Abstract

The purpose of this study is to implement knowledge management (KM) for educational quality assurance (QA) in the Institute of Physical Education Udonthani, and to identify factors of success of KM for QA. The samples of this study, using the purposive sampling technique, consisted of 37 instructors of the Institute of Physical Education Udonthani. Mixed methods were used including participatory action research (PAR), research and development, qualitative research and quantitative research. Finding: 1) The model of KM development in QA consisted of these 6 states: (1) team/core-leader preparation, (2) building motivations and participatory working, (3) making the plans and developing team potentials, (4) putting the plan into practice and developing work, (5) follow-up and upgrading the body of knowledge, and (6) evaluation for conclusions, Furthermore, in developing and testing the KM model for QA, the following were found: The KM model as a whole was appropriate at the highest level. Group of people, know as “communities of practice (CoPs)”, operated KM according to the 6 aspects of the learning process. Sources of knowledge were from problems, raising questions concerning development including building knowledge, classifying knowledge, storing knowledge, implementing knowledge, sharing knowledge, and assessing knowledge, The Institute of Physical Education Udonthani had a KM center responsible for this process. Finally, factors of success in KM for QA of the Institute of Physical Education Udonthani were: the use of leadership of the researchers, participants, and administrators. Institute of Physical Education Udonthani administrative committee were learners and instructors. Leaders in KM had to create positive awareness of organizational development, provision of opportunities for participant to have participation from the beginning and to be responsible for conducting the research, learning by practicing and improving and sharing learning at the level of persons, community groups and practitioners.

Keywords:
Knowledge management model, educational quality assurance, Institute of Physical Education Udonthani

Introduction

External education quality assessment of the office of Educational Standards Certification and Quality Assurance in round 2 in 2009 has differences from round 1. Assessment in round 2 has for high objectivity in terms of standard, indicators, and more importantly, has criteria for judging the results of assessment based on the basic principle that the institute has been developed to have excellence according to its own identity. The study assessed the goals of official performance based on the Institute of Physical Education Udonthani’s plans.

Grouping higher educational institutes according to performance impacted groups of the institutes and study majors, which had to adjust themselves. It was regarded as a new issue at the levels of faculty, department, and major field. There had to be determination of internal and external QA systems which originated with the administrators, plan-makers, practitioners, and involved persons to share learning continuously change organizational culture for participatory working. The result was a learning organization and KM in the type of organizational quality and efficiency assurance.

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The Institute of Physical Education Udonthani had adjusted its Strategic Plan (2007-2011) focusing on 7 purposes. Purpose 9 guides internal QA for developing education continuously to receive quality standard certification as well as to disseminate information to the public to meet strategy 1. The QA system was promoted and developed with these 4 major goals: 1) having projects to provide additional knowledge concerning QA for staff at least 2 projects a year, 2) all agencies in the Institute of Physical Education Udonthani must have complete systems and mechanisms for internal QA within the year 2010, 3) providing quality improvement plans from the assessment and having operation in each development plan with completion at least 70 percent, and 4) having systems of assessing instructors’ instruction in every course with online assessment within the year 2010 (Institute of Physical Education Udonthani, 2007)

Thus the research staff was interested in conducting a study of developing in knowledge management model of educational quality assurance in the Institute of Physical Education Udonthani. If an appropriate and efficient method of KM would be found, it would lead to staff development, work and organization development to have quality.

Purposes:
1. To make KM plans in QA together with activity plans for work development of Research and Educational Quality Assurance Section,
2. To examine KM models for QA together with activity in the Institute of Physical Education Udonthani with efficient working mechanism, and
3) To examine conditional factors of success in KM in QA for the Institute of Physical Education Udonthani.

Procedure
1. Sample
   The sample for this study was selected by using the purposive sampling technique comprising 37 instructors and interested persons who volunteered to participate in the activities.
2. Methodology
   This was joint research among KM team, representatives of organizational efficiency, groups from each department/faculty, and the researchers themselves. The methodology included participatory action research (PAR), qualitative research and quantitative research. The stages of conducting the study were: 1) preparing team of core leading researchers, 2) building motivations and participation, 3) making plans, 4) putting plans to practice, 5) follow – ups and upgrading knowledge, and 6) evaluation in summary
3. Method
   This study was divided into 3 phases:
   Phase 1 studied related literature and determined the research conceptual framework: theories and concepts of knowledge and KM, concepts of developing models and conceptual framework in KM, the KM cycle, and factors affecting KM.
   Phase 2 selected research participants, Four focus Faculties and Department were: Department Secretary, Faculty of Liberal Arts, Faculty of Sport Science, and Faculty of Education. The following were criteria for consideration: all Faculties and Department Secretary were team of participants with totally 15 persons.
   Phase 3 develop the KM model, divided into 2 stages.
   1) Constructed a tentative model of KM in QA based on the research conceptual framework in terms of the scope of important activities for KM according to the concepts of Nontaka&Takeuchi; Vichan Phanich; and Wiig’s process of KM; and importantly, His Majesty The King Bhumibol’s principle of work involving participatory work performance and knowing, love, and unity. These principle were integrated into techniques of development to be a tentative KM model of QA of the Institute of Physical Education Udonthani. The tentative model was then submitted to 3 experts for considering appropriateness and possibility in practice and congruence with group development plans.
   2) Tried out the tentative KM model of QA and improved the model.
      (1) Held a meeting for planning with the administrative team and the team of participants who were actual knowledge
manager in QA for leading to behavioral adjustment.

2) Built the team to originate awareness by using the learning process, participatory work performance, cooperative research and development, PAR, meeting for explaining, study visits, making vision of KM in QA.

3) Made work group development plans in the organization together with KM at least 4 parts: vision, performance process, sharing leaning, and extracting the body of knowledge.

4) Acted according to the plan together with KM in QA of the focus Faculties/Department Secretary involving participatory work performance, team work, participatory evaluation, and KM in QA.

5) Summarized the lesson, reflected, planned for improving an developing work together with KM in QA at the Faculties/Department Secretary.

6) Piloted important activities according to the issue of strategic plans, strategic goals, and purposes of QA of the Faculties/Department Secretary together with KM in QA.

7) Evaluated KM operation in QA of the Faculties/Department Secretary to compare themselves.

8) Praising, appreciation and giving interest were more important than rewarding with money or things. They were divided into 2 dimensions: 1) reward for success in work performance, and 2) reward for building knowledge, sharing knowledge, and extracting knowledge pool.

Results:

1. Based upon results, the researchers made plans for KM in QA together with plans of work development activities and KM of the Institute of Physical Education Udonthani according to PAR and organizational KM model were divided into 6 phases: 1) preparing team/core leaders, 2) building motivations and participatory work performance, 3) making plans and developing team potentials, 4) putting plans to practice and work development, 5) follow-up and upgrading the body of knowledge, and 6) evaluation in summary. The KM model was submitted to the committee for QA of Assistant President of Research and QA section for review. After review, changes were made and implementation for developing community groups of practitioners could begin. However, implementation at each stage could be flexible based on the period of time of the QA cycle.

2) Developing and testing the KM model in QA

2.1 Developing the KM model was based upon the conceptual model of KM of Nontaka and Takeuchi, Vichan Panich, and the KM process of Wiig. The model was submitted to Assistant President of Research and QA section; and 3 representatives of the QA committee to consider appropriateness, possibility in practice, and operational plans with the model of administration in QA. From the committee’s consideration, the following results were found: 1) The KM model as a whole was appropriate at the highest level. 2) Possibility in practice of the KM model as a whole was at the highest level. 3) The congruence between the operational plans and the KM model as a whole was at the highest level.

2.2 Testing the tentative KM model in QA and improving the model was divided into 2 phases. Phase 1 operated according to group activity plans together with KM: 1) Preparation and readiness training; 2) Building motivations for voluntary participant; 3) Awareness campaigns and team building; 4) Plans were put to practice by using participatory action research (PAR) for building the learning process and KM on easy activities and in accordance with QA of each Faculty. 5) Follow-ups and revisions included quality team development activities and upgrading the focus of QA at the Faculty level. The Faculty interested in participation in KM in QA was the Faculty of Education which developed the model with the administrator and teaching staff. Participants were Department Practitioners. 6) For evaluation in summary, there were building knowledge, classifying knowledge, storing knowledge, implementing knowledge, sharing knowledge, and evaluation knowledge. In phase 2 the results of a trial of KM model in QA were as follows:
<table>
<thead>
<tr>
<th>Stage</th>
<th>Major Activities</th>
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<tr>
<td></td>
<td>13. Positive reinforcement, Rewarding, and disseminating</td>
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<td></td>
<td>12. Establishing IPEUD KM Center</td>
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<td>5. Follow-ups and upgrading the body of knowledge</td>
<td>11. Operating KM together with QA in the pilot faculty in terms of building, classifying, storing, implementing, sharing and evaluating knowledge</td>
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<td>10. Holding a meeting for planning and determining indicators of developing QA in the voluntary piloting faculty</td>
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<td>4. Putting plans to practice and work development</td>
<td>9. Summarizing lessons, reflecting and reviewing KM plans</td>
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<td>8. Operating KM in QA together with work development in faculty, and department.</td>
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<tr>
<td>3. Making plans/developing team potentials</td>
<td>7. Developing basic knowledge of computer and making Website and Blog</td>
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<td>6. Planning and presenting KM together with activities for developing QA</td>
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<td></td>
<td>5. Determining issues in KM and activities for developing QA in individuals, faculty, and department</td>
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<tr>
<td>2. Building motivations and participatory work performance</td>
<td>4. Determining goals and KM plans together with Faculty QA plans</td>
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<td>3. Study visits to organizations with outstanding KM in QA and Summarizing and reviewing outcome of study visits and case studies</td>
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<tr>
<td>1. Preparing team/core leaders</td>
<td>2. Studying KM conditions and determining goals and visions of KM at the faculty level</td>
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<tr>
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<td>1. Holding meeting for planning together with the administrator and team of research participants</td>
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Fix 1. KM model in of the Institute of Physical Education Udonthani
2.3 Testing the KM model according to the stage, activity work plan, period of time, and readiness of team of participants will achieve the research purposes with quality. The results can affect HR development, and organizational development. The results of testing the KM model in QA of the Institute of Physical Education Udonthani could be summarized as follows:

1) Building knowledge: before building or seeking actual knowledge for their own faculties to be sustainable and to perform work consistently, a common body of knowledge had been built but it was not put into practice. It still lacked knowledge of using and connection of data. After conducting this research, having experiences in study visits, and training from staff who had outstanding QA work, the participants were motivated to improve the process of work performance. Participants were motivated by using teacher satisfaction evaluations each semester. This was regarded as important information for work development. The new body of knowledge was regularly integrated. Also, the construction of learning networks focus on long-term goals.

2) Classifying knowledge: before conducting the research, knowledge of the groups was not systematized. The importance of the common body of knowledge was not systematized. Seeking knowledge depended upon the stream of popularity with imitations of products. After conducting the research, the body of knowledge was more clearly systematized. They participants cooperated in thinking and performing in every process of work. They also had more individual note taking on information.

3) Storing knowledge: before conducting the research, the participants stored little knowledge of individual and group documentation, media, and printed matters. There was no digital storage. Operational outcomes and the body of knowledge were inconsistently summarized. After conducting the research, they stored more group knowledge in the forms of documents, printed matters, and electronic documents. They had note-taking in their individual books based on functional roles. There were data note-takers according to types of activities. Information was stored in computer database and on website of the Institute of Physical Education Udonthani.

4) Implementing knowledge: before conducting the research, knowledge was implemented in the form of hard-copy documentation. Electronic media had not yet been used. Knowledge connections from outside were limited. After conducting the research, knowledge was shared in meetings, hard-copy, and electronic media. These media could connect more with inside and outside the Institute. The Institute had direct KM Coordination Division of the organization.

5) Sharing knowledge: before conducting the research, sharing knowledge took place in meetings. After conducting the research, knowledge was shared between people in and outside their own work lines in meetings, and then transcribed into important lessons on the website of the ipeud.ac.th. There were persons who stored data and updated data in the type of virtual on the website. It was easy and convenient to access data and the body of knowledge in the issues in which they were interested.

6) Evaluating knowledge: before conducting the research, learning persons in the organizations worked individually. They thought differently and decided differently and always waited for orders from the administrator and group leader. There were neither working standards nor database to connect data. They occasionally worked together by using his/her own data without sharing data. There were unclear KM Coordination Division of any organization. After conducting the research, the team and participants in each community of practice became more enthusiastic about learning. They worked as a team with goals, and began implementing standards of the Practitioner Division by having more databases for recording data and for connecting data from inside and outside the Institute of Physical Education Udonthani. There was a clear administrative structure for thinking together to determine visions and goals of working together. They worked together as a community of practice to create sustainability.

The body of knowledge could be classified into individuals, communities of practice, and faculties as follows:
1) Individuals combined their own knowledge with the knowledge gained from outside to put to improve and develop their work. Also, they documented shared learning in real and virtual forums. It was noted that participants became enthusiastic about learning together when it was in line with established visions.

2) The Institute of Physical Education Udonthani group of KM had management, structure, analytical thinking, determination of goals, cooperation, and standards. Group members raised challenging questions to improve and develop themselves. They managed resources and used human resources, including Department Secretary, Faculty of Liberal Arts, Faculty of Sport Science, and Faculty of Education.

3) The Institute of Physical Education Udonthani had its own KM center beginning directly from QA activities of the Institute. It maintained itself with follow-up activities on QA and shared lessons from the focus groups through its website.

4) For the factors of KM success in QA of the Institute of Physical Education Udonthani, the following were found:

4.1 The use of leadership of the researchers, participants, administrator, and administrative committee of the Institute of Physical Education Udonthani as learners, instructors, external managers, and synergy providers could generate participatory work performance.

4.2 Leaders in KM of QA of the Institute of Physical Education Udonthani intended to create a climate of success based on functional roles in KM and to present their own works according to the issues of interest. Group work performers included: Department Secretary, Faculty representatives, summary note-takers, and KM center website maker in the team of participants. In the first phase, Deputy Deans, teaching staff and Department Secretary, and QA head involved participated in learning and work performance. The coordinator organized groups and personnel to participate in this study.

4.3 From the beginning, participation was encouraged to generate a good work climate: thinking together, planning together, performing together, checking together, and talking responsibility together. It was an important factor to generate a sense of belonging, initiation, visions, participatory work performance, better management, community, and commitment to operate by themselves. Also, confidence in the body of knowledge of their own organizations could emerge with more self-reliance.

4.4 Learning by doing improving and developing work, raising new questions, and putting to practices to achieve the goals would result from PAR. It was regarded as the way of life, causing interactions with one another within their own group and with other groups. There occurred sympathy, love, and care of one another. They were proud of human dignity. This could be regarded as integrated KM of QA in all Faculties and Department Secretary.

4.5 Persons in the team of participants were enthusiastic about learning, performing work in their own group, and sharing learning at the personal level. The community groups of practitioners tried to implement tacit knowledge through practice, creating confidence, summarizing and transcribing lessons, and note-taking. These could be regarded as the meaningful and identical body of knowledge of the organization. It could be seen from the Institute of Physical Education Udonthani which was revising functional roles of the teaching staff and personnel to originate interaction of organizational management with quality in all work, personnel, finance, and time. The results of Quality Assurance of Institute of Physical Education Udonthani on 1-3 July 2010 as follows:

1) The total was good level, (\( \bar{X} = 4.40 \))

2) For standard 4: Quality Standards of Preservation of Art and culture was very good level, (\( \bar{X} = 5.00 \))

3) For standard 1: Quality Standards of Graduate was very good level, (\( \bar{X} = 4.83 \))

4) For standard 7: Quality Standards of Internal Quality Assurance system was very good level, (\( \bar{X} = 4.67 \))

5) For standard 3: Quality Standards of Academic service for community was good level, (\( \bar{X} = 4.20 \))

6) For standard 6: Quality Standards of Curriculum and Instruction was good level, (\( \bar{X} = 4.10 \))
7) For standard 5: Quality Standards of Institute and Personnel Development was good level, ($\bar{X} = 4.07$)

8) For standard 2: Quality Standards of Research and Innovation was good level, ($\bar{X} = 3.71$)

Discussion

In this study of developing a KM model for QA the following issues were discussed:

1. For the outcome of a trial of the KM model for QA, it was found that this model is successful. It could generate the expected outcome because in developing the model the researcher used conceptual frameworks by analyzing the concepts and results of the research conducted by internationally qualified persons in terms of KM and techniques of deployment. The researcher used the KM concepts of Nontaka and Takeuchi, Vicharn Phanich, and the KM process of Wiig to integrate into techniques of development. Importantly the researcher used the principle of working of H.M.T.King Bhumibol Adulyadej involving participation, knowing, love and unity (Office of special Committee for coordination in the projects Following the Royal Ideas, Unknown date: 2-23) together with such other principles as after-action review (AAR), raising questions and sharing knowledge in real and virtual forums. Supporting mechanisms, such as the Institute of Physical Education Udonthani KM center and its website, helped integrate KM from Faculties and Department Secretary. Some important evidence indicating success is as follows:

   1) There were 4 groups of knowledge managers: facilitators, practitioners, note-takers, and network managers. This was in congruence with Nontaka Takeuchi (1995:20-25) The organization members understood functional roles in KM. Real knowledge managers were majors practitioners. The group of medium- level managers interpreted and transformed knowledge into knowledge on paper. The group of knowledge managers determined goals, to foster knowledge sharing, and extracted knowledge to create value. This was in congruence with Vicharn Phanich (2005:23-48) Important KM managers in the organization included: Khun Amnuai who promoted creativity and a culture of sharing knowledge; Khun Kit was group practitioner, regarded as an activity operator at approximately 90 percent of all the activities; Khun Likhit who was a note-taker of data in KM activities; and Khun Prasan who was a KM network manager among organizational groups.

2) The sources of knowledge were from problems, raising questions, and solving problems using real practices leading to KM. They were building, classifying, storing, implementing, sharing, and evaluating knowledge. This was in congruence with H.M.T.King Bhumibol Adulyadej’s principle of working (Office of special Committee for coordination in the projects Following the Royal Ideas: 32). The King idea about working may be concluded as “Knowing, love, unity” Individual and groups must know that before doing anything, They needed to know all the factors, all the problems, and how to solve those problems, They must love to begin solving those problems. Unity that means that one cannot work cooperatively as an organization or a staff of people. This is in accordance with Prawet Wasi (2002:21) who say that individual learning is not sufficient for success because other people, organizations and institutes involved do not learn, Only learning together in practice will be successful.

3) There was a KM center administrative committee for following up through monthly meetings and virtual forum on the website to disseminate KM outcomes and resources. This is in accordance with the concepts of Nontaka and Takeuchi (1955:71-72) and Vicharn Phanich (2005:1-4) who found that KM had to rely on utilization of IT and communications for support. It was also in accordance with the concept of Senge (1990:13-14) who say that there should be sharing of knowledge, concept and worldviews of people in the organization to support the visions of the organization. Everyone in the organization should participate in building these visions and should help one another build future image of the organization. Everyone should devote their physical and mental strengths to achieve the goals of the organization.

2. When practitioners of the Faculties and Department Secretary were classified, it was found that they showed their satisfaction
with KM operation at a high level. It was because everyone improved and developed themselves. Everyone worked according to the functional roles of the KM center. This was in congruence with external quality assessment in round 2. As for the Institute of Physical Education Udonthani, its standard were certified and the result of assessment by the committee as a whole were at good level.

3. Some important factors of success of the KM model of QA were as follows:

1) The team of participants intended to work to generate success according to the functional roles, and demonstrated a sense of belonging through activities and work plans, and sought more cooperation from persons in internal and external organizations.

2) From the beginning there were opportunities to participate: thinking together, planning together, checking together, and taking responsibility together in conducting research. This was in line with Paitoon Sinlarat (1999:22-24) concerning the principle of administration of the organizational leader: trusted leader had high power over and influence upon the organization. Therefore, if understanding was built and if agreements on participatory working were cooperatively determined, it would cause high job satisfaction and a positive work climate, and foster success.

3) Learning by practicing was a way of life. The new body of knowledge would help in real applications. Connections and relationship between organizational groups emerged. Integrated KM and participatory research could occur. This was in congruence with the results of the research conducted by Yuwanut Thinnalak (2006:1-7) who found that building knowledge was appropriate to Thai society which values self-reliance. Practices, developing innovations, and learning what one had aptitudes for could build the body of knowledge for solving problems and living joyfully in the society. Also, there was a trend toward sustainable development.

4) The Institute of Physical Education Udonthani KM center, under management of the team of participants would follow up progress of the community of practice in faculties and Department Secretary to create continuity and connections and relationships with one another. The website was used as a source for seeking knowledge and disseminating KM works. It was used as a source for storing and sharing knowledge among people in and outside the organization. This was in congruence with Chalard Chantarasombat (2007:260-265) who encouraged a driving mechanism: the community organization KM center should be used as the center for coordination, the place for meeting, the forum for sharing knowledge, the channel for communication and working together, and for storing the body of knowledge of the team of participants and interested people.

Recommendations

1. Recommendations for implementing the KM model

1.1 Implementation of the developed KM model of QA in full outcomes needed operation in all the 6 stages and 14 major activities. If the Institute would continue operation, they could begin from activity 5.

1.2 If the team of participants was regarded as the team of important persons in KM, the faculties should promote and support department administrators, teaching staff, department secretary to facilitate learning together to achieve the purposes of internal and external QA. The 10 indicators were regarded as the focus on work development to build an outstanding body of knowledge generated from practices on the basis of problems of authentic work development.

1.3 The Institute of Physical Education Udonthani KM center should be promoted and supported to generate a variety of clinics, revolving leadership in each section, and sharing knowledge on the monthly forum and the virtual forum on the website.

1.4 Practitioners, department secretary, and all faculties still had potential in participatory work performance for creating QA at a medium level. Training, practices, and study visits should be continuously developed.

2. Recommendations for further research

2.1 There should be research and development of QA together with total quality management (TQM) at Faculty and Institute levels.

2.2 There should be action research at the department level using the working principle of H.M.T. The King involving
sufficiency economy, self-reliance, and participatory working; knowing, love, and unity to connect with the organization, students, and service users in a concrete form.

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References