Exploring the Gap between Content and Learning Outcomes in Nepalese Technical Education

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Abstract: I have come across that some people with technical education who are being unemployed in the domestic job market is curious which made me selecting this issue. Very few researches have conducted on this issue in Nepalese context, so it becomes important to carry out a research to explore the reality. This study attempts to explore various themes in between the content and learning outcomes of technical education. While developing this paper I have prepared the research question as why there is a gap between content and learning outcomes in TVET programs. As methodological approach I used interpretive paradigm i.e. qualitative approach. First, I raised the issue then interviewed the participant, transcribe the record, generate themes and interpret the themes with the support of literature and theory. This research was delimited to content verses learning outcomes component and other issues were ignored. It was limited to CTEVT programs only. Primary data were collected based on interview. After interpreting the data I came to conclude that improper allocation of budget, weak linkage in education, improper management, traditional approaches of teaching, not upgraded curriculum, and the learning environment is affected by politics. Based on the findings and conclusion, I have suggested some implications to cater the problems as to adopt new technology like ICT, encourage small business activities, meet employer's expectation, enhance council's staff capacity, allocate sufficient economic resources, connect training to work experience, decentralize and institutionalize the management.

Keywords: contents, learning outcomes, management, learning environment, approaches of learning, curriculum

In recent years, I have come across some such people whose life stories have triggered my thought as to why people with a technical education are being unemployed in the domestic job market. I made up my mind to conduct research in this area. Broadly talking, there may be a wide gap between content and the outcomes of the technical education in Nepal. To some extent, there is a problem even in content but in this study the problems of content were ignored (Sharma A. , 2000). Only the factors associated with creating the gaps are analyzed in this research study.

Why this gap between content and learning outcomes is crucial? What are the major reasons behind this and what can be the solutions to these problems? Critically exploring these issues is the main purpose of this paper. For this purpose, I pointed out the different educational themes and dig out the factors related to these. Both outcome and effectiveness are the main result of any kind of educational program including the technical education (Acharya, 2011). Linking education and practice, I argue that technical education needs to clearly set its purpose in terms of curriculum, teaching learning methods, educational management and define their own theoretical and skills foundation while still engaging in the instructional design of meaningful and effective environments (Baral, 2012).

The purpose of technical education is to produce skilled workforce for enhancing their employment opportunities which help enhance the economic status of the unemployed people. Technical institutions have their own responsibilities to provide market consumable skills both national and international quality (Bhandari, 2012). It is believed that TVET specialists regularly monitor the market and include the goals, objectives, contents and methods of teaching in their curriculum (Khatri, 2006). Teaching learning process plays the significant role to attain objectives and

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content of program, and in this process instructor is the focal person, who helps to transfer certain skills, knowledge and attitude to the learner (Lamichhane, 2006). TVET curriculum is practical and must include the project and lab based instructional design. Employment rate of the TVET graduates was found the below the expected standard set by CTEVT for its technical schools. There should be linkage and correlation between curriculum, content, methods and learning outcomes of technical education (Lamichhane, 2001).

The distinction between learning outcomes and learning objectives is not universally recognized and many educationists may find that the term "learning outcomes" describes what they have already understood by the term "learning objectives". Some scholars make no distinction between the two terms; those who do usually suggest that learning outcomes are a subset or type of learning objective (Anonymous). However, people believe that there is a clear cut difference between content and learning outcomes. Recent decades have shown an increasing stress on the need to monitor and manage both contents and learning outcomes of the education system (Oakleaf, 2011). After a brief sketch of the background to the notion of educational component, arguments are presented to show their vacuity and explanations in the gap between content and learning outcomes.

Normally, it was expected that the knowledge and skills acquired once would work for the whole life. At present, the concept of learning has changed globally; the concept of lifelong learning has been accepted and welcomed which advocated that all forms of learning (Sharma, 1999). After studying the previous researches about the gap between content and learning outcomes, I came to know that even though many researches have been conducted on the content or in learning outcomes, on the topic of "gap between", very few researches are conducted in Nepalese context (Paudel, 2008). Thus, it becomes important to carry out a research on this issue in order to explore the gap.

Statement of the Problem

In Nepalese context, the objectives and contents are set on the basis of international practices but the outcomes of education are found very low and not according to the market demand (Pant, 2008). This is the major query which is a big matter of curiosity for me. Usually, students are concerned with their job and career development. They need competent and market absorbable knowledge and skill. It provides not only the routes to further education and training but also the successful transition to the employment (Mark, Klemz, & Murphy, 2003). It was not yet researched what measures can fulfill the gap between content and outcomes of the technical education in Nepal and how such solutions can be implemented. This is another big question to be answered in Nepalese context. That's why I raised this research issue.

For reducing the poverty, the role of technical education is significant, if the prescribed content meets their standard and gives the effective learning outcomes. Both nationally and internationally, employment markets must require a productive workforce with technical and vocational skills to meet the quality standard of their product (UNEVOC, 1996). There have been very few small component based studies conducted on the gap between content and learning outcomes of TVET. While I was developing this research, I collected very few literatures. This study, therefore, was an attempt to identify a visible gap between what already existed and what to be explored in technical education focusing on the content and outcomes of TVET programs. There has been a need to generate a new insight into the status of the gap (Butterfield, 2012). There was also a need to explore the solutions for this gap and link them with outcome based education in Nepal.

Purpose of the Study

This research paper will describe four major themes between content and learning outcomes of technical education, which is believed leading the gap and explain how to use solutions to

constructively manage this gap. Those four themes are namely management, modes and approaches of learning, facilities for learning and learning environment. More precisely, this research attempted to explore themes and various factors in between the content and learning outcomes of technical education. Based on the above problem statement and purpose of the study, the following research question was formulated to develop this research: Why there is a gap between content and learning outcomes in TVET?

Delimitation

This study was focused on the gap between content and learning outcomes in technical education of Nepal. Due to the various constraints, the researcher had delimited this study in the following ways,

1. The main focus of the study was delimited to the gap between content verses learning outcomes component and other issues were ignored.

2. The study was limited to CTEVT programs and only two technical education specialists were interviewed. The study was also limited to interviews with technical education expert currently giving their services in CTEVT.

3. The interviews and data collections were limited to a 15 minute time frame each and conclusions regarding gaps were based on answers to interview questions.

Method

Methodology is an overall plan, procedure that is implemented to do research and entire research is dependent upon the methodology of research (Cresswell, 2003). As a methodological approach I used qualitative approach in this research. As my research demands the interpretation of my participants' perception and their intended meanings I choose interpretive paradigm for this research.

Data Collection

The data collection phase was one of the most critical stages. There are several methods of data collection, interview is one of the common methods of data collection in qualitative research (Cohen & Morrison, 2000), the primary data were collected mainly based on interview. So, the primary source of collecting information was the one-to-one, face-to-face interview of the technical education expert identified for the study. The purpose of interviewing was to find out what was in and on the participants' mind regarding the research questions of this study. To fulfill the purpose of this research study, the secondary data was collected from different books, journal article, internet and blogs.

Data Analysis

During this research, the first step I performed was the identification of themes. After concluding interviews, the interview transcripts and record were repeatedly replayed and reviewed. Once the significant statements were identified, they were coded and categorized according to the research questions. Based on the themes obtained through the primary and secondary data, the influencing factors were identified. Additionally, the themes obtained were discussed and supported by the relevant theory and literature in this study.

Ethical Considerations

Ethics are the principles and guidelines that help us to determine and uphold what is morally justifiable. Ethics refers to moral principles or values that generally govern the conduct of an individual or group. Ethics apply at every stage of the research study (Denzin & Lincoln, 2000).

I have obtained consent from each research participant. I informed them about the objectives of the research and expected the contribution from the side of the participants. It was also clearly mentioned that in case they felt not like to respond to any question it was up to them. Similarly, I clarified to them that any time they could quit the interview if they want. I have tried my best to select the participants fairly. Further, to maintain the confidentiality, I informed the research participants about the process of the research. I also mentioned that the opinions expressed by them would not be revealed except to the course instructors.

In recent years ethical considerations across the research community have come to the forefront. This is partly a result greater awareness of human rights and data protection and also a result of increased public concern about the limits of any inquiry. There has been enhanced concern for responsible behavior within the workplace, which is maintained in this research study (Best & Kahn, 2003).

Findings

This section presents the interpretation and analysis of the data that I collected from participants though using interview tool. Here, I discuss the data collected through interview and try to make clear about the gap between contents and learning outcomes of technical education in Nepal.

Setting the Scene

I went to the research site and interviewed two participants from CTEVT located in the periphery of Sanothimi, Bhaktapur. First I interviewed, health coordinator, in the division of polytechnic Mr. P1 and then after Mr. P2, the senior agriculture specialist in the same division. In the process of interpreting data I developed themes for the data under main heading and sub heading. The themes were determined after collecting the data on the basis of responses of asked questions given by the participants. In order to maintain authenticity, I have included participants' responses without any modification in audio record.

Participants' Profile

Before presenting the analysis of data, I would like to briefly present participants' profile. While presenting their profiles I present only the professional background of the participants' in order to maintain confidentiality of the participants and to be ethically correct.

Participant 1, which is known as a P1 in this study

P1 is a male expert of 54, who has been working in CTEVT for 19 years in technical division and he has been teaching in nursing colleges from the last 6 years. Regarding his qualification, he has done MPhil, MPH and he is also doing PhD. He has also national and international exposure to his subject matter.

Participant 2, which is known as a P2 in this study

P2 is 56 years male expert; he has been working in CTEVT for twenty years plus in technical division. He has received a number of trainings and attended few workshops related to his field. He has done BSc Ag.

The interpretation and the analysis are presented under different themes in the following:

Theme One: Management

The first question was related to overall management of CTEVT and its programs. When I asked the participants what is the management system of CTEVT and what is the importance of its program, both participants presented ambiguous perception about the management of CTEVT and its program. The responses given by respondents are given as follows:

P1: There is a section of curriculum development and revision in CTEVT. This section is fully responsible for revising and updating the curriculum. However, this section is not functioning well.

P2: CTEVT is facing the problem of economic resources due to the very low allocation of government budget in this sector. If we, (CTEVT), get the enough economic resources, then we can well manage the programs and institution as a whole.

P1: Political interfere and political instability are also the huge problem to manage the CTEVT programs and its affiliated institutions. CTEVT is also unable to control the over production of our human resources in some programs like staff nurse.

P2: We are implementing very old curriculum and we hardly have revised it on the basis of market demand. In CTEVT, there is no section of labor market analysis, subject committee and academic board. Comprehensive types of contents are there in curriculum.

P1: Teaching methods and styles are outdated like lecture method and note making. We are unable to apply and manage modern approaches.

P2: Scheduled and weak monitoring system is there.

P1: Over flow of students, institution and the same number of staff in CTEVT from the last 18 years are some of the major problems in CTEVT or in technical education of Nepal.

There are different management theories in the practices like scientific management, administrative management, bureaucratic management, human relations management, behavioral science, system theory, contingencies and so on. These are the theories which are almost all focused on the effective utilization of resources. Resources may be human resources, financial resources, information resources and physical resources of the concerned organizations. From the respondents of this research issue they raised the problems of resource utilization due to the under staff and financial deficiency in CTEVT. Thus, I can conclude that, there is a big role of management style to bridge the gap between contents and learning outcomes in CTEVT programs.

Ineffective management is a serious problem in any kind of organizations or institutions. I believe that the bureaucratic style of management is inappropriate for CTEVT. Therefore CTEVT should adopt the contingency management approach to bridge the problem.

Management is known as the organization and coordination of the activities of a business in order to achieve defined objectives. Management is often included as a factor of production along with machines, materials, and money. The basic task of management includes both innovation and marketing. Management consists of the interlocking functions of creating corporate policy and organizing, planning, controlling, and directing an organization's resources in order to achieve the objectives of that policy. In CTEVT context, financial deficiencies and political interfere are the major factors for ineffective management.

From above discussion, it is clear that, under finance, political interfere and under staff are the major constraints for effective management in CTEVT. It can be elucidated that this institution is guided by the traditional approaches of management even though; CTEVT has been using some modern techniques, like information and communication technologies in their daily official activities.

The directors and managers, who have the power and responsibilities to make decisions and oversee a CTEVT, should start the new initiation for effective management of the organization. The size of management can range from one section to another of technical education. In large section, the coordinator defines the policy which is then carried out by the sub-ordinate officers and employees. It is believed that in order to evaluate an organization's current and future worth; the most important factors are the quality and experience of the managers and coordinators (ACTE, 2013).

At last we can conclude that management inefficiency is the key factor to create the gap between content and learning outcomes in technical education. In habermasian language, in this theme there is controlling

(technical interests) but lacking understanding and empowerment. In my understanding and from the above discussion it is clear that the ineffective management practices of CTEVT is promoting the gap between contents and learning outcomes (Grundy, 2002).

Theme Two: Modes and approaches of learning

The second question was related to modes and approaches of learning. When I asked the participants about their views on the topic, they prioritized the teaching methods. In this regard participant said;

> P1: CTEVT proposed modern tools, modes and approaches of teaching and learning in their curriculum but in practice only lecture method is widely followed by the instructors.
>
> P2: All the courses are designed on the basis of practical classes. There are enough libraries and labs but the flow of students is very high so adequate practice in the lab and project is not possible
>
> P1: The traditional and outdated note making and lecture method is normally used in classroom practices. Instructors are not trained to use ICT and modern tools/techniques in the classroom.
>
> P2: We are strict in the process of giving affiliation to private institutions and it's their responsibilities to instruct the students whatever modes and approaches they follow.
>
> P1: CTEVT only regulates and monitors the programs.
>
> P2: All the courses are practical and project based but while implementing phase, there can be traditional approaches and modes of learning.

Regarding the question about modes and approaches of learning, participants gave their view that it should be modern and concurrent but they also told that traditional approaches are in practice in CTEVT. A teaching method comprises the principles and methods used for <u>instruction</u>. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, project work or combinations of these. The choice of teaching method/methods to be used depends largely on the information or skill that is being taught, and it may also be influenced by the aptitude and enthusiasm of the students. Newer teaching methods may incorporate television, radio, computer, and other modern devices. Some educators believe that the use of <u>technology</u>, while facilitating learning to some degree, is not a substitute for educational methods that encourage critical thinking and a desire to learn. I also believe that teaching methods should be learner centered and friendly to the participants. In CTEVT the entire course are offered in practical basis so learning by doing approaches are more suitable than other methods. We can use inquiry method to develop the learners' knowledge, which is also known as a modern method of instruction.

From the above discussion it can be interpreted that all the participants recognize that each person prefers different learning modes and approaches. Learning approaches denotes common ways that people learn. Everyone has mix ways of learning styles. Some of people may find that they have a dominant style of learning, with far less use of the other styles. Others may find that they use different styles in different circumstances. There is no right mix nor fixed. We can develop ability in less dominant styles, as well as further developed styles that we have already used well.

Using multiple learning modes, approaches and multiple intelligences for learning is a relatively new approach. This approach is one that educators have recently started to recognize. Traditional educational institutions used to adapt the lecture and logical teaching methods. They also used a limited range of learning and teaching techniques. Many technical institutions still rely on classroom and book-based teaching, much repetition, and pressured exams for reinforcement and review. As a result we often label those who use these learning styles and techniques as bright. Those who use less favored learning styles often find themselves in lower classes, with various not-so-complimentary labels and sometimes lower quality teaching. This can create positive and negative spirals that reinforce the belief that one is smart or dumb.

By recognizing and understanding our own learning modes and approaches, we can use techniques better suited to us. This improves the speed and quality of our learning. The method of Multiple Intelligence is appropriate for CTEVT students to develop their knowledge, skills and attitude. At last, we can conclude that ineffective and not meaningful modes and approaches of learning is the important component to foster the gap between content and learning outcomes in technical education. In habermasian language, there is controlling but lacking understanding and empowerment (Grundy, 2002).

Theme Three: Facilities for learning

Responding to the question about facilities for learning, the participants said:

P1: There is an enough infrastructure; buildings, labs and other resources in technical institutions. But in remote areas like Humla and Jumla there may not be sufficient facilities.

P2: We think that learning facilities depend on geographical regions and institutions.

P1: Due to the lack of sufficient economic resources all the facilities which learners demand can't be fulfilled.

P2: Hostels, buses, internet, well equipped buildings are lacking even in the institutions run by CTEVT. Books, hand out and practical classes are there.

P1: Satisfactory teaching learning process can be seen in the technical education program in comparison to general education system.

From the above discussion, it is widely acknowledged amongst today's educators that learning facilities have changed dramatically since the last century. In recent years, we have witnessed rapid social and cultural changes, phenomenal advances in communication and information technologies, as well as the introduction of the internet within schools and technical institutions. These factors have contributed to shape the teaching and operating cultures of technical institutions and created shifts in our expectations of the physical learning environment. They have affected instructors, educators and researchers the world over. These miniature revolutions have given rise to an urgent need for a new generation of facilities to cater for 21st century teaching and learning needs in technical education.

In addition, the concept of facilities for learning will become increasingly significant as technical schools of the future become centers of lifelong learning. Learning facilities is a term used liberally in educational discourse because of the emerging use of information technologies for educational purposes on the one hand, and the constructivist concept of knowledge and learning on the other. The facilities for learning means a physical space that supports multiple and diverse teaching and learning programs and pedagogies, including current technologies; one that demonstrates optimal, cost-effective building performance and operation over time; one that respects which is in harmony with the environment; and one that encourages social participation, providing a healthy, comfortable, safe, secure and stimulating setting for its occupants. In its narrowest sense, a physical learning environment is seen as a conventional classroom and, in its widest sense, as a combination of formal and informal education systems where learning takes place both inside and outside of schools. Traditional school teaching is almost conveying too much theoretical information and for preventing in-depth learning. Many people believe that inert knowledge is relevant for exams but not for real-world problems. This idea is posing new challenges and exerting pressure to bring about changes in facilities for learning.

Moreover, from above mentioned discussion, it is clear that, in order for a school to develop into a dynamic physical learning environment, there needs to be a behavioral change in relation to planning and producing spatial solutions. Change cannot occur without input from instructors and students which are the main technical school users. Instructors and students who conceived the study

applauded the significant shift away from the traditional classroom and said how much they would like to work in a similar space.

Furthermore, if a technical institution provides a quality learning facilities for students, this will facilitate the acquisition of skills that are important for society. The choice of equipment is important: it should be versatile, resistant, durable and easy to repair. User-based innovative processes should be at the heart of designing the physical learning environment of tomorrow's technical schools. This process should take into account the global needs of learners, instructors, technical school administrators and the community, while respecting the environment. A judicious selection of products and services that minimizes negative environmental impacts will also be of benefit to all.

Similarly, physical facilities are the plant facilities provided in the technical institutions in order to facilitate teaching learning process. It includes building, availability of enough rooms, proper lighting and ventilation, seating and furniture, provision of pure and safe drinking water, availability of play grounds, laboratories, writing boards, enough washrooms etc. In order to improve teaching learning process, general cleaning and particularly the cleanliness of class rooms are necessary. More precisely, excellent learning facilities are basic ingredients for good technical education programs and are very important for achieving the targets and improving the quality standard of education. The phenomena that some technical schools/colleges have surplus facilities and others lack them are an indicator of poor educational planning in technical institutions.

From the given analysis it is clear that inadequate learning facilities certainly lead the gap between content and learning outcomes, which can be seen in technical education of Nepal. In habermasian language true understanding takes place through mindful applications. More precisely, in this theme it is clear that there is understanding but lacking application (Grundy, 2002).

Theme Four: Learning environment

Regarding the question about learning environment the respondents said:

P1: Learning environment is very suitable and favorable in CTEVT program but some factors are disturbing its program such as bandha, political instability of the country, low economic, resources of CTEVT, student unions etc.

P2: Course coverage is almost good but some private institutions are cheating by hiring under qualified instructor and completing their course in 1 and 2 months.

Learning environment **is** the diverse physical locations, contexts, and <u>cultures</u> in which students learn. Students may learn in a wide variety of settings, such as outside-of-school locations and outdoor environments, learning environment is often used as a more accurate or preferred alternative to *classroom*, which has more limited and traditional connotations, e.g. a room with rows of desks and a chalkboard.

Moreover, learning environment also encompasses the culture of a school or class, its presiding ethos and characteristics, including how individuals interact with and treat one another, as well as the ways in which teachers may organize an educational setting to facilitate learning e.g., by conducting classes in relevant natural ecosystems, grouping desks in specific ways, decorating the walls with learning materials, or utilizing audio, visual, and digital technologies. The qualities and characteristics of a learning environment are determined by a wide variety of factors, institution policies, governance structures, and other features may also be considered elements of a learning environment.

Similarly, learning environments have both a direct and indirect influence on student learning, such as their engagement in what is being taught, their motivation to learn, and their sense of well-being, belonging, and personal safety. Learning environments filled with sunlight and stimulating educational materials would likely be considered more conducive to learning than drab spaces without windows or decoration, this can result schools with fewer incidences of misbehavior,

disorder, bullying, and illegal activity. How students interact with one another may also be considered aspects of a learning environment, and phrases such as positive learning environment or negative learning environment are commonly used in reference to the social and emotional dimensions of classroom learning.

Furthermore, from the respondents of this research they raised the problem of course coverage in CTEVT. Thus, it can be concluded that there are also other problems which are leading the factors such as minimum resources, ineffective management, and theoretical bases of courses. We can't control all aspects of the learners that come our way; each student brings in his or her own learning strengths and challenges, concept of self, and so on. We can, however, change ourselves, the change begins within. It is a metamorphosis, which begins from within the instructor moves outward to the classroom, and on to the students.

Moreover, it is hard to well manage all aspects and factors of the environment, but we can manage some. For example, we might not have control over course scheduling or other institutional policies; however, we can control ourselves, our space to some extent, and the way we design our curricula, methodologies, and assessments. We can design our courses and learning experiences to provide access to the broadest possible number of students. We can help the learner construct his or her own meaning by nurturing metacognition and by creating appropriate learning experiences. Instruction is truly the art of changing the brain.

Finally, we can conclude that learning environment play significant role to deliver the contents to the learner. Inappropriate learning environment leads the gap between content and learning outcomes in technical education. In habermasian language in this theme CTEVT should focused on empowerment (Grundy, 2002).

Conclusion

Based on the research questions, the following conclusions have been drawn by the researcher:

1. Proper allocation of national budget to the CTEVT and establish the strong linkages between contents and learning outcomes.
2. Improper management of CTEVT and its resources, should link TVET programs with employment
3. Traditional modes and approaches of instruction is in practice, regular updating the contents and curriculum as a whole
4. Learning facilities are very low even the courses are prescribed in practical form. And learning environment is affected by politics and political environment/players

Implications

The following measures are suggested for fulfill the gap between contents and learning outcomes.

1. Adopt new technology to meet changing nature of teaching learning environment
2. Encourage small business activities rather than government job for students
3. Meet employer's expectation, should focused on training for self-employment
4. Link performance to resource allocation and enhance the council's staff capacity, economic resources
5. Connect training to work experiences and better to establish labor market information center
6. Decentralization of management and institutionalize the linkage system.

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