



Guidelines for development of self-management to enhance career characteristics of junior high school students

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Abstract

The objectives of this research were: (1) to assess needs for self-management; (2) to develop career characteristics scales; and (3) to explore self-management guidelines to enhance the career characteristics of junior high school students. Mixed-method research was designed for this study. The sample group for quantitative research consisted of 1000 junior high school students in Bangkok and its vicinity and 9 experts participating in in-depth interviews for qualitative research. The research results were as follows: (1) The results of the needs assessment for self-management of junior high school students revealed that Component 1, Awareness, had the highest need ($PNI_{modified} = 0.182$); (2) The Cronbach alpha coefficients for each component of the self-management measurement of junior high school students were .886, .875, .810, .796, .787 and .692, respectively. The results of coherence testing of the model revealed that the structural validity of the measurement model for career characteristics of junior high school students was consistent and harmonious with the empirical data determined by $NFI = .900$, $IFI = .920$, $TLI = .915$, $RMR = .047$, $RMSEA = .058$ and $CFI = .920$. The harmonization index was in accordance with the criteria; and (3) The self-management to enhance career characteristics of junior high school students included 5 guidelines: (1) organizing activities to enhance learning from real-life situations; (2) using media or information technology in the enhancement; (3) using self-assessment tests; (4) practicing self-learning experiences fostering essential skills; and (5) counseling and guidance processes of self-management to enhance career characteristics.

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Introduction

The policy of current educational management focuses not only on academic achievement, but also on life quality improvement of learners both physically and mentally, as shown in the National Education Plan 2017–2036, which has framed the goals and directions of the country's education management with the aim of providing education for all Thais of all ages to develop their full potential to acquire knowledge and learn by themselves continuously throughout their lives. Under the vision, all Thai people are provided with quality education and engage in lifelong learning with happy lives on the basis of the Principles of Sufficiency Economy Philosophy and global changes in the 21st century. In addition, the Education Management Act, Section 8 and Section 25 mention guidelines for learning management as lifelong learning for learners, and Section 66 addresses the development of learners for continuous self-education throughout their lives, by aiming to develop a person with mental, physical, intellectual, emotional and social completion and balance, focusing on the development of learners to acquire knowledge and competence in academic, vocational and living-life subjects so that they can live happily in a society, be self-reliant, live together with others creatively and develop the society and the environment (Ministry of Education, Kingdom of Thailand, 2004).

The Basic Education Core Curriculum under the National Education Act 2010, (3rd Edition) (Ministry of Education, Kingdom of Thailand, 2010) aimed to develop learners by taking into account differences among individuals to enable learners to develop their potential for further education and careers with the fundamental belief that all learners are able to learn and develop themselves. The Ministry of Education has been alerted to the trend of “Educational Preparation of Thailand to Step into the ASEAN Community in 2015,” especially the designation of an educational acceptance agreement, the development of competence and experience in key career fields in order to support the liberalization of education along with the liberalization of labor mobility. Currently, although there are many new career fields, some graduates do not work related to their abilities. And, unfortunately, some high school students/undergraduate students have to endure studying in fields that they do not like and are not good at. Qualifications of

each person can be suitable for different occupations, and individuals differ from others in abilities, aptitudes, interests and personality, career choices and levels of career in relation to intelligence, family socioeconomic status, needs, values, interests, levels of education and labor market needs (Jaukvon & Sujiva, 2009). A career satisfaction survey consisting of the concepts of an individual's personality can be categorized into 6 personal characteristics based on their interests in the following career categories: (1) craftsmanship and outdoors; (2) scientific and technical; (3) educational and social service; (4) office and clerk work; (5) managing and trading; and (6) art, music and literature. Moreover, environments and personal characteristics affect different interests and aptitudes. Individuals will seek environments that facilitate them to practice their skills and perform to the best of their abilities with freedom. When recognizing their personal characteristics and environments, individuals will realize the consequences, such as choosing a career most suitable for themselves (Holland, 1973). Therefore, it can be said that self-management is important and necessary for a person to use in his or her self-development in order to lead an efficient and happy life including study and work that will help a person become a really complete person. Therefore, if learners realize their own abilities, needs and interests about their future study plans and future careers, they will make the right decisions on which plans they should study or invest in. And most importantly, the government education agencies will not waste their budgets in vain.

For the reasons stated above, this research aims to enhance the career characteristics of junior high school students through the development of self-management processes as self-management is the ability to supervise both feeling, acting and thinking to achieve set goals. At the same time, as the world of work is constantly changing, companies and organizations tend to have high expectations of their new employees for competence, job responsibilities, and other essential traits. Therefore, self-management is regarded as a more important matter. O'Keefe and Berger (O'Keefe & Berger, 1999) mentioned that in order to achieve in school, professional and other personal matters, a person needed to know how to deal with their feelings, actions and thoughts in the right way first. Also, O'Keefe said the importance of the students learning self-management was because it would benefit the students themselves.

For these reasons, the researcher recognized the importance of enhancing the career characteristics of junior high school students by developing a self-management process to assess junior high school students' self-management needs. Perceiving the prioritization of variables was an important process studied in 6 aspects, namely, emotional management, time management, self-motivation, awareness, self-discipline and self-assessment in order to identify what the junior high school students should develop first and to search for self-management guidelines to enhance the career characteristics of junior high school students. The results of the study will be beneficial for the decision-making process in selecting study plans and career choices for junior high school students. This will affect the self-development of the learners, who will grow up to be an important workforce for the nation's development in the future.

Methodology

The study on guidelines for development of self-management to enhance career characteristics of junior high school students was conducted using mixed-method research. Several methods were used to collect data including quantitative data and qualitative data by Exploratory design of Taxonomy development model (Creswell & Plano Clark, 2007; Prasertsin, 2014). The research process was divided into 3 phases as follows: For quantitative research, Phase 1, assessment of the self-management needs of junior high school students, Phase 2, development of the career characteristics scales of junior high school students, and for qualitative research, Phase 3, exploration of self-management guidelines to enhance the career characteristics of junior high school students.

Measurement design

The tools were classified according to the data collection: (1) quantitative tools used for answering Objectives 1–2 were classified according to the two variables: self-management scales and a student's career characteristics measurement model; and (2) a qualitative tool used to answer Objective 3 was a quasi-structured interview to search for self-management guidelines to enhance the career characteristics of junior high school students.

The process of creating and quality testing was as follows: For the self-management measure model, the researcher used the self-management components for junior high school students obtained from the review of related documents and research to create and design a quantitative tool used in quantitative data with a 5-point scale which consisted of lowest, low, moderate, high and highest. The Self-Management Scale consisted of 36 items of 6 items on 6 components of awareness, emotional control, self-motivation, self-assessment, self-discipline and time management. The tool testing used to measure students' self-management was examined for the content validity by 5 experts on the consistency of components and definitions by calculating the Index of Item Objective Congruence (IOC) values for each question. The Index of Item Objective Congruence (IOC) was between 0.60–1.00 and had a validity of the entire text $\alpha = .957$, and the construct validity was examined by confirmatory factor analysis.

For the Student Career Characteristics Scale, the researcher used the career characteristics for junior high school students obtained from the review of related documents and research to create and design quantitative data consisting of 40 items divided into 5 components. These included 10 of skills diversity, 10 of job characteristics, 8 of job importance, 7 of job independence, and 5 of feedback. The tool testing was examined by 5 experts for content validity of each component, which was used to measure students' career characteristics on the consistency of components and definitions by calculating the Index of Item Objective Congruence (IOC) values for each question. The Index of Item Objective Congruence (IOC) of each item was between 0.60–1.00, and the Cronbach's alpha coefficient formula was used to examine the reliability of the tool in measuring the variables used in the research, having a validity of the entire text $\alpha = .965$.

A quasi-structured interview to explore self-management to enhance career characteristics of junior high school students which the researcher used for the self-management components for junior high school students obtained from the review of related documents and research to create and design a quantitative tool used in a qualitative data consisted of 7 items. All were examined for their consistency by calculating the Index of Item Objective Congruence (IOC) for each item. The Index of Item Objective Congruence (IOC) was between 0.60–1.00.

Analysis Design

Quantitative analysis

1. An analysis of self-management needs of junior high school students showed levels of needs by using the index values $PNI_{modified} = (I-D)/D$, I (Importance) representing the levels of expectation to be achieved or the condition it should be, and D (degree of success) referring to current status quo levels. In order to prioritize needs, the PNI modified index was arranged in descending order from high to low. A high index indicated a high need which required more attention than an index with a smaller value (Wongwanich, 2007).

2. An analysis of fundamental data described general characteristics of categorical variables including frequency distribution, percentage, descriptive statistical analysis, career characteristics of junior high school students, presentation of the basic statistical values of the variables as continuous variables (continuous data), arithmetic mean (Mean), Standard Deviation (*SD*), Minimum Distribution Coefficient (Min), Maximum value (Max), Skewness value (Sk), and the kurtosis value (Ku) to identify the characteristics of distribution and distribution of variables.

Referential statistics were used for data analysis to determine the quality of components and the quality of career characteristics scales of junior high school students with a corroborative component analysis (CFA).

Quality analysis

Content analysis was used for Qualitative data analysis to develop self-management guidelines to enhance career characteristics of junior high school students. Accordingly, the experts reviewed and assessed the guidelines based on Stufflebeam's assessment standards by analyzing basic statistical values: arithmetic mean (Mean), standard deviation (*SD*), levels of quality and applications.

The experts reviewed and assessed the guidelines based on Stufflebeam's assessment standards by analyzing basic statistical values: arithmetic mean (Mean), standard deviation (*SD*), levels of quality and applications.

Results

Assessing the Self-Management Needs of Junior High School Students by Prioritizing the Needs compared to Each Component

It was revealed that Component 1, Awareness, had the highest need ($PNI_{modified} = 0.182$). Compared to all 36

items, item 36: the students made a daily to-do list and planned the schedule used to get the job done in a deadline, had the highest need ($PNI_{modified} = 0.221$). Considering lists of questions for each component, it was revealed that: Component 1, Awareness, item 3: the students believed in self-learning that they were able to achieve their expectation, had the highest need ($PNI_{modified} = 0.218$). Component 2, Emotional control, item 3: when getting furious or dissatisfied, the students tended to control their negative emotions, had the highest need ($PNI_{modified} = 0.192$). Component 3, Self-motivation, item 14: the students committed themselves to work towards their goals, and item 18: they overcame hardships by making plans to seek happiness for themselves later, had the highest need ($PNI_{modified} = 0.148$). Component 4, Self-assessment, item 20: the students were able to improve and develop their own weaknesses better, had the highest need ($PNI_{modified} = 0.187$). Component 5, Self-disciplines, item 27: no matter how difficult the tasks were, the students were patient and determined to get success, had the highest need ($PNI_{modified} = 0.147$). Component 6, Time management, item 36: the students made a to-do list every day to plan a schedule in order to complete the tasks on time, had the highest need ($PNI_{modified} = 0.221$). Considering lists of questions for each component revealed that Component 1, Awareness, item 3: the students believed in self-learning that they were able to achieve their expectation, had the highest need ($PNI_{modified} = 0.218$). Component 2, Emotional control, item 3: when getting furious or dissatisfied, the students tended to control their negative emotions, had the highest need ($PNI_{modified} = 0.192$). Component 3, Self-motivation, item 14: the students committed themselves to work towards their goals, and item 18: they overcame hardships by making plans to seek happiness for themselves later, had the highest need ($PNI_{modified} = 0.148$). Component 4, Self-assessment, item 20: the students were able to improve and develop their own weaknesses to better, had the highest need ($PNI_{modified} = 0.187$). Component 5, Self-discipline, item 27: no matter how difficult the tasks were, the students were patient and determined to get success, had the highest need ($PNI_{modified} = 0.147$). Component 6, Time management, item 36: the students made a to-do list every day to plan a schedule to complete the tasks on time, had the highest need ($PNI_{modified} = 0.221$). The assessment of needs for career characteristics of junior high school students showed that Aspect 2, Specific job characteristics, had the highest need ($PNI_{modified} = 0.149$). Compared to 40 items of all aspects,

item 16: the students were able to determine the exact time of their responsible tasks, had the highest need ($\text{PNI}_{\text{modified}} = 0.182$). When examining questions by aspects, Aspect 1, Skill diversity, item 1: the students thought they were able to complete multitasks that needed to be done simultaneously, had the highest need ($\text{PNI}_{\text{modified}} = 0.163$). Aspect 1, Specific job characteristics, item 16: the students were able to determine the exact time of the tasks, had the highest need ($\text{PNI}_{\text{modified}} = 0.182$). Aspect 3, Importance of task, item 22: the students had positive feelings about their responsible tasks, had the highest need ($\text{PNI}_{\text{modified}} = 0.139$). A aspect 4, Independence of tasks, item 30: the students were able to plan their own responsible tasks, had the highest need ($\text{PNI}_{\text{modified}} = 0.138$), and A aspect 5, Feedbacks, item 40: the students conducted their responsible or assigned tasks that were designed to be linked to other relevant tasks, had the highest need ($\text{PNI}_{\text{modified}} = 0.129$).

Development of Career Characteristics Model of Junior High School Students

The presentations of the measure development according to the characteristics to be measured were divided into 2 parts: Part 1, development of self-management scales of junior high school students, and Part 2, development of a survey of career characteristics model of junior high school students. The results were as follows:

Part 1 Development of self-management scales for junior high school students

The correlation coefficient matrix analysis of all 15 pairs of observed variables in the model had a significant difference from zero at the .05 level ($p = .000$). The correlation coefficient ranged from 0.712–0.840. Based on the size of the relationship, the variables were correlated at a relatively high level. The observed variable with the highest mean was Component 5, Self-discipline ($M = 3.876$, $SD = 0.834$), and the observed variable with the lowest mean was Component 1, Awareness ($M = 3.549$, $SD = 0.728$). When considering the results of Bartlett's Test of Sphericity, a hypothesis testing the statistical value of whether the correlation matrix was an identity matrix, $\chi^2 = 6285.027$ ($df = 15$, $p = .000$), it was statistically different from zero at the .01 level. The correlation matrix of the observed variables was not an identity matrix and did not have enough correlation

between the variables used for component analysis to verify structural validity, mean, standard deviation and correlation of observed variables in a self-management measurement model for junior high school students.

The affirmative component analysis revealed that the self-management measurement model for junior high school students was consistent and harmonious with the empirical data determined by $\text{GFI} = .917$, $\text{AGFI} = .905$, $\text{NFI} = .907$, $\text{RFI} = .900$, $\text{IFI} = .928$, $\text{TLI} = .921$, $\text{RMR} = .025$, $\text{RMSEA} = .055$ and $\text{CFI} = .928$. The harmonization index was in accordance with the criteria of Hair et al. (2010).

The standard component weight coefficient (β) of the observed variables or indicators revealed that for Component 1, Awareness, the standard weight component coefficient (β) of the observed variables or indicators ranged from 0.679–0.756; Component 2, Emotional control, the standard weight component coefficient (β) of the observed variables or indicators was between 0.592–0.793; Component 3, Self-motivation, the standard weight component coefficient (β) of the observed variables or indicators was between 0.586–0.761; Component 4, Self-assessment, the standard weight component coefficient (β) of the observed variables or indicators was between 0.671–0.789; Component 5, Self-discipline, the standard weight component coefficient (β) of the observed variables or indicators was between 0.740–0.870, and Component 6, Time management, the standard weight component coefficient (β) of the observed variables or indicators ranged from 0.656–0.845. All components had a statistical significance at the .05 level ($p = .000$).

Part 2 Development of the career characteristics scales of junior high school students

The correlation coefficient matrix analysis of 10 pairs of observed variables in the model was significantly different from zero at the .05 level ($p = .000$) for all pairs. The correlation coefficient ranged from 0.734–0.860. The correlation size revealed that the variables were correlated at a relatively high level. The observed variable with the highest mean was Component 5, Feedback, ($M = 3.745$, $SD = 0.820$), and the observed variable with the lowest mean was Component 3, Importance of tasks, ($M = 3.528$, $SD = 0.774$). The correlation size showed that the variables were correlated at a relatively high level. When considering the results of Bartlett's Test of Sphericity, a hypothesis testing statistical value of whether the

correlation matrix was an identity matrix or not at $\chi^2 = 5454.905$ ($df = 10$, $p = .000$), was different from the center at a statistical difference level of .01 and consistent with the results of the index analysis Kaiser-Meyer-Olkin (KMO), approaching 1 (KMO = 0.907). The observed variable correlation matrix was not an identity matrix and had enough correlation between the variables used for component analysis to verify structural validity, standard deviation and correlation of the observed variables in the career characteristics measurement model for junior high school students.

The results of the corroborative component analysis showed that the self-management measurement model for junior high school students was consistent with the empirical data determined by NFI = .900, IFI = .920, TLI = .915, RMR = .047., RMSEA = .058 and CFI = .920. The harmonization index was in correlation with the criteria of Hair et al. (2010).

The standard component weight coefficient (β) of the observed variables or indicators revealed that Component 1, Skill diversity, had a standard component weight coefficient (β) of the observed variables or indicators between 0.602–0.824, Component 2, Task characteristics, had a standard component weight coefficient (β) of the observed variables or indicators between 0.717–0.832, Component 3, Significance of tasks, had a standard component weight coefficient (β) of the observed variables or indicators between 0.592–0.831 Component 4, Independence of tasks, had a standard component weight coefficient (β) of the observed variables or indicators between 0.592–0.831, and Component 5, Feedback, had a standard component weight coefficient (β) of the observed variables or indicators between 0.747–0.828. All values had a statistical significance at the .05 level ($p = .000$) for all components, details as shown in Figure 1

Exploration of Guidelines of Self-management Scales to enhance Career Characteristics of Junior High School Students

The results of the analysis of necessary needs revealed that the first component, Awareness, had the most needs ($PNI_{modified} = 0.182$). The respondents recommended that the self-management of junior high school students was mostly at a relatively good level although the current environment had changed and continually hindered students' learning in self-awareness, self-management,

self-motivation, emotional control, self-assessment and self-discipline. However, it depended on individual differences and support of schools and teachers crucial in implementing students' learning and life. Aspects of career characteristics of most junior high school students varied and consisted of skills necessary for living according to their individual aptitudes in information technology, self-management planning, creative freedom and task design by selecting best suitable tasks for their abilities. This could be applied to their study and self-assessment after the implementation to revise, improve and explore development guidelines through the use of their own ideas with full and free capacity. Behavior demonstrating self-management to enhance career characteristics of self-awareness was that students were able to describe themselves in terms of aptitudes, abilities, preferences, interests, and self-assessment. Practicing patience, focusing on task completion and improvement, working to achieve goals within the specified time period could be used to benefit study and life.

The self-management to enhance career characteristics

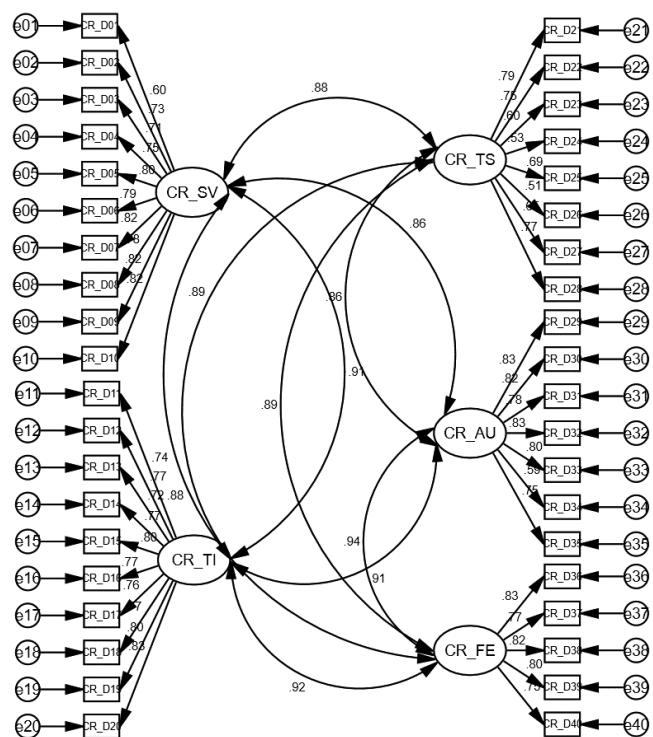


Figure 1 Confirmatory Factor Analysis of the measurement model for career characteristics of junior high school students (Standard Score)

for junior high school students consisted of 5 guidelines: (1) Organizing activities to enhance learning from real-life situations; (2) Using media or information technology to enhance learning, for example, successful people in their careers and skills necessary for that career; (3) Using self-assessment tests, such as the MBTI or DISC, to assess students' thinking, aptitude, personality, and abilities; (4) Self-learning experiences to encourage students to acquire essential skills of awareness, emotional control, self-motivation, self-assessment, self-discipline and time management; and (5) Counseling process of self-management and guidance to enhance individualized career characteristics and self-management enhancement in career characteristics of junior high school students. Government and private agencies directly involved in both school policies and guidelines such as school administrators, teachers, guidance teachers or psychologists, peer students, family, community and society. Moreover, social media and other media influencing students should play a role together in self-management integration to enhance career characteristics of junior high school students by designing interesting and up-to-date activities, creating participatory processes, and designing students' self-management, and taking into account the student's individual differences in this regard, counseling process of self-management and guidance during the implementation of activities according to the guidelines in order to engage students' interests, needs and motivations to create learning throughout the activities.

Supportive factors playing an important role in encouraging self-management to enhance career characteristics of junior high school students were: (1) Environment conducive to learning management; (2) Modern and efficient technology; (3) Personnel involved in the enhancement such as schools, teachers, counselors and psychologists, families, students and communities who strived and determined integration together to enhance career characteristics of junior high school students. Hindrance factors included: (1) the inconducive policies and school administrators without promoting vision; (2) the staff lack of striving, determination, concern and cooperation in implementing the guidelines; and (3) the environment inconducive to the implementation of self-management guidelines to enhance career characteristics of junior high school students.

Discussion

The Assessment of Needs for Self-Management of Junior High School Students

It was found that Component 1, Awareness, had the highest need ($PNI_{modified} = 0.182$), consistent with Drucker (2001) and Huang et al. (2014). They said that a key component of self-management was self-awareness. Knowing what environmental characteristics was suitable for oneself and knowing one's own dedication to tasks referred to self-management knowledge, beliefs about self-management, self-awareness, and self-management behavior. The study revealed that questions on the topics were about students' beliefs in self-learning to achieve the expected success. When the students got angry or dissatisfied, they tended to be able to control their negative emotions. They made commitments to themselves to achieve their goals. The students could overcome a hard time by making plans to seek happiness for themselves later. The students were able to improve their weaknesses even of difficult tasks. Students were patient and determined to achieve their tasks. Students who made a daily to-do list and planned a schedule to complete their tasks in time, had the highest need in accordance with O'Keefe and Berger (1999), Office of the Higher Education Commission (2012), Wattana (2015), and Zhang X. (2017). They said that self-management was the ability to apply planning ideas in self-management to achieve efficiency of possible goal designation. It was a process of learning or an individual behavioral change as the ability to control one's own feelings.

The assessment of needs for career characteristics of junior high school students showed that Aspect 2, specific career characteristics, had the highest need ($PNI_{modified} = 0.149$), consistent with Sin-ngam (2014). He said that the components of the career were specific knowledge and skills. In the activities of each career, all knowledge and skills will be transferred to the people in society. The study revealed that for related questions, the students could determine the exact timing of their job responsibilities. The students thought they could perform many necessary tasks at the same time. The tasks that the students were responsible for let them gain a positive impression of the tasks which they conducted. The students could plan their own responsible tasks.

Development of the Career Characteristics Scales of Junior High School Students

The Cronbach alpha coefficients on each side were .970, .899, .879, .875 and .818, respectively. The results of the model coherence testing revealed that the structural validity of the career characteristics scales analyzed by the corroborative component classified by overall component had a high level of mean and a small distribution. The Cronbach's alpha coefficients for each component were .886, .875, .810, .796, .787 and .692, respectively in the self-management scales for junior high school students.

The results of the model coherence testing revealed that the structural validity of the self-management scales which were analyzed by the corroborative component classified by overall component had a high level of mean and a small distribution, consistent with Lambrinou et al., (2019), Wilaichon and Sawangboon (2020). They developed a tool to measure students' patience and characteristics using a 5-level Likert structured scale. Content validity with IOC determination was used to analyze tool quality. Known-Group Technique was determined to analyze structural validity. Item total correlation was used for discrimination values and the Cronbach's alpha coefficient was used for reliability.

Searching for Self-management Scales to Promote Career Characteristics of Junior High School Students

The respondents' opinions described behaviors conducting self-management to enhance career characteristics and self-management of awareness, that the students were able to describe themselves in terms of aptitudes, abilities, preferences, interests and self-assessment. In addition, self-management of self-disciplines and time management could also enhance career characteristics, task characteristics, task importance and independence in task completion. These were utilized for studies and lifestyles by practicing patience in completing and improving tasks to achieve goals for a specified period of time, consistent with Huang et al. (2014), Moayed et al. (2018), and Prasertsin et al. (2018). They said that self-management components were self-management initiatives, self-arrangement and self-control, self-assessment, and self-reflection.

There were 5 self-management guidelines to enhance career characteristics for junior high school students as

follows: (1) providing activities to enhance learning from real-life situations; (2) using media or information technology to enhance learning such as successful careers and skills required; (3) using self-assessment tests to assess students' thinking, aptitude, personality, and abilities; (4) conducting exercises encouraging students to develop their essential skills: awareness, emotional control, self-motivation, self-assessment, self-disciplines, and time management; and (5) process of counseling and guidance on self-management in order to enhance appropriate career characteristics through the integration of government agencies in terms of policies and practices, schools, parents and communities consistent with the concepts of enhancing career skills of the Office of the Basic Education Commission (2018). It aimed to provide students with career awareness, career exploration and career preparation. And, it was a practical guideline to experience the real world of working from the workplace/learning center for the country's development towards Thailand 4.0. School administrators and guidance teachers played an important role in collaborating with individuals/organizations/agencies to provide students with opportunities to enhance their real-life career experiences.

Conclusion and Recommendation

Recommendations for Applying the Results for Educational Institutions and Related Agencies

1. Junior high school students should be supported by organized activities such as self-management activities to enhance career characteristics, to encourage information exchange and to employ reinforcement and motivation techniques. Awards should be given to students who are able to carry out activities to achieve their goals in order to motivate changes at an individual level.

2. Activities should be provided along with the community to benefit the junior high school students to develop their career characteristics by emphasizing certain components as the main focus. For example, Component 1, Awareness, had the highest need to enable learning from direct experience including supplying activities to enhance the development of career characteristics among other components which can be adapted according to the contexts of the community and the school.

3. Education, research, model, cultivating and creating values should be enhanced and supported among the junior high school students according to the components and indicators of career characteristics measurement models for personal development until results of social changes lead to further national prosperity.

Recommendations for Further Study

1. The components and indicators of self-management should be studied to enhance the career characteristics for other groups of youth such as primary school students, senior high school students, university students, vocational students, etc., including the study of other development indicators which are additional factors (Factors of family contributors/social contributors) for measurement models of components and indicators of self-management to enhance career characteristics from this study.

2. The obtained data from the critiques of a group of experts in order to further the research and development of self-management measurements to enhance career characteristics of students in other grades or more in-depth studies and then the measurements should be improved for more standardization.

3. The applications of the results from the perspectives of parents, educational staff and community leaders towards self-management components and indicators to enhance career characteristics should be studied in order to apply the results to develop a self-management measure model to further enhance career characteristics.

Policy Recommendations

National, regional and local policy-makers, including the Educational Service Area Office, educational supervisors and school administrators can apply this model to measure self-management in order to enhance career characteristics, as well as to monitor and designate the development plan for enhancing students' characteristics and behaviors related to the career characteristics in a more concrete way.

Conflict of Interest

The authors declare that there is no conflict of interest.

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