes learners to observe their proficiency as well as their interests, improve their personalities, enhance their critical thinking, creative, and problem solving skills, support living skills and technological compatibility skills in order to be a learning instrument in having responsibility for society, and balance their knowledge and their goodness, including being proud of bringing Thai people together with having a basic knowledge in working and further study. The structure of school hours determines the basic educational core curriculum of B.E. 2008 and is divided into basic subjects, additional subjects, and extracurricular subjects. For career education, this can be organized into three characteristics as follows.

The first characteristic is in basic subjects. Basic subjects are the courses causing learners to achieve the learning standards and indicators following the basic educational core curriculum of B.E. 2008, which includes subjects directly relating to careers, such as in the Career and Technology Department on the topics of planting papayas and cooking, and

in the Arts Department on the topics of Thai music, folk dancing, art, drawing, sculpture, printing, etc. For the other subjects, they need to support career education by integrating content into the main subjects; for example, the little training guide in the Foreign Language Department, making an account book calculating income, expenses, cost of capital, profits, numbers, counting, weighing, and measurements.

The second characteristic is in additional subjects. Additional subjects are determined by the school determination following the school's main emphasis, or locally. By this determination, a learning objective is the target of learners' development and career earning strand to support career learning to understand the needs of learners' knowledge and abilities as well as characteristics of that subject, such as the Career and Technology Department, which can be made into additional subjects, such as a bike repairman, making umbrellas, mat-weaving, beautician, growing flowers and ornamental plants, cultivating mushrooms, growing other vegetables etc.

Schools are able to consider determining additional subjects in accordance with their interests, the school's main emphasis, and graduation requirements, which are under the structure of a determined time period. Being an additional subject, it can be named properly.

The third characteristic is in learner development activities. Three learner development activities are in the basic educational core curriculum: guidance activities, students' activities, and community service. For students' activities in career education, clubs can be appropriately provided depending on the school's time division for career education.

## **2. The unstructured school curriculum**

Schools can manage career education for interested persons after normal school days, but not on official holidays or during school recess. Schools can take charge of this themselves or cooperate with students' families or communities based on the students' aptitudes or interests in order to apply knowledge and skills to their future careers.

However, the problem regarding the school curriculum is mostly the schools' emphasis on academic strength in accordance with the standards of education, indicators, and the criteria for assessing the quality of basic education for schools by the Office for National Education Standards and Quality Assessment for the tertiary level. Also, school curriculum management and administration according within the community context and individuals is for career education skills.

From this, it can be concluded that the development of a career education curriculum in each school can include vocational subjects in basic subjects, in additional subjects in the structured school curriculum, or in development activities. Also, this principle can operate in projects or additional activities in an unstructured curriculum for interested persons. To do this, giving importance to context is significant in enhancing learners' acceptance of variety and differences as well as having their own duties and working in society. Besides, learners can gain knowledge and necessary skills for working, seek a way toward a job opportunity, and lastly, have good attitudes, values, and inspiration.

### **Learning management**

Career education is learning management for preparing people at both the primary level and average level in various fields of techniques so as to respond to the establishment and the labor market. Thus, career education needs the entire process from curriculum design to curriculum application along with research and development. Schools have to change the direction of learner production to qualify for the labor market and the establishment.

The research project for career education (OBEC., 2011 p. 12 – 21) found that the current situation's educational problems were learning management and acknowledgment of working skills, including preparedness of students to understand their future careers. This emphasizes raising awareness, motivation, and giving student's opportunities to survey, do experiments, and learn. Besides, strengthening various great features through the learning experience is diminished because parents have an attitude of having careers towards their children for further study that follow social values. Those careers may not have a job in their local area, much less a profession handed down by the family or from the parents' careers. Thus, it can be said that students' attitudes toward and values of those jobs diminishes. In some schools, the lack of educational staff and unqualified teachers of professions are the limitations in opening courses that respond to local and student needs.

Therefore, creating values and pointing out the importance of learning management for careers is very necessary. Previously, Swat Udompot. (2000) has proposed that it is important for instructors to pay attention to learning management at different levels as follows.

For kindergarten education, it is a step that prepares children ages 3-5 to be physically, mentally, emotionally, and socially ready. Knowledge about careers only creates

their awareness of such profession. Knowing that every individual needs to do something for a living is a case in point.

For primary education, which is for children aged between 6–12, the main objective is to create literacy and the ability to calculate as well as to develop knowledge, skills, and attitudes in order to be good citizens in a democratic system. At this level, students are prepared for the secondary level. Therefore, learning about careers is basic knowledge for them. It is called the “Introduction Stage” or the “Orientation Stage,” which is mostly about basic knowledge regarding the nature of careers, discipline, and tools used in careers such as engineering, agriculture, business, housework, food and nutrition, dressmaking, home decoration, home-grown vegetables, and animal feeding, as well as the use of necessary appliances, which are for industrial production.

Lower secondary education, which is the subsequent level, is compulsory education for children who are between the ages of 13 and 15. It is elementary education in which children need to learn both mathematics and career education. At this level, there should be enough information for children to continuously learn in the changing world. Knowing about career education only surveys children’s abilities and interests.

As for the learners’ ability levels, “Exploration” is the step to explore the survey learners’ aptitudes, but it is still basic education. Some learners quit schools after compulsory education, while some others may further their study in high school. Exploration is when schools provide vocational education groups by studying a partnership or cooperation with enterprises or organizations by simulation, such as being an imitation factory or company. Exploration is for educational guidance before graduating from the lower secondary school level.

In high school, education is continued for secondary school students who will recognize their aptitudes, abilities, and interests better. The aim of high school education is to possibly produce learners for higher education entering their careers after graduation. Groups of careers in some underdeveloped countries and developing countries have become bigger than previous groups need further study. Nevertheless, the high school graduates in developed countries are not generally entering the work force to earn a living immediately after graduation. Instead, learners have to study in technical colleges, institutes of technology, community colleges, and training institutes to complete a year or two-year course before embarking upon their working lives.

Career education at the high school level in Thailand should emphasize the "Preparation" level more than the "Specialization" level. The determination of preparation level for high school had better focus on the career group subjects more than subjects for each career. In specifying the career groups in a country, each school can select some to be suitable for the establishment in each educational area. The reason for having career education suggestions in high school is for "Career Preparation" rather than "Career Specialization." This is because every high school student needs to equally learn the Core Course, or compulsory subjects for high schools.

The Office of the Basic Education Commission of Thailand (2000, p. 11-26) divides the learning method of career education for schools into 3 characteristics:

Characteristic 1: career learning management for schools depends on self-readiness regarding personnel, materials, and resources.

Characteristic 2: career learning management together with outside speakers, local wisdom, organizations, and educational institutions both public and private are ready in personnel, materials, and resources.

Characteristic 3: career learning being extracurricular can be career learning for people who are interested and employed to accumulate learners' working skills and earn money during their studies. This is a characteristic following learners' interests and their ability to work with their family and community as a fundamental of future careers.

These can be synthesized in the overall image of career learning methods as follows.

**Table 2.3** The results of the synthesized overall image of career learning methods

Career Learning Methods	Feature 1	Feature 2	Feature 3
<p>1. Survey the information of careers, resources, teachers, and lecturers, from both inside and outside, as well local wisdom regarding careers, especially the parents' careers, in order to set up new courses responding to economic situations and local society.</p>	✓	✓	✓

**Table 2.3** (continued)

<b>Career Learning Methods</b>	<b>Feature 1</b>	<b>Feature 2</b>	<b>Feature 3</b>
2. Select, train, and develop personnel to be leading career education teachers.	✓		✓
3. Make curriculum, basic courses, additional strands, extra-curricular activities, and free elective courses.	✓	✓	✓
4. Cooperate and connect the teachers' network, lecturers from outside of schools, including local wisdom, and related organizations in instructing career education cooperatively.	✓	✓	✓
5. Publicize career learning procedures, such as job working skills, distribution, and division of income between schools and learners.	✓	✓	✓
6. Provide students to choose a career based on their aptitudes, interests, and economic status.	✓	✓	✓
7. Manage the theory to practices and emphasize the working process in schools or technology through various methods such as vocational camps or short courses.	✓	✓	✓
8. Support students to write the project plan of work covering objectives, procedures, investment, production process, management, and marketing, and present it to the project advisor to consider its suitability and feasibility.	✓	✓	✓
9. Support the students' operation in managing budget, knowledge, and materials as well as marketing and accounting. Help them clarify the problems or obstacles in working and give support to set up funds, cooperatives, and student groups.	✓		✓
10. Produce goods to sell in school fairs, student exhibitions, local market fairs, and other venues to provide them the experience of being an entrepreneur.	✓	✓	✓

**Table 2.3** (continued)

<b>Career Learning Methods</b>	<b>Feature 1</b>	<b>Feature 2</b>	<b>Feature 3</b>
11. Provide evaluation of working processes in order to adjust activity products, promote production, and sell products by supporting students to apply their knowledge, vocational learning, and other experience outside of school	✓	✓	✓
12. Supervise, monitor, and evaluate career learning management, and report and collect all information to improve and develop them.	✓	✓	✓

According to the three career learning management methods, it was found that there was a survey of resources, career sources, contexts, and potential of areas and local wisdom. These are used as learning resources, which participate in assistance of learning, developing curriculum, and learning management by focusing on authentic practices both of working skills and operating in order that students are able to earn a living and make money while learning. As well, teachers could help students connect their knowledge to their real lives. This also supports students to learn happily, be interested in, and have meaning in their knowledge, attitude, and necessary skills for the future. In order to prepare children to be ready for future changes, the cooperation between parents and community are important to support and assist career education in schools. Besides, teachers have to give precedence to learning activity design so as to increase the students' opportunities of: 1) Career Motivation, 2) Career Orientation, 3) Career Exploration, and 4) Career Preparation by providing students activities of career education, emphasizing students' rationality in working, collecting, and having necessary skills in working, seeking their own chance to work, exploring, and entering to the world of working. These skills are needed to improve the concept of Career Development to be suitable for learners aged between 9-15 years old who are studying from elementary to lower secondary school.

## **Supervision**

Supervision is the process that helps teachers improves the effectiveness of their teaching.

Carl D. Glickman (2004, page 6) explains the meaning of educational supervision as supervision focusing on tasks and functions related to the improvement of teaching and learning in general. On the other hand, he states that instructional supervision is a subset of educational supervision as it is the process of improvement of missions in the classroom, and activities are carried out in school by working directly with teachers.

However, Carter McNamara (2008, page 8) says that supervision is to help others. Although some might say that supervision means managing, organizing, and directing people, mainly it is actually an aid that helps create a supportive and motivating environment between employees and supervisors to feel responsible for the completion of work.

The purposes of educational supervision according to the Ministry of Education's supervision guidelines on learning reformation in schools (2543, p. 13) are:

1. To develop schools' potential to be compatible with the quality of learning among learners according to the learning standards of the curriculum.
2. Schools are able to manage and control learning.
3. To develop an up-to-date curriculum and learning process to comply with the needs of people in communities.
4. For staff in schools to develop their knowledge, skills, and experience in organizing learning activities and their own performance, as well as their career advancement.
5. To encourage school administration reform by allowing everyone to share ideas, decisions, and responsibilities.
6. To create cooperation in learning quality development between each party, such as community, society, culture, and various professions.

Besides, Watchara Lhaorieandee (2000, p. 282) suggests the direction of the future of educational supervision under the Basic National Education Act in B.E. 2001 and the results of the adoption of the core curriculum of basic education in B.E. 2011 that there will be a greater need for supervision focusing on three dimensions:

1. Instruction Development
2. Curriculum Development
3. Staff Development

According to the concept of supervision workload, the main concern of supervision consists of some important areas as follows:

1. Curriculum management includes researching and studying curriculum and its documents thoroughly to advise teachers as well as to develop a plan to implement the curriculum as well as to provide teachers with knowledge, ability, aptitude, and experience. There should be regular evaluation of the curriculum by using the right tools and techniques.
2. The development of teaching and learning activities includes providing support to teachers in terms of curriculum, documents, budget, and curriculum materials. Moreover, there should be an atmosphere that encourages teaching as well.
3. Staff development includes preparation of personnel using various methods, such as meetings and training seminars for morale, and promoting progress in work appropriately and fairly.
4. Building networks and communities of learning to create opportunities for teachers to group together to solve problems and improve teaching. Promote research to solve the problem of their teaching as well as creating a network of cooperation both from inside and outside the school through different ways and media.

Aeug-arree Tuamsan (2006) and Wichote Chaichana (2001) study the problem with internal supervision. They find that personnel do not have enough time to complete supervision. There are more individual supervisions than group supervisions. Moreover, recording and reporting supervision is not continuous and staff shortage and lack of budget result in ineffective supervision and out of order. The cause of the problem is that school administrators do not understand the principles of educational supervision enough as there is no thorough supervision, the lack of monitoring and lack of creative solution. Therefore, conference on supervision training should be provided to the core teachers who can systemize internal supervision.

Glickman, Carl D., Gordon, Stephen P. and Ross-Gordon, Jovita M. (1995 p. 458-460) propose a successful school supervision process which contributes to the development of schools that is instructional supervision aims at improving the abstract aspect of teachers,

covenant and experiences. The aim of the supervision is the integration of knowledge in the teaching profession which affects students. The role of the supervisor is to change the attitude of personnel that classroom is not meant to be isolated but it must be associated with the administration of the academic school.

Hoy and Forsyth. (1986: 48) propose teaching technique called Clinical Cycle consisting of three important methods as the following:

1. There are three steps before teaching observation

1.1 Building relationships between teachers and supervisors. This is a step that brings teachers into the clinical supervision model by building understanding and good relations between instructors and supervisors. Clarify the role of teachers working together with supervisors so that teachers understand the purpose and meaning of the clinical supervision model.

1.2 Planning is the step in which instructors and supervisors plan lessons together to define the objectives for the students and instructors and to calculate the results of teaching, teaching strategies and to support the learning and evaluation.

1.3 Observation plan is the step that instructors and supervisors plan the observation by defining the purpose of observation, methods of data collection, he preparation and observation techniques

2. The observation is conducted as planned. Conditions classroom teachers, learners and supervisors are ready to implement the plan and the strategy defined in terms of teaching and general data collection. Supervisors will use criteria and tools developed together as a data collection tools.

3. Post observation consisted of new cycles as the following:

3.1 Analysis of the teaching process is the information from the observation. It can be a separate analysis of one own data. Then analyze together or invite others to analyze together. The analysis will lead to better classroom.

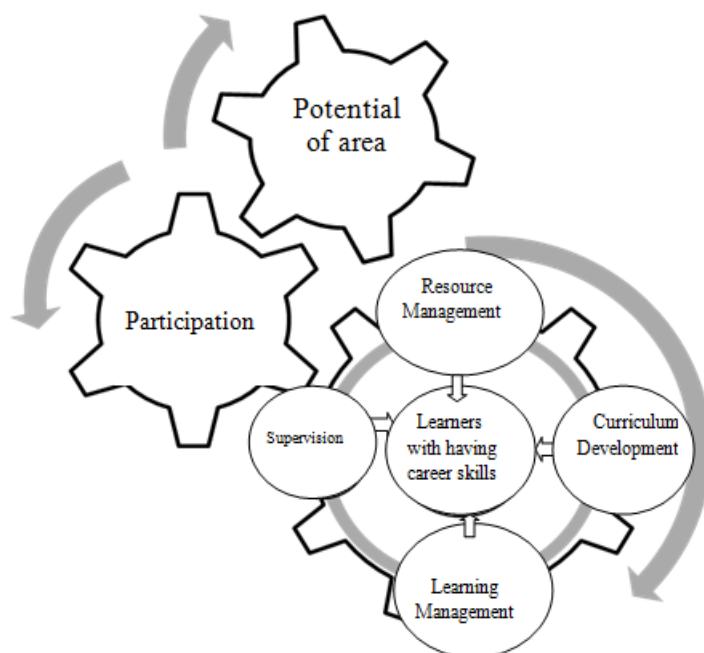
3.2 Strategy Planning for Conference is when supervisors prepare the meeting by preparing issues and strategies which will be discussed in the meeting.

3.3 The plan is adjusted in accordance with the information from the meeting and observation to improve teaching and learning.

From the guideline mentioned earlier supervision is one element that helps promote education for a successful career (Nongram Set-Thapanich and committee, 1990) since

supervision helps teachers make teaching more effective in terms of curriculum development, teaching, and creating a network of learning. This procedure should be carried out continuously. There should also be planning and evaluation plan to build understanding towards supervision, to motivate and encourage ones who are supervised to be enthusiastic at work as well as to understand benefits and to be ready to perform at their full capacity.

When considered the document, concept, principle and process of career learning and teaching development, three elements: potential of area, participation and networks, and school internal process are linked. The elements the development of career education can be shown in Figure 2.2 below.



**Figure 2.2** The elements in the development of career education

From the figure above, it can be explained that the elements of career education for highland and remote area schools can be divided into three elements as follows.

1. The element of area potential is the education management in accord with the community needs which use the potential cost of natural resources, topography and climate; potential of art and culture including traditions; and potential of human capitals. These can be the determination of content in learning management which affects the quality of learners being different and creating the opportunities to compete with others in regions, countries, ASEAN countries and global community.

2. The element of participation and education networks. That is to say career education for sustainable development which needs to stick to the school participation to give the opportunities for the interests to brainstorm, perform and be responsible together. No matter what the government and community should have the role to assist and support the parents in participating in education management such as being a learning resources for children, have relationship with other organizations to support children, teachers and schools. Also, they need to play a key role in making school curriculum and set the learning method. To be response to the needs of children and parents, the school should cooperate with community and society to improve the teacher as well.

3. The element of school process to manage the school – based development is the direction of administration, setting the curriculum, and the learning management focusing the self- practices in order to be self- sufficiency, improve the learners' physical health, mentality, intelligence, knowledge, virtue, ethical behavior and culture in life. Schools need to adjust learning styles in order that the students can gain the opportunities to have an experience in various careers, to practice necessary skills, and to prepare good characteristics of earning a living corresponding with their aptitude, interests, and potentials.

According to these three elements, the researcher would apply them to the content scope in studying the management method of career education in highland and remote area schools.

### **2.3 Concepts and theories on model and model development**

#### **Meaning of Model**

Scholars have various meanings of the word "Model" in similar and different way as follows:

Carter Good (1973) gives four meanings of "Model" which are

1. An example of something as a guide to create or replicate.
2. As an example to imitate such as examples in the pronunciation of foreign languages for the students to imitation.
3. A chart or three-dimensional forms which represent something or principle or concept
4. A series of factors or variables that are related to each other, which together make a symbol of the social system. It could be written as a mathematical formula or could be described through language.

From Good's meaning mentioned it can be concluded that there are two types of models: the simulation model of something concrete and the simulation model of something abstract.

Thawanrat Worathebphuttipong (1997, p. 21-23) says that the model represents the desirable characteristics which are ideal or rare in the world of reality. In particular, our needs and the ability to fulfill our needs are different in the same way with the need to live in the ideal city.

The meaning of the word "Model" mentioned above can be concluded that the model represents a framework that describes one example of a series of variables or elements that indicate the relationship that could be concrete or abstract concept.

For this research "Model" means the relationship of the elements and practical way to achieve the objective of providing basic education for careers for schools in highlands and wilderness areas.

Boonchom Srisa-ard (2000, p. 104-106) claims that there are 2 steps in developing research:

1. Conducting and developing model: the researcher shall first create or develop model following hypothesis by researching theory or concept model of the same or other field that others have developed as well as results of related researches or studies, and analyzing various situations available. These will help indicating components or factors within the model including characteristic of relationships between said components or factors, or order of each component in the model. Developing model must have logic as foundation and research studies which are tremendously beneficial to model development. Researcher might construct a model construction first then improve upon it by referring to media on studies of components or each factor before selecting those that are essential for model construction. The crucial part of this stage is the selection of model component (factor/activity). To create an appropriate model, researcher should identify model development method clearly such as non-complicated model that can be easily and speedily executed with fewer factors for more results and so on. Still, in some research, experts are necessary to confirm appropriateness.

2. Model accuracy: after developing primary model, it is necessary to test the accuracy of the model because the model is developed by previous theories, concepts and structure and results of other researches. Even though the previous components were

critically selected by experts, still, there are following hypothesis. The researcher needs to collect data or conduct the experiment in the actual situation to test the appropriateness. In this stage, it is sometimes called efficiency model test.

Utumporn Jamonmarn (1998, p.23) states that the purpose of model construction is to test or examine the model by empirical data. There are many examining theories such as qualitative data analysis which needs to be conducted by experts and quantitative data analysis which requires statistic technique to complete the examination. To test the model, the researcher shall focus on the following aspects:

1. Association level between relationship, relevance and factors
2. Parameter estimation in the relationship. The estimation can conduct across time, sample and sites or refer from the samples among population. The result will answer following 2 questions:

- 2.1 New model construction or
- 2.2 Model development

Eisner (1976, p.192-193), presents the examination by the experts. He states that some studies are sensitive and the experts share the same level of perception. Eisner also presents expert evaluation concept as the following:

1. Expert evaluation concept do not focus on any goal-based model purpose or objective, problem response, responsive model or decision making model but this concept focuses on the examined aspect which does not require objectives or participants. The expert critically combines all factors and concludes qualitative, efficient and appropriate outcomes.
2. The concept specializes on art criticism aspect which is sensitive and required the specialize expert. This aspect is a measuring value which is unable to measure by any machine and require true ability from the experts. The concept is adapted in higher education especially in some specific subject. There are only a few experts who understand the subject thoroughly.
3. The concept evaluated on the expert ability. It is believed that the experts have a fair discretion. All standard and criteria is based on the expert experience and knowledge.
4. This concept has flexibility and acceptability to the specialty of individuals in every aspect. To clarify, the specialists are able to select a problem, sample,

data collection, data decision and project presentation as their skills. To select the right expert, the researcher shall consider career status, experience and high credit of candidates in particular profession

From those concepts by the scholars, although there are different ways to develop the model in detailed components, it can be similarly concluded in major components: survey, analysis, and synthesis, design, and examine. Therefore, the researcher should bring these concepts to improve compulsory education model for career purpose. In the research, the researcher needs to survey, analyze, synthesize, conduct and test the model. The testing process will emphasize the correctness, completeness and trustfulness of the model.

In this research, model is defined as a structure presented relationship between all component and guideline of compulsory education model for career in highland and remote area schools. The components include the potentiality, corporation, and operation processes in school. To create a guideline of compulsory education model for career in remote area schools, educators shall combine concepts and frameworks of compulsory education model, participation education model, and education development in highland and remote area schools in order to develop basic education to careers for highland and remote area schools.

### **Lesson distilled from the model**

Lesson distilled from the model is one of the most important learning processes. In other words, learning processes are the outcomes of learning, systemizing, processing data, accessing and exchanging knowledge and continuously conducting lesson learned, lesson distilled and development decoded. Somsak, Phuvipha, Dawat and the team have summarized important points as the following:

A learner shall do a lesson learned immediately or after they have finished learning. It is called “AAR” or after action review. This is a review or learning summary after the action is taken. The learner will conclude what happens in form of document or others. A review will be conducted by learners in a particular lesson. The crucial purpose of the lesson learned is to create a mental model in the mind of a learner before discussing with their classmates and teacher in order to get a complete lesson.

Lesson distilled is a process which takes place after lesson learned. The process presents “best and bad practice”. Lesson distilled is about selection of conceptual framework that matches to a lesson i.e. to develop organization; lesson distilled shall be conducted under SWOT analysis. The team must choose the most appropriate framework in

order to extract the lesson properly.

Development decoded is comparatively a right key that is able to unlock. To decode, the lesson from previous steps (learned and distilled) is analyzed to find words or issues that explain the whole lesson. For example, Prof. Dr. Pravet Wasri decoded that a royal project development has 3 main ideas: goodness, community and knowledge. These 3 words are a key to development. Then, the next step is coding these words such as goodness (G), community (C), and knowledge (K).

Lesson distilled is a review or summary of the project in various perspectives which present internal and external factors affecting and leading to a current result. The result can be both a success and a failure. Lesson distilled is also defined as a learning process from working and extracting knowledge and experience from the colleague (sample). The researcher (learner) will record all the steps, the result and new knowledge occurred in the project in detail in order to learn and improve the project.

Lesson distilled can be divided into two types:

1. Lesson distilled in some points is to emphasize the important activity of the project and can be employed its result for the future development of Best Practice.
2. Lesson distilled for the whole project is to start from the significance of the project, the organization process and the result of the project at the end of the plan.

The method or the process in doing lesson distilled can be varied for example:

- A) Peer Assist – PA is the learning process from peers who together learn as a team or invite the speaker to share the knowledge or experience to the host.
- B) After Action Review: AAR is the revision or the Lesson Learned process after doing performance. The concept of AAR is “to open-mind” and “having the same determination” in learning more than criticizing.
- C) Retrospect is to apply the lesson to the next project; not to achieve the same purpose of the previous project but to get more details than AAR.
- D) Good/Better/Best Practice and Best Practices is the cooperation of organization or villagers come to share their experiences to the listeners as to share and accumulate good information from each other.
- E) Story Telling is the lesson distilled process as in natural manner, releasing and according with the normal human lives.

In development of career education model for highland and remote area schools, the techniques of lesson distilled called After Action Review or AAR was employed in order to get the lesson distilled results and operate in the next Best Practice.

#### **2.4 Development of career education model**

In Thailand, the education system can be distinguished into two models: basic education and tertiary education. The level of basic education provides a compulsory education up to lower secondary education. After graduation, learners can choose to further their study for the academic stream so as to graduate in Matthayomsuksa 6 or a vocational stream to get the vocational certificate. From the information, students who graduate in academic stream commonly aim to get a bachelor degree while some students in vocational stream earn for a living after graduation or go further in a university in order to gain higher social status following to Thai social values (Katesara Amornwutiworn., 2013). The data regarding a number of learners from every organization between 2009-2011, it found that approximately 60% of children and youth leave the schools in high school or lower than that. This causes Thailand face the problem of lack of both the skillful labors in qualitatively and quantitatively. Currently, the labor market needs the officials from the vocational stream, but more learners from academic stream has been produced instead. Besides, the production for vocational stream lacks the potential which is accordance with the market needs (Office of the National Economic and Social Development Board (NESDB), 2013) can cause the education reform trends by indicating the target of education reform – the reform has to be applied to real lives including earning for lives, not only for receiving the certificate (Krissanapong Kirtikara., 2013).

Krissanapong Kirtikara. (2013) studied the career education model and revealed that Thailand already had the career education method called comprehensive schools (NCPO1 and NCPO 2) in B.E. 2510 – 2514. The starting point of problems both school absence and school dropouts have been happening; therefore, learning management for careers in academy stream is provided more and is one of alternatives for children to enter the working lives (Boonjue Chaipak and Weera Aumpansuk., 1970). The model mentioned is accordance with the education model: Career Technical Education ( CTE) of the USA. Which the private sectors participate in designing curriculum and providing education accordance with working in order to prepare children for the labor market in a long term.

Thus, career education is designed vocational stream in a normal program from lower secondary level and the learners can choose which way for further study: going to a university or studying in a vocational school and then entering to the labor market appropriately with their own potentials. England also provides education model, Career Academy, which is the education model with having flexibility for schools to enable to respond the career needs in the community and support average-grouped students or lower to have the working skills. In China, Life Skills Training provides for the youth by cooperated with International Labor Organization (ILO) in order to prepare the youth to be readiness for living and having skills in adjusting themselves by implementing short course curriculum and pilot project in vocational schools.

According to the management model of education for career from foreign country and pilot project on career academy, education should be equally provided for everyone not only for the elite group as in the past. Many countries have remodel their education system to meet the social contexts and the need of manpower to develop their countries by aiming to provide sufficient basic knowledge for graduates who would like to study in higher education and knowledge that is adequate for professional careers.

## **2.5 Theories on mixed methods Research**

### **The introduction of mixed methods Research**

Mixed methods Research is a research that combines many styles or strategies used to collect and analyze data that link between quantitative and qualitative research in order that researchers achieve a more comprehensive result and create clarity in various dimensions of both quantitative and qualitative data analysis. This specific research method can occur at the same time or in chronological order as researchers focus on data integration at a specific point in the research process.

Tashakkori and Creswell (2007: 4), said that the mixed methods research is the collection and analysis of data by incorporating more searching and making conclusions using both quantitative and qualitative.

Johnson & Onwuegbuzie (2004) has provided a meaning of mixed methods research as the type of research where researchers mix or compile techniques, principles, concepts or language of quantitative research and qualitative research together.

In conclusion, the mixed methods Research is a research which uses two approaches or more together to answer the question of research in order to reach the depth, well-

roundedness and completion of a research. It has become a new way of research apart from the only traditional method of data collection and data analysis. When the researchers consider that using the same and only technique is not sufficient for the discovery of new knowledge they seek for variety of ways or a combination of several techniques to access information the facts accurately as needed.

Currently mixed methods research has become more acceptable. Phongphan Traimongkon and Supharb Chatraphorn (2010) discuss the benefits mixed methods research as follows.

1. It is a method which accepts and takes advantage of other research approaches to design integration-oriented research to respectively strengthen and weaken good and bad points of each method. Especially when the researchers are unconfident whether or not referring to only one reference will result in data accuracy the mixed methods can help clarify such problem.
2. It gives a new option from the old traditional method in research design and data collection methods with uses either quantitative or qualitative.
3. It enhances knowledge, understanding and comprehension on the research subject in various and deep dimensions. Therefore, it results in the supplement of information in the overview and it also enhances the accuracy of information for a more complete research.
4. It reveals a controversial aspect of findings that may become interesting new issues which are unexpected to researchers.
5. It helps ensure the consistency of data using Triangulation technique, for example.
6. It provides information for research on a continuous sequence. For instance, when quantitative data is collected and used as a basis for in-depth study with qualitative research.
7. It expands the boundary and depth of research.
8. Its utilization of mixed data helps solve the limitations due to bias as well as helps find credible solution.

Although there are many advantages of mixed research method, there are some limitations that should be acknowledged and aware of.

1. Researchers have to have knowledge and experience in both quantitative

and qualitative research. Otherwise, the research is not complete or credible enough.

2. Mixed methods research takes more time and resources in terms of data collection and analysis when compared to a single quantitative research. If there is budget and time constraints, the method might be impossible except using some extra information.

3. The mixed research method might be used wrongly or by negligence. For example, the quantitative researchers, collected quantitative data through superficial interviews or qualitative researchers selects a random statistical sample without considering appropriate rules and so on.

Pongphan Traimongkolku and Suparp Chatraphorn (2010:287-288) gave the example of situation appropriate to mixed methods as follows.

A) When doing the Phenomenology study or Evaluation Research to study the effects of a method or a project, the information from many resources and various viewpoints in making inference accurately is necessary to be an important factor for making decisions.

B) When studying the point or the complicated situations, the researcher may be incorrect in the information interpretation such as an experimental research in a classroom to explain and compare whether the treatment is effective or not.

C) When studying some points of controversy in society or some professions, the result of study may be indicated and brought to the end of that controversy such as the effects of embankment.

D) When being uncertain in making references by having only one method, the informants may not disclose the real information or give some superficially. If mixed methods with many levels and various data collections in the real situations employed may help support and assure the information more completely.

E) When the researcher needs to study widely and deeply, a survey research can help to find the answer of the current situation widely, but it does not reflect the reality. In contrast, the case study only gives the researcher contexts, but it does not show in wide images. Thus, these limitations cannot give the whole dimension of study. If the mixed methods design is employed, the research will be more effective in only one research project due to answering widely and deeply.

## 2.6 Design of mixed methods Research

Wiroj Sanrattana (2002:13-21) said mixed methods Research can be classified into two characteristics: mixed methods Research Design and mixed methods

Mixed methods is the research design which the researcher has to specify the type of research which will be mixed. For example, a quantitative paradigm will be as an experimental research whether its form will be done. In this case, a qualitative paradigm can be a case study, anthropology study, historical study or Phenomenology study and so on. After specifying the types of mixed methods, the researcher has to design the sample group, the instrument, data collection, and data analysis in each method. The researcher has to understand clearly regarding the compost occurred in the stage of types of research not in the stage of data collection.

Mixed model studies are the researches which are designed the mixed methodology in every step which can be classified into two characteristic: single application within stage of study and multiple application within stage of study.

Mixed methods is the research design having the aim on or the other as follows.

1. To check Triangulation to enhance the reliability in the result of study, it can be distinguish to four aspects: Data triangulation by using the various resources, Investigator triangulation by researcher from different fields, Theory triangulation by the viewpoints of various interpretations, and Methodological triangulation by using multiple research methodology.

2. To be a complementarily such as to check the repeated point or the phenomenon of the study

3. To be an initiation such as to find the unusual point, contrast point or new viewpoints.

4. To be development such as utilizing the result of study from one step to another step.

5. To be an expansion for extending the research.

### Styles of mixed methods

Mixed methods are mainly different as follows.

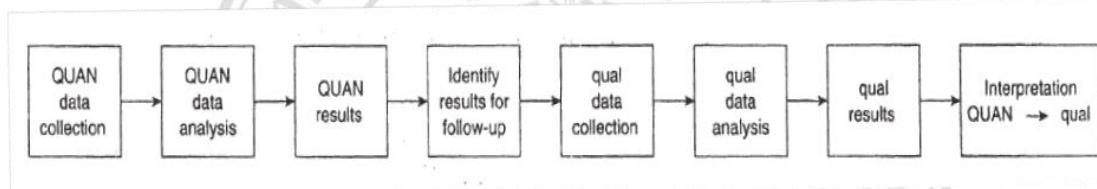
1. Triangulation Design: the style of mixed methods which can be both quantitative and qualitative in doing research methodology; otherwise; it can be look in the specific answer in one phase and weigh the significance equally to obtain the different data.

However, this can support each other and then summarize including interpret the answer or the findings at last.

2. Embedded Design: Interval Supports Method which can continually be as a one-phase study and a two-phase study, having one major research method and the other minor research method. The different aspect of study can be done at the same time and the result of the minor research method is expected to complete the result of the major research method.

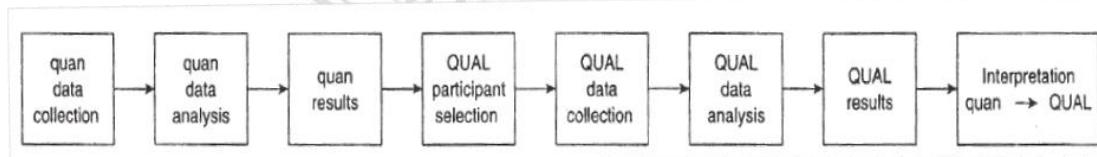
3. Explanatory Design: Explanation Method which can be Two-Phase mixed methods design starting to study at the first phase in quantitative method, follows to the qualitative method respectively. It can be divided into two methods as follows:

### 3.1) Follow-up Explanation Model :



To find the answer of the study, start with quantitative method by classifying the result of the result of quantitative method to select the extreme target group for further study with qualitative method in explain more results of quantitative method.

### 3.2) Explanatory Design: Participant Selection Model:

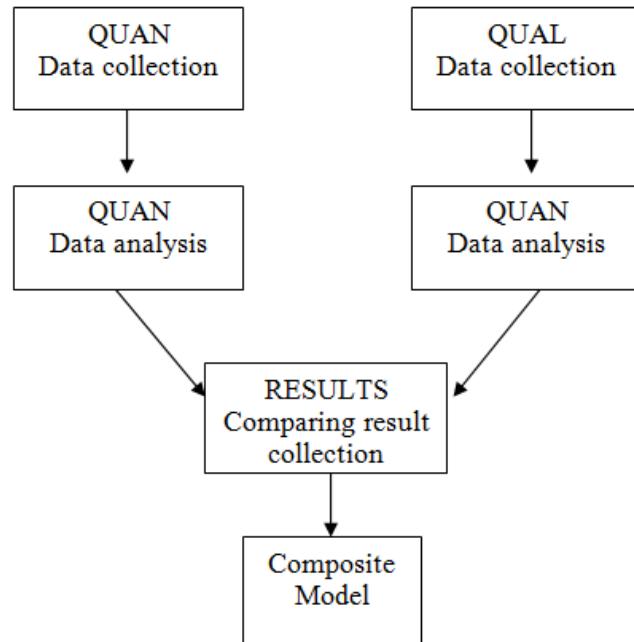


Emphasize on Two-Phase quantitative method study using the result of first-stage quantitative method to determine the informants in other issues (opposite to the former design)

## 4. Exploratory Design:

This mixed methods Design has two phases continuously. Start with using the result of Phenomenology study to develop the variables, instruments in evaluating the variables and theories to do the two-phase quantitative method experiment. This design is suitable for survey the variable and new factors that the researchers still do not know or no theories support regarding the curiosity to obtain the variable, theories including instrument in data collection in the second phase of quantitative method.

In this operation of career education for highland and remote area schools, the Triangulation Design is employed one phase of both qualitative and quantitative method and gives an equal weight to get and fulfill the different data as shown in Concurrent Triangulation Design Visual Model (Creswell & Plano, 2007) in figure 2.3.

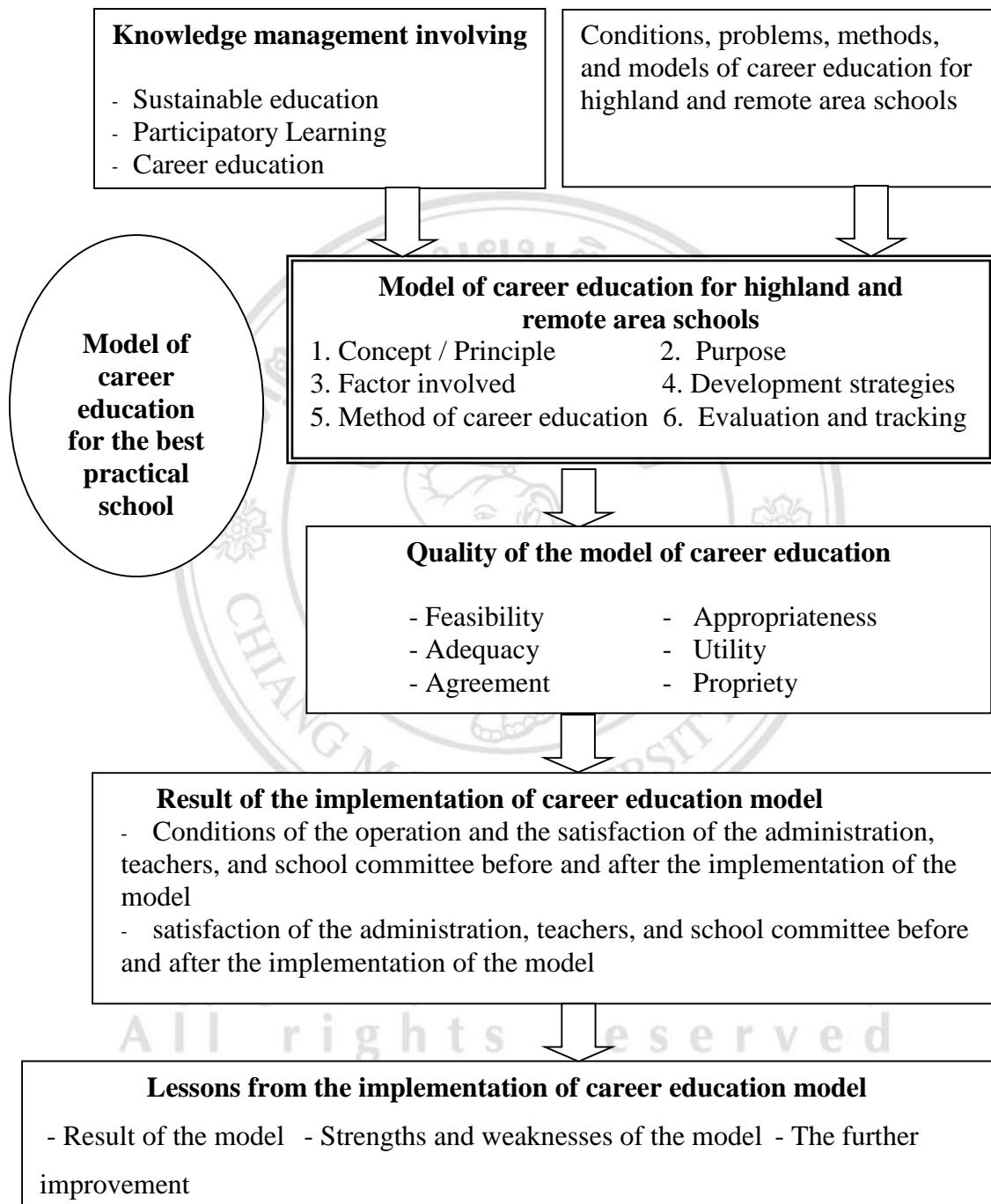


**Figure 2.3** Research Methodology in mixed methods research of Triangulation Design

To select the mentioned method was to explain the quantitative finding how many conditions and problems of career education in highland and remote area schools there were. Also, it was to explain more in qualitative study how that visage was and why it was like that in order that it could support the researcher to analyze and understand the matters correctly. Then, it could bring to the development of career education for highland and remote area school appropriately.

## 2.7 Conceptual Framework

Conceptual Framework to develop the career education for highland and remote area schools



## Model of career education for highland and remote areas