

Experiencing work-integrated learning and training program: critical success factors for vocational education's management

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Abstract

Vocational education has direct impacts on preparing and developing qualified workforce. During the past decade, vocational education has undergone many fundamental changes, especially the so-called work-integrated learning and training program. The study focuses on identifying the critical success factors to overcome the program's weakness. Nominal Group Technique is applied during this investigation with the students who have completed their first year at one vocational college. Altogether five factors are identified; i.e., instructor skills, student evaluation,

responsiveness to student needs, communication, and student psychology, which have to be part of improved vocational education's management. These factors are generally consistent with the previous findings as more sharing of information and collaboration among a vocational school, a private firm, and a student is needed. Interestingly, the unexpected consequence from this study is increased motivation and more positive attitude towards the study's program. This can be explained by the open-loop learning concept.

Keywords: Vocational Education Management, Nominal Group Technique, and Work-integrated Learning and Training, and Single-loop Learning

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Introduction

The country's economic and social development depends on the quality and availability of workforce (Terentyeva *et al.*, 2018). This factor is recognized by many international studies which reflect the long-term competitiveness of a country. For instance, the annual Global Competitiveness Report, published by World Economic Forum, focuses on labor market efficiency, and higher education and training as part of the twelve pillars in a country's long-term competitiveness. Technical and vocational education and training or TVET has played a very critical in preparing qualified workforce during the transition from agricultural to industrial and service economies for many countries¹.

Even as a country is transiting into a digital and/or green economy, the importance of TVET is expected to increase in terms of employability- adaptability, attitude, and motivation. Thus, TVET is no longer about technical (or professional) development but needs to incorporate several issues that help prepare the students for their future career. One of the critical developments in recent TVET-related studies include how students' feedback is gathered, type of feedback to be gathered, and how this feedback helps students and administrators learn about TVET (xxxx)

Technical training for data analysts and production operators in an automated factory is highly demanded. Simply put, the importance and benefits of vocational education can be described as follows: (1) receiving both education and training (or jobs), (2) acquiring latest skills, (3) getting paid while learning, (4) gaining hands-on experiences, (5) preparing the experiences for possible tertiary education, (6) exposing a way to move from school to work, and (7) gaining a sense of achievement.²

For the past decades, Japan and Germany have been recognized for providing excellent TVET for students (Agrawal, 2013). It supports the growth in many industries such as automotive and electronics companies³. In other words, TVET is crucial for industrial development for the expansion of both manufacturing firms and service providers (Bromann, 2010; and Nkirina, 2010). For instance, in the automotive industry, technical training is essential for sustaining high performance on quality and productivity at an operational level. For many service providers, word-processing, document-filing, and book- keeping/ accounting tasks are deemed to be essential in their operations and support.

TVET has gradually evolved from the relationship between a vocational college (or institute or school) and students to the partnerships among private companies, vocational colleges, and students (Graf, 2017). This partnership highlights the emerging responsibility and more active role of the private sector in TVET. The private sector has long had a great deal of interests in the development of TVET. This is due to the TVET's impacts on workforce's readiness and qualification which affects the quality and productivity of a firm. Fundamentally, this partnership

¹ "The dual training system - Integration of young people into the labour market" (2016) from <https://ec.europa.eu/social/BlobServlet?docId=10771&langId=en> (as of January 2019)

² "Research Paper No. 10, European Centre for the Development of Vocational Education" (2011) from https://www.cedefop.europa.eu/files/5510_en.pdf (as of March 2019)

³ "Vocational Education and Training (VET) in Japan" (2016) from <https://internationaleducation.gov.au/International-network/japan/countryoverview/Documents/2016%20VET%20brief.pdf> (as of March 2019)

underlines the openness of TVET to the private sector. Work-integrated Learning and Training Program or WILTP is one of the most innovativeness which stems from the private sector's participation in TVET (Rauner, 2008; and Agrawal, 2013).

WILTP is based on the following premise. Due to rapid changes in technology and more linkage with digital applications for manufacturing and production operations, continuous investment and upgrade have been more frequent for private firms (Fernandes, *et al.*, 2017). Readily-qualified workforce is the ultimate goal of WILTP. This is because the s-curve for production/ operation's technology has become shortened for production/ operation and product technologies. These recent developments have contributed to the need for more active engagement with technical and vocational training by the private sector.

Problem Statements

New acquisition and upgrade by a vocational college (which belong to the public sector) can be time-consuming due to budget consideration and financial constraint (Graf *et al.*, 2014; and Mongkhonvanit, 2017). Because of this delay, many private firms express their concern on the quality of incoming operational staffs and technicians. The lack of qualified staffs potentially results in higher operational cost and can become consequently less business competitive. WITLP is expected to help over this circumstance.

One of the primary advantages of WILTP is its emphasis on a combination of training and working which can be an integral part of learning for students through public-private partnership or active private participation. The tuition payment to a vocational college is part of students' employment at private firms so quality of students is critical. In many cases, students are not required to pay tuition and fees to a vocational college as the private firms are mostly or entirely responsible for financial arrangements (i.e., wage and salary to students, and tuition and fees to a vocational college. In fact, this is what makes WILP so attractive since the learning curve at a workplace from students is minimized due to intensive training and joint supervision between private firms and a vocational college (Kuchinke, 2013; and Tanaka, 2014).

WILTP has transformed many vocational colleges from teaching (i.e., providing technical skills) to facilitating students' learning and development, especially on a set of soft skills for employability (Kuchinke, 2013; and Deep *et al.*, 2019). Instructors at a vocational college today are required to have new skills in the areas of students' counselling- lesson plan development, follow-up on progress, working with a private firm for technical skill training program, etc. (Agrawal, 2013, and Jerrim and Micklewright, 2014).

Working with private firms to strengthen the quality of education is not entirely new. Curriculum development, project-based learning and training, and internship have been an integral part of TVET for years. Some of the notable activities which link with the private sector include an outreach to private firms for training and skill development, and an involvement of private firms for curriculum review and development (Nilsson, 2010; and Terentyeva *et al.*, 2018). Additional activities incorporate student skills and inventions, scholarship and financial assistance, in-kind donation such as instruments and equipment.

Involving the private sector more actively and explicitly implies the drastic change in how a vocational institute/school operates. This includes how to schedule regular classroom' teaching and learning, how to develop and determine non-technical skills for vocational students, how to evaluate the set of required skills and knowledge for vocational students (together with private firms), and how to plan an individual development plan

More importantly, it requires the shift in the mindset of a vocational college's administrators (Rauner, 2008; and Graf, 2017). This shift includes how teaching and learning should be conducted, how students can acquire and verify a set of needed skills required in a curriculum, where teaching and learning takes place, what types of skills students need for their future workplace, etc. (Terentyeva et al., 2018). Given the continuous transition into digital economy, the need for soft skills to strengthen technical expertise is critical. The new staffs in future workplaces are expected to be more independent and collaborative as most work and routines cannot be completed by one task.

For WILTP to be effective, it appears that the level of maturity of students from secondary schools cannot be underestimated (Jerrim. and Micklewright, 2014; and Kamaliah *et al.*, 2018). Due to their time at a company, the students from the secondary level need to adapt themselves as a full-time staff. This is a big leap for many students. Thus, the consideration into students' maturity should be part of lesson plan development and counselling services in which vocational schools need to prepare (Graf *et al.*, 2014). See Figure 1 for the interrelationships among the three key components in WILTP.

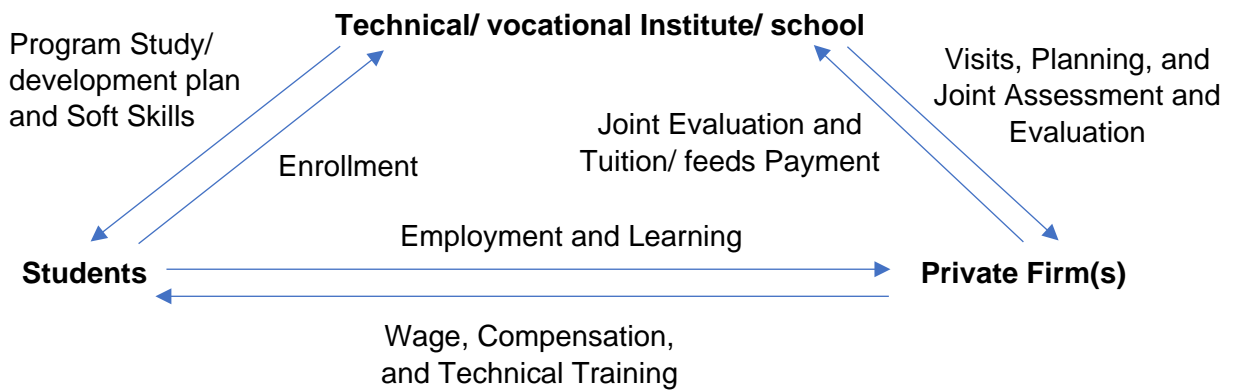


Figure 1: WILTP Partnerships

The fundamental question for this transition is what are the main obstacles facing a vocational college today in order to ensure effective WILTP? The knowledge on these obstacles is important for future management among vocational colleges which are expected to extensively adapt WILTP as part of new learning and skill development of incoming students.

Objectives

The study aims to identify the critical success factors for a vocational college. These obstacles will be derived from actual experiences of the students who have spent one year in WILTP at one vocational college in Thailand. The students have had to deal with both a private firm and a vocational college continuously during their first year. They are also required to engage both entities as part of their academic performance, work or job placement, pay and compensation, and eventually degree requirement.

Methodology

This study is based on continuous work and collaboration in the areas of management in education with two upper secondary schools that belong to Bangkok Metropolitan Administration or BMA. The students from BMA schools are generally considered as underprivileged due to poverty. Most parents are migrated workers who had moved from the rural area. As a result, many BMA students traditionally continue their education in a vocational college. Therefore, they realize the importance of vocational education to their employability and professional development. Given the emerging practice of WILTP, BMA students have a lot of incentives to ensure its effectiveness since they will be compensated while studying (instead of having to find part-time extra work at a convenient mart, a restaurant or a supermarket).

Initially, there were altogether 24 BMA students who had spent one year (an academic year from 2018-19) at one vocational institute/school after completing their upper secondary schools. These students later selected eight persons to be their representatives. These eight students have had both positive and negative experiences about WILTP while dealing with both private firms and a vocational school. It is important to note that their names will not be disclosed. Otherwise, their continued education in WILTP could be affected.

Nominal Group Technique or NGT is applied to gain more insights from the participating students⁴. NGT is a structured method for group's brainstorming (Boddy, 2012). It focuses on active participation so NGT encourages all participants' contributions. Because of their family background, the eight participating students are expected to take part in the NGT session genuinely. NGT is useful in the discussion in which the clarity is important. But it does not resolve personal difference among the participants. Balancing discussion among all proposed ideas so their visibility is important to the technique' success. An overall process is as follows.

Team members are firstly given a clear and short problem statement. The next task is for team members to start writing down their ideas in brief. This step is taken place in silence. Then, a process, so called a round robin, is used to record all the ideas until there is no input from team members. Once team members are ready, everyone presents and briefly describes the proposed ideas. It is possible that some of the ideas can be merged but will not be removed. The

⁴ "Gaining Consensus among Stakeholders through the Nominal Group Technique" (2018) from <https://www.cdc.gov/healthyyouth/evaluation/pdf/brief7.pdf> (as of May 2019)

subsequent step is to prioritize the ideas through voting. Afterwards, the final tally on the proposed ideas is shared and examined.

NGT is recognized to be useful when some team members could be more vocal and influential than others. The discussion needs to allow active participation without interruptions. In addition, some team members reflect their experiences on a problem statement better in silence. In many occasions during brainstorming sessions, team members may not actively participate, including the situation which team members are new to one another. Thus, NGT attempts to overcome a possibility of a lack of participation. Finally, the comparison of the findings is to be conducted to help add the credibility of NGT's findings. This comparison is important as the findings potentially point to an improvement in WILTP's effectiveness.

Results

The NGT session was conducted in May 2019. In the first step, a clear problem statement is made to eight participants together with the benefits and impacts of the outputs from this NGT session. During this step, the requirements and protocols for the next steps are also explained; e.g., the need to keep silence during idea generation, a round robin process, etc. The statement is as follows- what has contributed to ineffective WILTP. The reason for introducing this statement is based on the fact that working with a negative statement is expected to bring out more emotion and to stimulate more opinions and feedback from the participants. This negative statement would also motivate the participants to engage with this issue since the results would be used to improve the well-being and effective of WILTP for next batches of BMA students.

For the next step (on generating ideas in silence), approximately the amount of 15-20 minutes is given to the participants. They silently and individually examine the problem statement. Then, the round-robin process is used to record the participants' ideas. In other words, each participant is given an opportunity to provide their feedback on the problem statement in a round-robin format. One person expresses his or her idea one a time. This process is completed when all participants decline to provide additional feedback. Altogether, there are a total of 27 ideas which are believed to have contributed to ineffective WILTP at one vocational college.

Subsequently, the next task is to have idea sharing and discussion among the participants. It is important for the facilitator to ensure that a person who has proposed the idea is not required to explain first. This is to avoid any possible confrontation during this step. However, if there is nobody in the group who can explain an idea under question, then a person whose idea comes from needs to explain to the group. After the discussion, the next task is to ask whether it is possible to merge similar ideas together. Again, no idea is to be discarded. After having merged similar ideas, 12 ideas are left for the next step. These ideas are as follows.

- Idea 1: Lack of experiences by instructors and college's administrators in providing guidance and advices during the time at a company or at a college, including a lack of active student engagement and a mechanism to provide the feedback on a student's progress and difficulties (e.g., workplace safety and harassment)

- Idea 2: Poor joint monitoring and evaluation of a student's work at a company and a college (e.g., a lack of knowledge on how to evaluate a student's performance during his/her time at a company while a college does not have knowledge on evaluating a student's soft skills)
- Idea 3: Ineffective management system within a college as it is not equipped in dealing with or quickly responding to the private firms (e.g., slow response when a student's placement is not compatible with a study program or an individual development plan)
- Idea 4: Poor communication mechanism and channels between a student and a college, and also between a college and a private firm
- Idea 5: Lack of fairness in compensation and benefits for a student (e.g., one student receives a uniform and safety kits from one company for free while another student has to purchase them)
- Idea 6: Project-based learning (e.g., assignment and homework) from a vocational college is not supportive to a student's work placement
- Idea 7: Instructors and a college's administration have not been able to catch up with how a private firm operates a new business environment, including current technology, technical knowledge, and workplace skills
- Idea 8: Learning and skill development at a college are not supportive to work placement at company (e.g., a college still often tries to teach technical knowledge which can be better acquired from working.)
- Idea 9: Specifically, relating to a student's wage and income, a student's grade is to be evaluated and agreed by a college's instructor and a company's work supervisor. This is part of compensation to a student. However, it has been two semesters to which a firm and a college fail to resolve a student's grade. This is because a college fails to develop a common evaluation framework with a company.
- Idea 10: Pedagogical practices (e.g., learning by listening or through intensive lectures) are not compatible with current and future workplace's practices (e.g., participatory management)
- Idea 11: Monthly follow-up meetings between a college's administrator, instructors, and students have not been consistently planned and organized.
- Idea 12: Verbal abuse is still part of traditional disciplinary to students.

The next step involves the prioritization of the combined ideas. This step needs to be completed deliberately since it incorporates a voting mechanism. Firstly, each participant is asked to select five most essential ideas that have contributed to WILTP's ineffectiveness and disregard the remaining seven ideas. Next, a participant is asked to choose the most important factor that contributes to ineffective WILTP, then to assign a score of 5. Afterwards, a participant is asked to choose the least important factor that contributes to ineffective WILTP out of the remaining selected ideas (i.e., four ideas), then to assign a score of 1.

Later, a participant is asked to choose the most important factor that contributes to ineffective WILTP out of the remaining ideas (i.e., three ideas), then to assign a score of 4. After that, a participant is asked to choose a less important factor that contributes to WILTP's ineffectiveness out of the remaining ideas (i.e., two ideas) and to assign a score of 2. Then, a participant is asked

to assign a score of 3 for the remaining idea. For the entire of score of 120 points (as each participant has a total of 15 points), the results from participants' voting task after prioritization are as follows. See Table 1.

Table 1: NGT's Results from Participants' Votes

Idea/ Description	Assigned Score	Points	Proportion (%)
Idea 1: Lack of experiences by instructors and college's administrators in providing guidance and advices during the time at a company or at a college, including a lack of active student engagement and a mechanism to provide the feedback on a student's progress and difficulties (e.g., workplace safety and harassment)	5, 5, 5, 5, 5, 5, 5	35	29.17
Idea 2: Poor joint monitoring and evaluation of a student's work at a company and a college (e.g., a lack of knowledge on how to evaluate a student's performance during his/her time at a company while a college does not have knowledge on evaluating a student' soft skills)	4, 4, 4, 3, 3, 3, 1	19	15.83
Idea 3: Ineffective management system within a college as it is not equipped in dealing with or quickly responding to the private firms (e.g., slow response when a student's placement is not compatible with a study program or an individual development plan)	4, 4, 4, 4, 3, 3, 3, 3	28	28.33
Idea 4: Poor communication mechanism and channels between a student and a college, and also between a college and a private firm	4, 3, 2	9	7.50
Idea 5: Lack of fairness in compensation and benefits for a student (e.g., one student receives a uniform and safety kits from one company for free while another student has to purchase them)	2, 2, 2, 1, 1, 1	9	7.50
Idea 6: Project-based learning (e.g., assignment and homework) from a vocational college is not supportive to a student's work placement	1	1	0.83
Idea 7: Instructors and a college's administration have not been able to catch up with how a private firm operates a new business environment, including current technology, technical knowledge, and workplace skills	3, 2	5	4.17
Idea 8: Learning and skill development at a college are not supportive to work placement at company (e.g., a college still often tries to teach technical knowledge which can be better acquired from working.)	5, 1	6	5.00
Idea 9: Specifically, relating to a student's wage and income, a student's grade is to be evaluated and agreed by a college's instructor and a company's work supervisor. This is part of compensation to a student. However, it has been two semesters to which a firm and a college fail to resolve a student's grade. This is because a college fails to develop a common evaluation framework with a company.	2	2	1.70
Idea 10: Pedagogical practices (e.g., learning by listening or through intensive lectures) are not compatible with	2, 2	4	3.33

current and future workplace's practices (e.g., participatory management)			
Idea 11: Monthly follow-up meetings between a college's administrator, instructors, and students have not been consistently planned and organized.	1	1	0.83
Idea 12: Verbal abuse is still part of traditional disciplinary to students.	1	1	0.83
	Total	120	100

Discussion

By applying the Pareto concept, the top ideas that their corresponding weights are combined to greater than 80% will be selected as the critical factors which impact WILTP's effectiveness. The use of this Pareto concept is to help identify the most important contributors. The results from the NGT session indicates the top five ideas. Simply put, these factors can contribute to WILTP's future success. Based on the students who have taken part in the NGT session, these contributors can be described in more details as follows.

The first factor relates to improving instructors' expertise and skills in dealing with students. Vocational colleges need to focus on improving and strengthening the experiences of the instructors and also the administrators. Since the students typically spend most days in a week at work, it is important that a vocational college provides needed knowledge and skills which support their employability (e.g., soft skills). Participating students in the NGT are under the pressure to perform well since this performance is tied with their academic evaluation and financial support from a company. Therefore, effectively engaging with the students becomes critical. A mechanism to provide the feedback on a student's progress and difficulties (e.g., awareness of workplace safety and dealing with workplace harassment) is straightaway needed.

The second factor is about an evaluation of students' performance. Joint monitoring and evaluation of a student's work at a company is essential since technical learning primarily takes place at a company. A vocational college needs to focus on how students should be accurately assessed and evaluated based on their work performance. Text-based assessment is no longer applicable and cannot provide useful information for performance evaluation. Often, this situation has resulted in information vacuum since a company does not accept the text-based evaluation while a vocational college does not agree to professional evaluation which is viewed to be insufficient for an academic purpose. At the same time, it is important a vocational college needs to be more creative in measuring students' soft skills during their time on campus.

The third factor is the need to have a faster response to a student's work-related problem. a more robust management system is needed to recognize and deal with possible emerging problems. One of the most common problems is their job placement not compatible with college's study program or individual development plan. During the period of one year, their job constantly evolves and changes (as a company likes to use job rotation as part of student training). Moreover, due to business competition and expansion, several unexpected situations had taken place such as constant changes in production schedule and continuous upgrade in production/

operation's technology (which results in a revision of work standard and manual). Therefore, a vocational college needs to regularly update a company's profile, especially work areas where students are expected to be placed during their WILTP.

The fourth factor is the need to have continuous flows of information among a vocational college, students, and private firms. Ineffective communication mechanism and channels need to be examined. Communication, after a possible problem is identified, is as important (as problem recognition and identification). It is not possible to expect the students to anticipate a problem. Also, it is not probable to expect the students to communicate this problem during their first year. Adjustment to the life of a vocational students (i.e., leaping from a high school student who does not have a full-time job to a vocational student who works a full-time position) is a challenge.

The last critical factor relates to students' psychology. One of many unexpected issues is a lack of perceived fairness in compensation and benefits from students. Vocational college's administrators are usually not mindful on the need to clarify to the students on the compensation policy from its partners. By being silent, the students view this inaction as a symbol of indifference and insensitivity. Since most students who pursue vocational education are generally not well-off, this issue can be sensitive and should not be simply overlooked. For instance, one student receives a uniform and safety kits from one company for free while another student has to purchase them. The problem may become worse in the upcoming years if there continues to be insufficient student engagement and communication. See Figure 2 for the summary of this study.

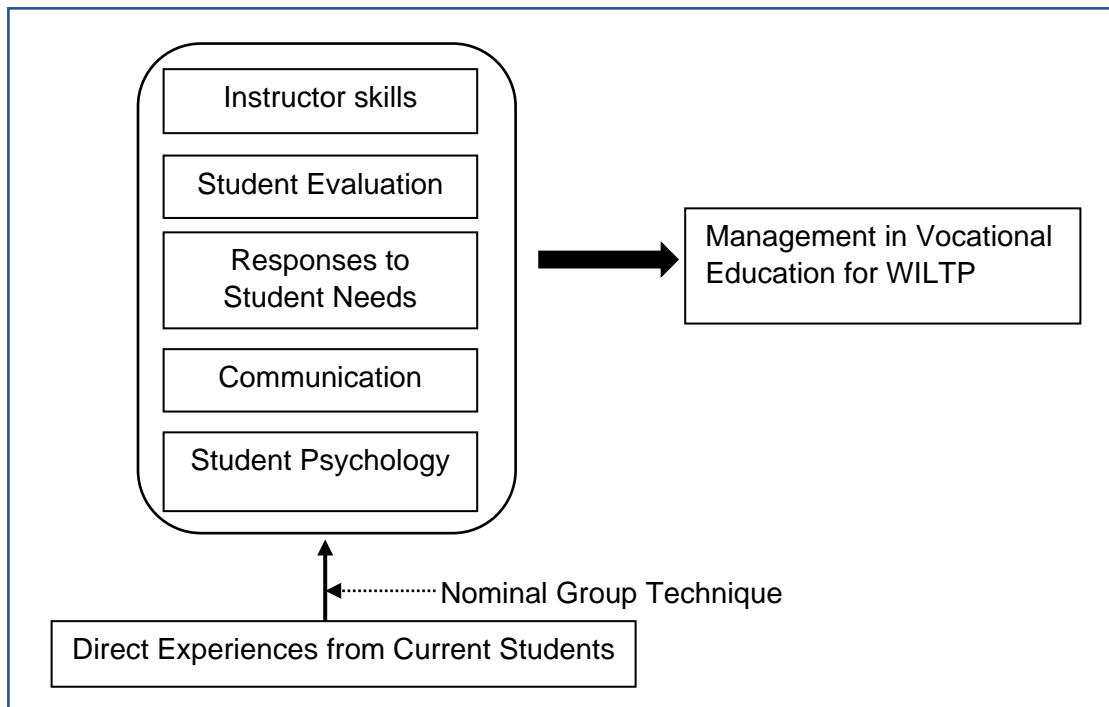


Figure 2: Summary of the Factors Affecting WILTP

Implications and Challenges for Future Research

Based on the NGT's findings, there are many implications and challenges for improving management of vocational education within the context of WILTP. It is important to recognize that the aforementioned factors are generally consistent with previous findings from local and international studies (Nkirina, 2010; Agrawal, 2013; Mongkhonvanit, 2017; Sudana *et al.*, 2018). This consistency indicates the possibility to generalize these factors for other vocational colleges. Due to the fact that WILTP represents a combination of studying, training, and working; a vocation college needs to successfully transform from teaching to facilitating students' learning and development, especially soft skill development.

Instructors at a vocational college likely need extensive re-training for new skills in the areas of students' counselling- lesson plan development, follow-up on progress, working with a private firm for technical skill development, assessment and evaluation plan at a student's work placement, etc. (Agrawal, 2013). This training is needed since the instructors in a vocational college typically focus on teaching technical skills on campus. This aspect underlines the significant shift in TVET since a vocational college is longer a sole provider and evaluator of technical expertise/ skills learned by students (Graf, 2017; and Sudana *et al.*, 2018).

Due to rapid changes in production and operation technology today, a knowledge provider in technical and professional education has gradually relied on a private firm. Business operators need to have readily-qualified workforce. Cost of additional training on new staffs can impact a firm's competitiveness. Thus, a vocational college needs to refocus on a new role which is to prepare students' placement by working with their workplace more actively and directly. This shift also emphasizes the need to adapt a new approach on how students' learning can be evaluated (Mongkhonvanit, 2017). In the past, assessment and evaluation are aligned with a curriculum which is reviewed every five years. As a result, an expectation on learning outcomes differs between a vocational college and private firms.

A vocational college needs to become a more-engaged facilitator. In other words, the administrators at a vocational college should actively collaborate with a private firm(s) to address how to jointly develop a study plan for a student. This study plan is important for all three entities since students need a clear guideline about their education while working due to a shift to 5-day working (for technical training) and 1-day learning at a college (for soft skill development). A private firm can use this study plan to help prepare for future employment after the completion of students' academic requirements.

It is likely that a student who joins WILTP will continue his/her employment in the same company or company group (Ladkin, 2000). A vocational college needs to have this study plan to help provide needed skills to strengthen students' future professional career. It is expected that these students need stronger learning and training in the areas of soft skills (Kuchinke, 2013; and Terentyeva *et al.*, 2018).

WILTP also presents a vocational school with a new financial model. Instead of tuition and fees collected from students, and/or subsidy and support from the public sector, a vocational college

receives the income as part of students' employment. In WILTP, a private firm pays for students' enrollment; therefore, the quality of students (i.e., technical and soft skills) is essential. WILTP becomes so attractive to many private firms since the learning curve at work from students is minimized. Participating firms in WILTP cite less training cost and orientation/ adjustment time as the immediate advantages from the program (Graf *et al.*, 2014; and Kamaliah *et al.*, 2018)

WILTP points to a new way technical learning- shifting to more active private participation in training and skill development (Bromann, 2010; and Kamaliah *et al.*, 2018). This new way helps students fit in a workplace immediately. A private firm(s) can acquire readily-qualified workforce to improve its productiveness and long-term profitability (Nkirina, 2010; and Sudana *et al.*, 2018). A success of a vocational college depends on whether its administrators have directed their attention to what types of technical and soft skills students are required to have for a workplace. This should alter from a traditional practice in which a vocational college' instructors and administrators alike start the preparation of teaching and training on the curriculum's requirements (Graf *et al.*, 2014; and Graf, 2017). The traditional practice is based on the unrealistic notion that these requirements are continuously current and up-to-date (despite the curriculum review takes place every five years).

Gathering the feedback is an integral part of human learning. Human learning can tremendously impact attitude, motivation, and creativity for human capital development (Zhu and Li, 2017). It is viewed that this exercise is part of the single-loop feedback (such as the questions on are we doing things, right? or should we need to change our behavior to get the right results?). Not only the feedback on improving WILTP was helpful in future planning and management, the NGT session serves as an important reflection on the students. This reflection shows that the students' inputs are valuable and can benefit future WILTP management. Students who had participated in NGT felt pride in their involvement. It is believed that this reflection will eventually help students in their motivation and attitude during the completion of their study (Lanier *et al.*, 2017; and Zhu and Li, 2017).

Feedback from students implies that the vocational college has strong trust and believes in the maturity. This represents an indication, as implied by the single loop, the following. Not only participating students have worked and learned well in WILTP, they are able to observe and identify any shortcomings in WILTP administration and management. This NGT investigation serves as a basis to help strengthen human learning. It is expected that positive changes in behavior and mindset of the students can take place in a sustainable manner. This single-loop learning helps explain how students can demonstrate their knowledge within a specific scope of the problem(s) or issue(s) facing the effectiveness of WILTP (Argyris, 1999). Constantly examining of WILTP effectiveness through student's engagement has several positive implications- actual insights from students and signifying to the importance of the students which should reinforce their motivation and attitude relating to WILTP. This potentially points to how the use of single-loop learning can complement with WILTP management. Single-loop learning can possibly contribute to how all WILTP stakeholders would behave to remedy a situation and reach the desirable goals of the program.

Finally, to improve WILTP's effectiveness, the thoughts and feedback from students have to be routinely obtained and incorporated by a vocational college. Trust in students for their feedback from actual experiences is critically important for any educational program (Nilsson, 2010; and Snowden and Halsall, 2017). Dialogue with students and private firms needs to be established. Indeed, WILTP compels a vocational college to view students as its key partner (and not mainly a receiver of education service). This paradigm shift has focused on the importance of management in vocational education.

Conclusion

The study is conducted to help identify the contributors to a lack of WILTP's ineffectiveness. WILTP is widely believed to be the mainstream of future vocational education. The study applies the NGT with the group of eight students who have gone through the first year of vocational education. These eight students provide their insight from actual experiences. They have identified five critical issues that warrant a paradigm shift in management for vocational education. The implications and challenges for future vocational education's management are also discussed. The comparison with past studies on WILTP is made to help verify the usefulness of these five factors. Given the rapid shift and investment required for business competitiveness, WILTP will play a more important in the private sector's human resource management.

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