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Qualitative Interview as a tool of Job Analysis in TVET Vietnam: Perspectives and Concepts

Abstract

In the circumstance of lacking *Monozukuri* (JICA 2014) TVET Vietnam has been considered as “*poor cousin on the education side of the family*” (Aring & Goldmark 2013) for a long time. That’s the reason why many companies have to struggle catching up their demand of qualified workforce by providing In-house-training courses or on-the-job-trainings. However, the questions are: how to build a proper training course in order to *cultivate* their newcomers with the intend to help them to adapt to the demands at the workplace. Moreover, how do they define the skills needed correctly? This is the most important concern in TVET in Vietnam at this time, when most of Vietnamese companies have been ready for setting up training courses for their new workers, even advanced training afterwards in order to advance qualification of their workforce. The author had spent a field trip at plastics company in Ho-Chi-Minh-City, involved with making molds for manufacturing plastic wares, and also tried using social research method *qualitative Interview* to sketch out a *professional profile*, which could be applied to design an adaptive training course for newcomers and also used as standards for recruitment new workforce in the future. Throughout this process, the author has developed a trial concept for Job analysis by using qualitative interviews, and also has some remarks when this method would be used as a demand-driven training concept. Moreover, this may be initiate a beginning of coordination between stakeholders in Vietnamese TVET in order to reduce the mismatch of skills demands and supply at the technician level.

1 Introduction: Professional profile as reference of training skilled workers

The major issue of Vietnamese TVET has been requiring high-skilled industrial human resources or *Monozukuri*, a Japanese word means “making things“, introduced by Prof. Kenichi Ohno, who had researched over twenty years on Vietnamese economics. He identified *Monozukuri* as qualified technician, who can “improve product quality and production operations” and “achieving customer satisfaction through high quality in the spirit of a proud and dedicated artisan, rather than just making profits” (Ohno 2010, 9). In addition, JICA Vietnam has already confirmed: “The first issue is the difficulty in determining the skills needed by the industry. The lack of detailed information on specific skills needed at the occupational level and the dynamic changes in skills demands make it hard for TVET institutions to grasp the demands of the industry when it comes to skilled workers” e.g. the case of MUTO Vietnam, a Japanese firm has done In-house-training of mould-and-die technicians in Vietnam since 1997 (JICA 2014). Actually, TVET in Vietnam has difficulty to

access industry skills demands and stay by side of Supply-Driven Skills Development for a long time, although some technical and vocational education and training institutions and their supervisory ministries are becoming more aware of the necessity to improve training programs based on industry skills demands. Meanwhile, many companies have also tried hard to solve the skills mismatch and skills shortages. It may be easier for foreign companies such as Bosch, Intel, Samsung, Toyota and MUTO, which have enough experiences and capacity to do in-house-training. Some of them are even representative of world class models of dual system such as Bosch, coordinated with a state-run vocational school – namely LILAMA with the purpose to supply skilled labours for itself. Since the beginning of the 21st century, many Vietnamese companies have attempted to solve the lack of skilled workers whereas the absence of didactics as strategically guiding to implement the model *In-house-training* prevent them to figure out precise requirement of their workforce and their attempt mostly were led to functional training courses, shortly conducted right after the recruitment, directly on the job and extremely fixed on demand of recruited position of job in order to handle on daily tasks, which have been already divided in many simple tasks according Taylorism's philosophy and without demand on basically theoretical background of profession. This phenomenon could be already seen in some companies such as state-owned enterprise PTSC (Petro Vietnam Technical Services Corporation) and private firm Bui-Van-Ngo, where trainees may be trained just enough functional skills within 2- 3 months in order to solve their tasks in specific working context. Indeed, the author has realized during his field trip that those companies are willed to build partnerships with TVET-institution in order to construct suitable curriculum for their In-house-training. However, they have difficulty to describe *their wishes* about personnel needs. Despite they really know what they expect on applicants, who they really want to recruit. On the other hand, TVET institution also lacks of persons, who are capable of implementing investigation of conditions at the workplace to grasp the demand of the real working world and sketch out proper training courses to meet the demand at the workplace, although the government has encouraged the involvement of the interest group (industry, enterprises and professional association) in curriculum for TVET development.

Lack of skilled workers is also obviously a main obstacle to be decided and investment in modern technology is necessary in order to expand the company's capacity in Vietnam (see Figure 1). According to Figure 1, it is easy to recognize that most of the firms, especially international firms, are expected to hire skilled worker, who are properly trained and work-ready. Thus, this is indicated *the major obstacle* because labour market and Vietnamese TVET did not provide enough high-skilled industrial human resources.

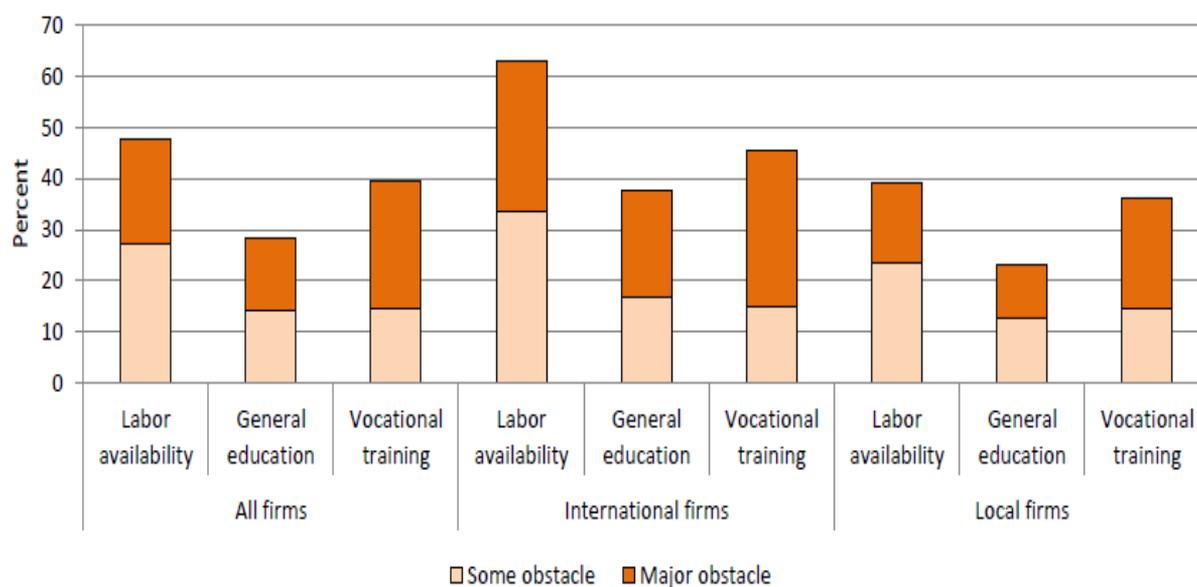


Figure 1: Lack of skilled labor is major obstacle in expanding manufacturing capability of firms in Vietnam (Bodewig et al. 2013)

Consequently, this situation of TVET Vietnam can be considered as *the head of Janus*, which can be understood as a high demand for more complex competencies in the workplace, what a skilled worker implicitly has to have in order to cope with unpredictable challenges at the workplace. Hence, this is the causality, which came from a breakthrough in technology development and desire of expanding manufacturing capacity of firms. Furthermore, it's also initiated by a shifting process of Vietnam's industry on the way to becoming an industrial country, from the first stage of Agglomeration (normally industry received Initial FDI from foreign investment), to the second stage of Technology absorption, which industry in Vietnam could be called as supporting industries but still under foreign guidance. In addition, another side of Janus's head is the isolation of TVET-institutions from development of industry and considered as "poor cousin on the education side of the family" (Aring & Goldmark 2013) for a long time. According to actual Vietnamese TVET law, which has been established since 2016, TVET-institution has a wider free space in developing and establishing a curriculum and in building partnership with industry. Nevertheless, the difficulties in accessing industry's demand and settling directly connection with companies prevent TVET-institution in turning from the state of supply-driven skills development to state of demand-driven skills development. A processing of curriculum development is described by Figure 2. When Head of department at an institution, who is responsible for developing vocational programs, using information about demand from industry and consultants from TVET-teacher/ his staff, on behalf of the Rector/Director of TVET institution, can make a decision on establishing training program, certain firm's demand of human resources could be addressed. Unfortunately, difficulty in seeking proper information about the professional profile of a certain position in industry prevent him or TVET-

institution from establishing a sufficient training plan in order to solve the dissociation between demand and training while the company does not have any comprehensive proof of professional profile as an information resource to provide TVET institution to sketch out an effective training plan. Through experiences from field trips, the author can define that a professional profile of a certain job could be guidelines for developing an In-house-training plan for this job in the workplace and also used as an information resource for designing innovative curriculum of TVET institution.

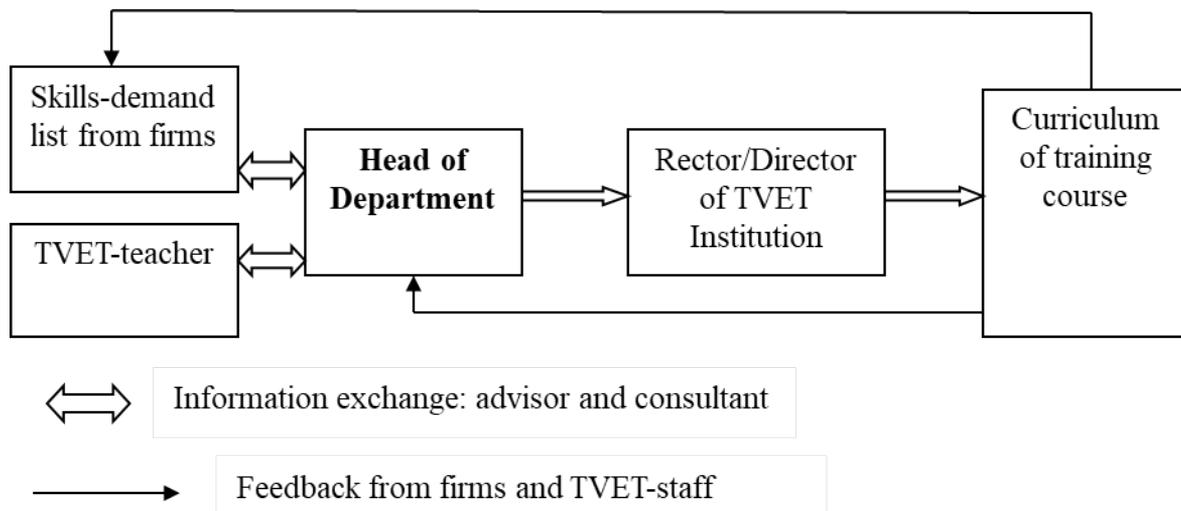


Figure 2: Process of curriculum development according to actual Vietnamese TVET law (VO 2018)

2 Fundamental ideas of development a curriculum as theoretical background for preparing qualitative interviews in order to develop information resources for processing curriculum – a criticism of the current process in TVET in Vietnam

Obviously, there are many different approaches in curriculum development but a process of curriculum development, especially in TVET-system, in which the key factor of “strong occupationally-based orientation, strong links between school, work and civic education, a more interventionist as well as more coordinated approach, which is, moreover, based on demand-orientation...” (Gonon 2013) should be involved in order to shift the TVET-system from the side of supply-driven skills development to the side of demand-driven skills development, is “... a sign for a better-established VET system” (ibid.). On CURRENT (CURriculum Revision und ENTwicklung)-model, for example, Ebeling and his co-authors have also determined some key factors, which have vital impacts on the definition of consistent contents and skills, which should be taught in the next coming curriculum. One of them is identification of labour market demands, which are represented by the needs of the industry and the developmental level of technology in the economy. Therefore, interpretation and integration scenario of the real working world in new curriculum plays obviously an important role to enhance work-readiness of learners. It would be helpful for processing the

curriculum when this scenario is converted into comprehensive information such as: tasks, skills and knowledge.

However, the industry's intervention in case of TVET Vietnam at present in the development of the national standards on occupational skills is "...passive and dim." (GDVT 2012), it led to "... qualification of the national standards on occupational skills is limited in terms of relevance for the labour market (ibid.). In the fact of the last field trip, the author has also recognized that some policies of Vietnamese government had not been influenced by the industry, for example the establishment of the occupational standard for CNC-technicians, which had already been introduced in 2011 with the intention of using it as a guideline for designing a training plan of this career. The cause of this mismatch had already been indicated in the background paper, published by MoLISA (Ministry of Labour, Invalid and Social Affairs) in 2012: "... the active participation is mostly by training institutions, whereas the role of enterprises is passive and dim." (ibid) because more than one half of the members of processing occupational standard's Editorial Board came from the institution (see Establishment of occupational standard for CNC-technicians by MoLISA 2012). Therefore, failure of this issue could be predicted. Moreover, DACUM (an acronym for the term Develop A CurriclUM), a very well-known method for describing a job under a matrix of tasks and activities, was firstly introduced by Robert E. Norton in 1970s years, based on verbal description of 5 – 12 skilled workers under the guidance of a well-trained facilitator about competencies, which are essential to perform their works. Finally, the result of DACUM is lists of indicated job-specific skills, knowledge and behaviour needed to fulfil the tasks of the analysed working position. Actually, DACUM was introduced in Vietnam through a project of Swiss Contact in about 1990s years, intended to train a core group to develop Matrix of job analysis (Mori 2009). Until now, concept of this method is still used as standard in developing a curriculum and NVQs (an acronym of National Vocational Qualifications), organized by MoLISA (Decision Nr. 09/2008/QĐ-BLĐT BXH of Minister of Labour, Invalid and social Affair, on 27. March 2008: Regulation on Process of Developing and Establishing National Vocational Qualifications Framework). In process of DACUM's initiation, choosing of participants plays a very important role and has crucial impact of the process's validity and reliability. Because representative members come from certain companies, they cannot represent all of experts in the whole country or region. It depends also on expertise level of invited participants who come from target professional field. However, according to Decision Nr. 09 by MoLISA, experts, who are being invited to participate in the DACUM-process, might come from both of TVET institution and industry. It has effects on the result's reliability and validity of DACUM-process to failure when invited experts can not represent those criteria such as high level of technical competence, knowledge of job-specific development prospects, full-time employees, and good communication skill.

On the other hand, the process of DACUM focuses on the relationship of tools, equipment, material and supplies, which a worker used in daily work e.g. the job CNC-technician, which the author has already observed at a moulding company and a manufacturing firm. The CNC-technician is working as mould-and-die technician. Probably his work is requests more

complex competencies than the technician has, who works in field of machining manufacture. Furthermore, the mould-and-die technician usually has to process continuous changing forms of work pieces and many kinds of moulds and dies. In contrary, a CNC-technician in machining manufacture often works with repeatable and typical work piece's form and has to engage only in the same machine's structure e.g. Agricultural pumper's engine. Though, their tasks are the same, namely CNC-technician. Therefore, the DACUM has disadvantages because it analyses a job through observing activities of workers and concentration on tasks, which might be various and rapidly change in modern industry. The matrix of job analysis, after all, will be corrected under consultants of experts in 1 or 2-day workshop but it has very high risk of *superficial agreement*, although they are all specialists in their professional field. Moreover, it's very hard to observe needs of soft skills, which are extremely essential for the job, for examples adaptability, care and attention, teamwork, interpersonal skill, friendly personality...etc. That is why DACUM should not be used in analysis an interactions job (Aring & Goldmark 2013), that requires exchanges involving complex problem solving, experience, and context - such as in CNC technical field because of the abstraction of CNC-work. Therefore, a didactic for verbal description in the situation, when many companies in Vietnam have tried to develop training course for themselves, is urged to be introduced and applied. The apprehensibility of work process or scenario of real work world must be pictured through the process of work experience's analysis, which is done by interviewing experienced worker. It would be described under the form of skills and knowledge, which could be used as valuable material to design basic In-house-training courses and as a reference for suggested promotion of career path according to NVQs, which are introduced by MoLISA. Finally, these collective knowledge and skills could be seen clear and lucid advices of firm to enhance quality of training programmes in TVET-institutions.

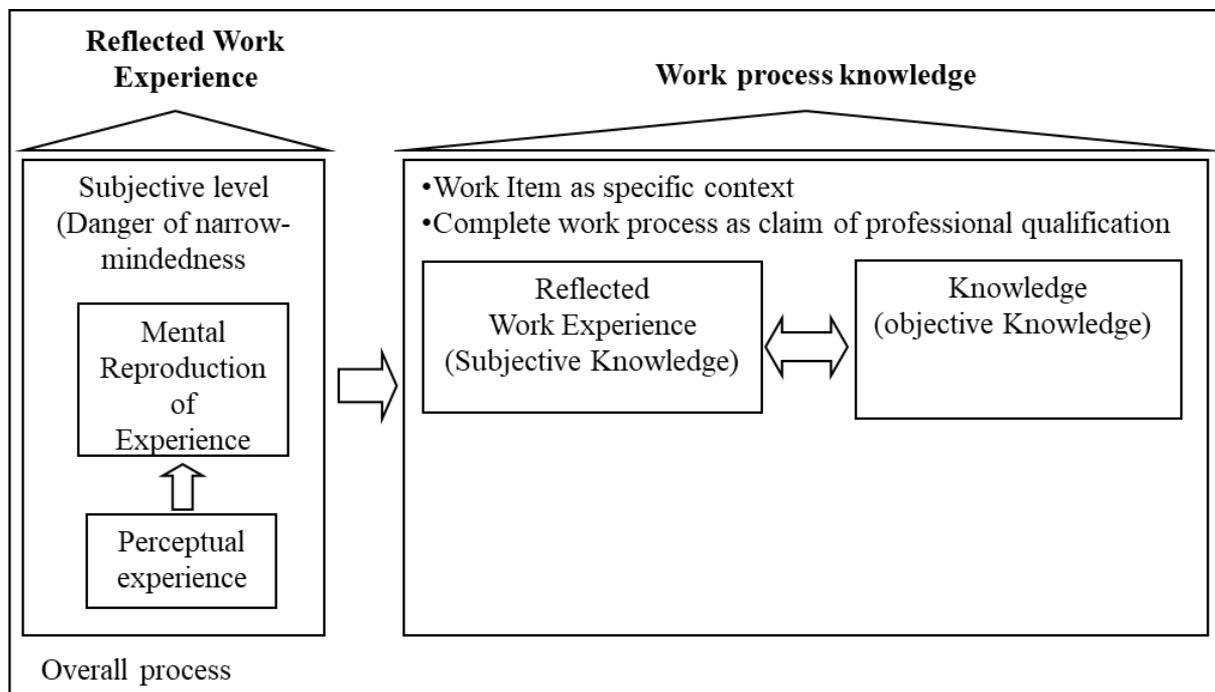


Figure 3: Connection between reflected work experience and work process knowledge (Lehberger 2013, 64)

The most important question is how to discover reflected experiences, which are implicit and covered under personal experiences of skilled workers, which they had collected along their working life and convert it into sufficient material such as knowledge and skills needs, which are essential for a specific profession to overcome all challenges in the workplace. Furthermore, transforming from the subjective experiences of each skilled worker with various professional levels into a neutral, objective, reliable information resource for developing a curriculum is an important condition. Then, it could be realized as work process knowledge – a foundation for designing an In-house training course (see Fig. 3). And it could be valuable material for designing curriculum in TVET-institutions.

In the process of developing curriculum for a training course, one of the most important things is understanding about knowledge, which is necessary to be taught, which must be interpreted from identified needs or demands of the profession. Therefore, work process knowledge could be a useful input for processing an adequate curriculum. This is the reason for decision, why the method of qualitative interview was chosen for analyzing and identifying professional profile. At the end, the work process knowledge needs to be controlled once again by quantitative questionnaires before it could be used as an information resource to process a curriculum.

Indeed, a job can be divided into various positions in the workplace and those positions could be related to each other. In the job analysis process, the observer could only watch and recognize the visual relations and interactions between worker and equipment, which he has to use in order to finish his tasks. Unfortunately, the observer could not see what is hidden beneath these activities, e.g. when the technician types in the control panel of the CNC - machine in order to adjust the macro program. Obviously, this is a visual activity, which could be watched. Nevertheless, the question is how he can handle the macro - program? This is called nonvisual background or tacit knowledge, which we do not really know. When he is asked to explain how he handles the machine, he will confirm that knowledge of programming languages such as Visual Basic would be very helpful and essential for his job. Moreover, many modern jobs deal only with computers and mental work such as CNC-designer, CNC-programmer who have to sit on the computer and handle their tasks every day. Thus, these jobs could not be observed in order to find out profiles of them without interviews due to the abstraction of them, which are classified as interaction work – engine of knowledge economies, which could be called as “... interactive jobs technology tends to complement, not substitute for jobs“ (Aring & Goldmark 2013). Even when the observer tries to map their tasks with necessary working tools or equipment, which the worker need to finish their tasks, it is very hard to figure out fundamental understanding about these professions. The figure 4 indicates differences between three positions of job of CNC technology, in which the degree of abstraction and the correlation of them are very various. If the job of the CNC-operator could be observed or interviewed easily because the observer can

recognize relations between tasks (object of work) and essential tools, equipment in order to identify which knowledge, professional competencies are essential for the job. But in case of the job of the CNC-Programmer, who is just concerned with computers, it is really more difficult to indicate required knowledge and competencies, which are required for this position. After all, the position of CNC-designer, who just works with customers to realize their wish about a production to develop e.g. a prototype of an injection mould. Therefore, a qualitative interview would be a more effective tool for a job analysis. During last time, many companies had tried to make contact with TVET-institutions in order to design demand-oriented training course but they had difficulty in clarifying their requirement, while TVET-institutions have to face the problem that they are not capable of figuring out the demand of the working world.

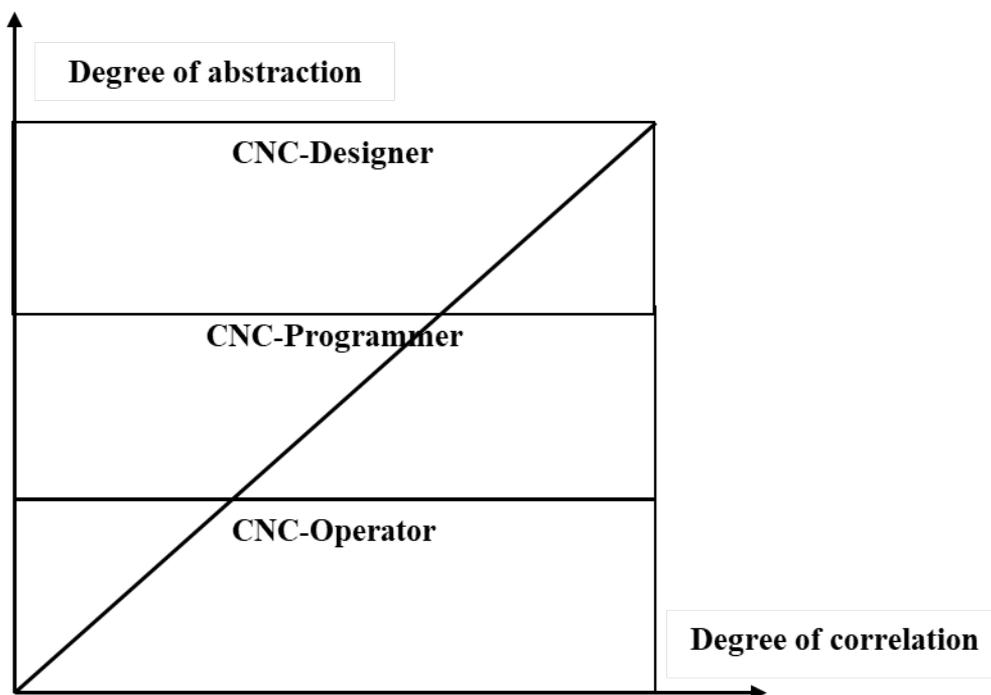


Figure 4: CNC jobs and their relation to degree of abstraction and correlation with workplace

3 Concepts of using qualitative interviews as a tool of job analysis

3.1 Criteria and instances of qualitative interviews

The first step in the process of using qualitative interviews as a tool for the job analysis is determining *criteria* (Robinson 1971) for upcoming interviews. This step is based on the answer of the question *how a profile of the job looks like?* The terms of professional profile implicates not only the required *knowledge and capability of the occupation* but also *expectations* and *vision* of employers about the job. That is why setting a question sheet has a crucial influence on the results of the research.

A next important step is choosing *instances* (Robinsohn 1971) or interviewees. Meanwhile, the DACUM only focuses on experts, who are considered as experienced workers and depends totally on these experts, the qualitative interview's method concentrates on experienced workers as well as on newcomers, who have just served several months in the position. Therefore, instances of qualitative interviews should be chosen from various workers, which have different levels of experiences and points of view about the job. Then, it is more important to set up a strategy in communication with interviewees by repairing questions, which should be suitable for each target group. For example, with a freshman, we should ask him to list activities of the position and to express his experiences of the transfer process from learning environment with the real working world. Because his experiences and opinions about the transfer process are very valuable in order to assess whether the current curriculum was probably sufficient or not yet. Moreover, they can demonstrate gaps between theories what they had learnt at school and what they really need in the working world. This instance can provide valuable information to improve teaching process in TVET institution and give many proofs for innovating the current curriculum. On the other hand, talking with experienced workers could have us draw an entire outline of the position. This instance can also indicate comprehensible needs of the position such as knowledge, capability and even soft skills. In addition, they always work with newcomers and even train them. Thus, they can define basically requirements of the recruitment of the position, which can be used as learning outcomes for training courses in the firm and TVET-institutions and for controlling the training quality of the current curriculum. In addition, they can give many reliable hints for training in the workplace, especially how to train a newcomer effectively. The last instance is top-level manager, who can supply expectation and future vision of the job, e.g. he wants to recruit employees, who are able to control machines and also capable of using CAD/CAM software to convert NC- program from CAD files. Indeed, both positions (CNC-operator and CNC-programmer) should be unified in one occupation. Due to lack of skilled workers, company must divide at present the occupation into two positions: Operator and Programmer. This division has caused many disadvantages such as the programmer cannot understand about machining process. Therefore, his programs had so many mistakes and often did not adapt to CNC-machines.

Table 1: **Criteria of qualitative interviews**

Freshman/ newcomers	Experienced workers
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1. Name of working position	1. Name of working position
2. Daily activities/tasks	2. Daily working activities
3. Feedback on vocational and training program	3. Required knowledge and capability of the position
4. Difficulties in transfer process from learning to working	4. Disadvantages or weak points of newcomers
5. Period of time to master the position.	5. Period of time to master the position.
6. Background of the position.	6. Suitable design of training process for newcomers.
7. Impact of unpredictable tasks and changes in the workplace.	7. Impact of unpredictable tasks and changes in the workplace.
8. Soft skills and attitudes	8. Soft skills and attitudes
9. How to challenge new tasks and changes in the workplace.	9. Expectation and future vision of the position.
10. Self-evaluation	10. Evaluation of worker's contribution

3.2 How to conduct a qualitative interview effectively?

Using qualitative interviews as a tool for job analysis is a suitable method for developing training courses in company because it can identify detailed information about a specific position of work. However, some remarks should be made.

- Firstly, the key factor is who should do interviews? At the first time, the author had done it alone. All of interviews happened in a room, where there were only two peoples: interviewee and interviewer. Therefore, these interviewees gained the willingness from interviewees. The author had recognized that all of them felt free to express their experiences. However, at the second time, interviews were conducted with two persons: the author and a man, who came from the personnel department. So, his presence made it difficult for interviewees to explain their points of view. It might

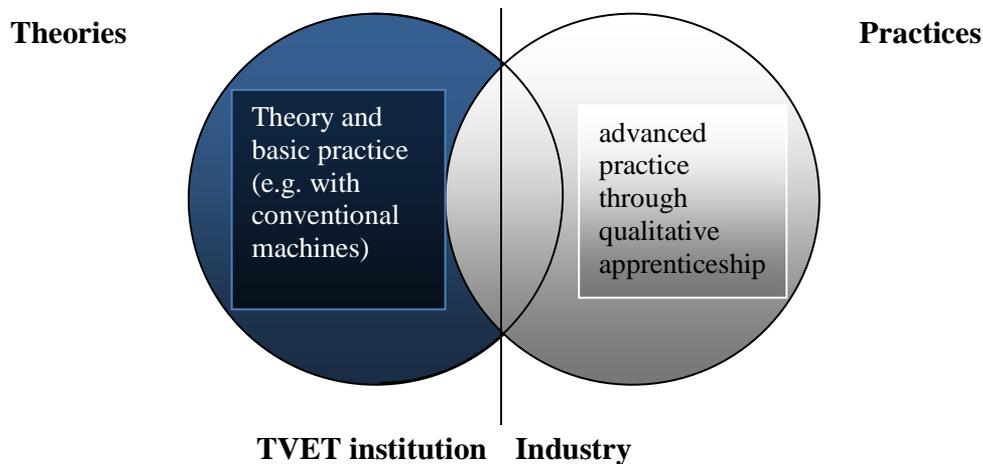
come from the cultural feature of Asian people. But my conclusion is that Interview should be done by external resource, for example personnel from TVET-institution.

- Voice dictation machine should be applied. It is very useful for qualitative content analysis in the next phase. But when the interviewee feels uncomfortable the dictation machine must be turned off.
- Using the method of qualitative interview in order to analyze a job depends totally on the proficiency of the interviewer. He should be friendly to lead interviewees to believe that the content of the interview will not bring disadvantages to them by explaining clearly the purposes of the talk. Thereby, he can convince interviewee's necessity of the interview and make them feel free to express their opinion. The interviewer should prepare well for the talk by writing down questions on a sheet. Additionally, he should provide the question sheet to interviewee in advance at the beginning of the talk. He must also have a good strategy to use these questions and lead the talk well to get as much as possible information about the needs of the job.
- Theoretically, qualitative interview is one of the best practices of investigating the requirements of the specific working position and identifying skills need which could be provided to TVET institution in order to design training courses to address demand of certain company. But the interviewer must be well-trained or he should have a good understanding of qualitative research method.

4 Recommendations

Two parties (company and TVET institution) of the TVET system should build a partnership in training by sharing resources of personnel and technology within training process. TVET institution cannot create a scenario of the real working world for learners by itself.

Meanwhile, company can offer apprenticeship program for TVET - to help learners have chances to practice with real modern machines instead of learning through simulation software at school but it only happens when company do really know what learners have learnt at vocational school.



Model of building partnership in TVET training

Figure 5: Model for building partnership between TVET institution and industry (Source: Authors)

In Figure 5, a model for building partnership between TVET institution and industry is recommended, in which most of professional theories and basic practice skills such as handling with conventional tool machines etc. would be taught at vocational school. Then, learners will build their advanced practice skills during the apprenticeship period at the company. This model can solve the actual gap between TVET institution and companies, which companies do not let apprentices to handle their machines because they do not know what learners had learned and what they can do. According to this model, the company can have a good chance to observe applicants during the period of apprenticeship in order to choose and recruit them in the near future and also does not need to retrain them. Meanwhile, TVET institution has not to equip with expensive, modern machines and has also good chances to access real working by cooperation with the company. They can send their staff to firms to strengthen their professional capability. But both of the parties have to unify the training content and period of time when learners will spend in the company.

Moreover, the description of professional profile at certain company is also useful in the evaluation and classification professional capability of workers. It makes the process of evaluation and classification more transparent, fair and acceptable. Furthermore, professional profile, which developed at a certain firm, might be used in processing national curriculum and NVQs after it is controlled through a quantitative research in order to revise the reliability and validity.

Finally, the description could be used as valuable material for curriculum development when the reliability and validity were confirmed.

5 Conclusion

After thirty years, the DACUM - method for the job analysis, introduced in Vietnam. TVET Vietnam requires an effective method for identifying apprehensibility of job, which is called interactions work. The work demands worker is capable of complex problem solving, professional experience and overall learning ability to adapt changes, which may come from the work context. Through the two last field trips, the author has recognized the trend of dual training in TVET Vietnam, in which industry will have to coordinate TVET-institution to complement training course. However, they have difficulty to indicate apprehensibility of their demand because they only know what they expect of their workers but they do not know how to describe it because TVET-institutions, unfortunately, do not have adequate personnel for job analysis. A concept for interpretation job's requirements and converting them into comprehensive information such as tacit knowledge, skills needs, should probably be useful in the circumstance of TVET Vietnam.

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