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Relevance of Foundation of Education Curriculum from Indigenous Knowledge Perspectives: Post-Graduation Teachers' and Students' Opinions

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Abstract

The present study is carried out in order to analyze the existing Masters' Degree curriculum of Foundation of Education (ED 511). Descriptive survey design has been used in present study. 10 teachers of different college of Tribhuvan University and 20 post-graduation (M ED) students who studying at Sanothimi campus were selected as samples using purposive sampling methods. Results reveals that sufficient indigenous knowledge related contents are not instrumented in the existing curriculum of ED 511. Similarly, the results of the present study reveals that although the major general and specific objectives, contents, pedagogical activities and assessment procedures are satisfactory, sufficient indigenous knowledge friendly objectives and contents are not incorporated in the ED 511 curriculum. Only one topic related to indigenous knowledge is instrumented in the curriculum. Accordingly, general, specific objectives and assessment procedures cover some indigenous knowledge friendly contents. These provisions are not sufficient form the perspectives of indigenous knowledge. Similarly, indigenous knowledge that exists in society has historically been ignored and neglected. So, a majority of the respondents agreed that there is sufficient room for indigenous knowledge in the existing curriculum that could be incorporated in the Foundation of Education curriculum (ED 511). In this context, explicit and tacit indigenous knowledge could be instrumented in the existing ED. 511 curriculum easily. Accordingly, specific pedagogical practices and assessment procedure should be added for the effective implementation of these contents. Thus, it can be concluded that existing syllabus of ED 511 should be improved as per the norms of the changed need of the society and indigenous knowledge perspectives.

Key Words: M ED curriculum; foundation of education; indigenous knowledge; teaching learning activities

Context of the Study

Nepal's education system is comparatively less exposed to international market because of two major reasons. First, development of modern education system in Nepal is recent phenomenon, particularly in the second half of twentieth century only. Second, there are serious concerns on the quality of educational systems in Nepal. In the last half century, Nepal witnessed remarkable quantitative growth in educational institutions but the quality of education could not go hand in hand with the quantitative growth. Nepal's education system also critically suffers from lack of innovation and more dependent to imitation, particularly with Indian system of education ***(Pokharel, n.d)***.

Tribhuvan University (TU), founded in 1959, is the oldest and biggest university of Nepal, which covers more than 80% of the students in the country ***(Onta & Uprety, 2014***). TU has a key emphasis on preparing teachers and teacher trainers as per its vision of documented curriculum. For that, the University has been offering subject specific courses in Bachelor, Master, MPhil and PhD levels in the Faculty of Education. Master of Education (M ED) programme in Faculty of Education, TU is a two-year academic as well as professional training programme. Faculty of Education through this programme has been producing competent educational professionals such as teachers, teacher educators,

curriculum specialists, educational planners, managers/administrators and researchers for more than three decades. M ED. in TU has a special feature in the sense that it provides content as well as pedagogical courses to the learners in a balanced way.

Universities should aim not only to educate young minds and contribute to make dynamic citizens, but also to generate new ideas and encourage innovation. The semester system is said to keep students on their toes with their progress being regularly and closely monitored. Compared to the annual system, it helps to keep students busy all year round with an even level of burden instead of allowing them to pile up work towards the end of the year. A semester system permits greater freedom and scope for designing and delivering a variety of courses that the students can pick flexibly from in order to enhance the quality of their learning ***(Singh & Kuamr, 2016).***

The first time Nepal's oldest, largest, and still arguably the most prestigious TU, one of the oldest and largest university of Nepal, switched from the annual system to semester system, in the 1970s, it didn't last long. Due to lack of teacher expertise, student resistance, and a general lack of interest/understanding about the attempted change, the system was reverted to annual system in 1980. TU launched the semester system in general masters' program from the year 2014 at Central Campus in Kirtipur and from the year 2017 at Kathmandu Valley and planned to launch across the country from the year 2018. In fact, when the university tried to make the shift again in 2014, which has been noted as a haphazard and unprepared enforcement ***(Khaniya, 2014)***, lacking the consent of most of the stakeholders, and insurmountable student resistance, it was decided that only the Central Campus in Kirtipur would make the change in the curriculum of degree programs. In the past few years, however, the decision of the Executive Council to keep expanding semester system from Kirtipur to the entire Kathmandu valley and then to the whole country, also going downward to the bachelor's level, seems to be working.

The curriculum of Masters' Degree, Tribhuvan University, comprises of professional (core) courses, specialization courses and elective courses. Foundation of Education (ED 511), Advanced Educational Psychology (ED 513), Curriculum Practices (ED 521), Education and Development (ED 522), Research Methodology in Education (ED 532), Measurement and Evaluation in Education (ED 533), Contemporary Educational Issues (ED 541), and Teaching Practices (ED 542) are professional or core course. Similarly, specialization areas offered in M ED programme include Curriculum and Evaluation, Educational Planning and Management, Nepali Education, English Education, Mathematics Education, Science Education, Health Education, Physical Education, Population Education, Geography Education, History Education, Economics Education, and Political Science Education. The courses are delivered through project works, assignments, seminar, case studies, and field studies in addition to lecture sessions. These provision seem relevant, sound and satisfactory. But the actual classroom scenario is quite different. It is claimed that recent revision in the curriculum and implementation of the semester system in TU is to bring about a quantum leap in teaching, research and innovation. The various studies and educationists blamed that the existing Masters' curriculum of Foundation of Education (ED 511) is not relevant and satisfactory from indigenous perspectives. Relevant pedagogical activities and contents are not included in the curriculum. In this context, it is necessary to review these blames scientifically. Thus, this study has been carried out to analyses relevance of Foundation of Education curriculum form indigenous perspectives.

Objectives of the Study

The objectives of this study were as follows:

- to analyze curriculum of Foundation of Education (M ED, ED 511) from indigenous knowledge perspectives in the form of the opinion of teachers and students, and
- to identify the situation of inclusion and implementation of indigenous knowledge related contents, teaching learning activities and assessment procedures in the curricula, and
- to analyses the pedagogical activities and assessment procedure designed in the existing curriculum of Foundation of Education (M ED)

Literature Review

During the research, a number of studies have been found out. But all of these studies were not relevant for this study. So, definition of indigenous knowledge and relevant studies are presented in this section.

Defining of Indigenous Knowledge

The term Indigenous Knowledge (IK) has gained prominence in recent years and refers to bodies of knowledge developed by peoples with extended histories of interaction with the natural environment. The term indigenous has many meanings: traditional ecological knowledge, local knowledge, ethno science, folk science, indigenous science, traditional science, and folklore ***(Williams & Muchena, 1991)***. In a similar manner, the term knowledge has different meanings to different people. Therefore, a combination of the two words, namely indigenous knowledge presents a huge task to present a single concept. The meaning of indigenous knowledge is difficult to pin down ***(Maurial, 1999)***. According to ***Warren & Rajasekaran (1993):***

> *IK is local knowledge unique to a given culture or society. It is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture.*

IK or Indigenous Knowledge System (IKS) is a body of knowledge built up by a group of people through a generation of living in close contact with nature ***(Warren, 1991 and Johnson, 1992)***. According to ***Enriquez (1990)*** and ***Kim (1990)*** IKS is a system of psychological thought and practice that is rooted in a particular cultural tradition. ***Berry et.al (1996)*** further suggest that, it can be described as folk counselling whose roots of enthnocentrism lie in the intellectual tradition of cultural sciences s deeply rooted in the cultural views, theories, conjectures, classifications, assumptions and metaphors, rather than the natural sciences which may not even bear cultural views. Cultural traditions give rise to folk counselling which is based on indigenous knowledge systems that includes theories, methods and data, secondly the real stuff of counselling lies in the daily mundane activity of people rather than in continued experimentally induced behavior ***(Enriquez, 1990 and Kim, 1990)***. The same authors recognized that, people are people because of their background, thus all their counselling issues should not ignore their background since it will help to interpret presented issues in terms of the local frames of reference. Of course, Western counselling is one such indigenous counselling but because it has taken the role and status of counselling, the term is usually reserved for the Afrocentric perspectives that reflect the traditions, beliefs and ideologies of non-western societies and it includes counter theories that stand in some opposition to Western counselling approaches ***(Berry et al, 1996)***. ***Sinha (1981)*** claims that this has come about because to a certain extent indigenous counselling have shown a reaction or rejection of the dominance of Western approaches in a culture (Sinha, 1981). This is subject to debate. IK is a unique non formal and orally transmitted cultural knowledge that is context specific as echoed by the collectivistic and communal theories.

IK, according to ***Kincheloe and Steinberg (2008)*** exists as a "multidimensional body of understanding" representing a lived form of reason that informs and sustains people who make their homes in a local area. In such a context, such peoples have produced knowledge, epistemologies, ontologies, and cosmologies that construct ways of being and seeing in relationship to their physical surroundings. Such knowledge involve insights into plant and animal life, cultural dynamics, and historical information used to provide acumen in dealing with challenges of contemporary existence ***(p. 136)***. According to ***Battiste (2005)***, IK is an extensive and valuable knowledge system. Covering both what can be observed and what can be thought…Indigenous knowledge thus embodies a web of relationships within a specific ecological context; contains linguistic categories, rules, and relationships unique to each knowledge system; has localized content and meaning; has established customs with respect to acquiring and sharing of knowledge…and implies responsibilities for possessing various kind of knowledge.

Indigenous knowledge (IK) is defined as a unique cumulative body of knowledge generated and evolved over time and possessed by people belonging to a particular geographic area enabling them to benefit from their natural resources ***(Kaniki & Mphahlele, 2002; Sen, 2005).*** IK is unique to that particular geographic location and is passed down from generation to generation. IK can be differentiated from Western scientific or modern knowledge in that the latter is developed and generated by research institutions, universities and private businesses. Indigenous Knowledge is developed outside the formal education system, it does not necessarily operate within formal organisations and is mainly transferred by word of mouth ***(Kaniki & Mphahlele, 2002)***. According to ***(Grenier's (1998)*** IK refers to "the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area" ***(p. 1)***. For many centuries human beings have been generating and producing knowledge that has allowed them to survive and prosper within their social and natural environments ***(Mehta, Alter, Semali, & Maretzki, 2013)***. IK is used by many cultures as the basis for their decision-making processes in relation to various issues such as food security, human and animal health, education, natural resource management and other vital economic and social activities. IK is a part of everyday life for some cultures and is entrenched in people's experiences and beliefs. It can give us an insight into historic events for example, IK can help to explain the consequences of demographic effects of migration.

A closer analysis of the above definitions led me to conclude that;

- Inherent in most of the above definitions and conceptions of "indigenous knowledge" is the issue of culture, tradition, history, and geographical position of a given community of peoples.
- Indigenous knowledge therefore appears to be the "knowledge systems" (encompassing both processes and practices) of people who have lived in a particular place over time, and have shared a common history and culture. It is knowledge that communities have gained through continuous interactions with their environment and interactions between themselves.
- It is also critical to point out that indigenous knowledge systems can neither be perceived as unique to Africa or more specifically black Africans, nor to nonwestern people as is often misconceived by many people ***(Masuku, 1999)***.

Defining indigenous knowledge from a critical and reflexive perspective helped the researcher to negotiate the often contested and sometimes politicised discourses around the debate on the value of indigenous knowledge systems in conservation and environmental education. This view was also useful in exploring issues around integration of indigenous knowledge systems into environmental education curriculum processes such as those of the Environmental Education programme, taking curriculum as both content and process as noted by ***Cornbleth (1991)***. Finally I also needed to emphasise that my interest in indigenous knowledge was not developed through a sense of cultural marginalisation of indigenous knowledge and knowledge communities, but an interest in the possibilities of intergenerational knowledge having a key role in helping to contextualise and situate environmental education learning processes. This study was therefore neither geared towards equalising western scientific knowledge systems with indigenous knowledge systems nor elevating one form of knowledge over the other, but sought to explore how the different epistemological traditions could be used to enrich environmental learning processes in a given context of socio-ecological risk, in this case the context. I therefore decided that within this research, the term indigenous knowledge was going to be used synonymously with terms such as local knowledge, community knowledge, traditional knowledge and traditional ecological knowledge. All of the above terms loosely defined referred to knowledge in local communities (people) about their everyday lived experiences, their local environment included. Furthermore the term indigenous knowledge systems was used, within this research, to refer to the content (facts), processes (methods) and practices (application) relating to indigenous communities, their knowledge, the intergenerational mechanisms and the associated every day practices.

Types of Indigenous Knowledge

There has been much research on indigenous knowledge and the key role that it has played in the sustainable development of developing countries ***(Agrawal, 1995)***. There is very little literature on specific types of IK however ***Tavana, (2002)*** does speak about two types of indigenous knowledge-*explicit indigenous knowledge* and *tacit indigenous knowledge*. These are discussed further below.

Explicit Indigenous Knowledge: Explicit knowledge consists of "facts, rules, relationships and policies that can be faithfully codified in paper or electronic form and shared without need for discussion" ***(Wyatt, 2001, p. 6).*** Furthermore, ***Smith (2001)*** defines explicit knowledge as "academic knowledge or "know-what" that is described in formal language, print or elecontric media, often based on established work processes, use people-to documents approach" ***(p. 314).*** Explicit indigenous knowledge refers to traditional knowledge that is easily articulated, expressed, communicated and recorded. According to ***Tavana, (2002)*** examples of explicit IK include the names of reef fish, the breeding times of birds or the way in which to use certain plants for medicinal purposes. The nature of explicit knowledge is that it is easy to store, transfer and communicate with others. As the erosion of explicit IK and indigenous communication are increasing, the need to transfer, store and retain this knowledge amongst indigenous communities is greater now more than ever before ***(Mehta, Alter, Semali, & Maretzki, 2013; Tikai & Kama, 2010)***.

Tacit Indigenous Knowledge: In contrast to explicit knowledge, tacit knowledge refers to the practical, action-oriented knowledge or know-how based on practice, acquired by personal experience, seldom expressed openly [and] often resembles intuition ***(Smith, 2001, p. 314).*** Tacit knowledge is often difficult to express openly with words because it encompasses carrying out something without having to think about, like riding a bicycle for example. The very nature of tacit knowledge is that it is difficult to extract from the heads of individuals. It is very seldom found in books, manuals, databases or files as it is developed from mental models, values, beliefs, perceptions, insights, experiences and assumptions ***(Smith, 2001).*** Tacit indigenous knowledge refers to the types of traditional knowledge that cannot be easily expressed or articulated to outsiders ***(Tavana, 2002).*** Tacit IK is largely based on an individual's emotions, experiences, insights, observations and perceptions. Examples of Samoan tacit IK include the deep respect that people have for their elders or the process of reaching a unanimous consensus within a village meeting.

Western/Scientific Knowledge and Indigenous/Traditional Knowledge

IK has been termed subjugated knowledge and therefore is not regarded as a scientific knowledge to many people. However, there is a growing perspective that indigenous knowledge as a knowledge base is not one of inferior status but rather a knowledge base that must be viewed as another type of science. Proponents of this view include ***Snively and Corsiglia (2001)*** who argue that every culture has its own science where this culture has its own unique thinking processes and worldview. The issue of each culture having its own worldview can be further interrogated through the work of ***Ogawa (1995)*** who claim that people have different ways of perceiving reality. It is this difference in perceiving reality that leads to the conclusion that there are in fact many sciences. This view is supported by ***Cobern (1996)*** who claims that if the studying of nature is a defining point in determining whether a knowledge base is a science then all cultures have their own science as at any time all cultures study nature. A manifestation of the above could result in IK being referred to as Indigenous Scientific Knowledge or, in order to contextualise it even further it could be known as Scientific Knowledge. ***Durie (2004)*** indicates that both western and indigenous people value their respective knowledge bases. Both western and indigenous knowledge accrue high status amongst the people who produce or generate the knowledge, where there exists amongst their people a rejection of the alternative knowledge base. For example, in the case of western people, knowledge which does not subscribe to scientific principles which

involve scientific method is given lesser status if it is given any acknowledgement at all. On the other hand, indigenous people often dismiss scientific knowledge as a legitimate knowledge base on the grounds of it being unable to explain spiritual phenomena. The aspect relevant to the status concerning the relationship between the two knowledge bases in question that has garnered much attention is the belief of the producers of western knowledge that western knowledge is superior to indigenous knowledge, which ultimately led to the oppression of the indigenous people and their knowledge. One could attribute this view to the belief of the colonisers that it was a right bestowed by the authority of God to colonise.

According to ***Jedege (1999)*** indigenous/traditional knowledge is dominated by its oral nature while on the other hand western/scientific knowledge is documented. Indigenous/traditional knowledge involves communal learning whereas western/scientific knowledge learning is taken individually. This point resonates with the definition offered by ***George (1999)*** of indigenous/traditional knowledge being knowledge which is orally cascaded from one generation to the next. This point would impact on the teaching and learning in the classroom because IKS being oral in nature and involving communal learning would implore the teacher to create opportunities for learners to debate and discuss. The view of communal learning is explored by ***Snively (1995)*** in a section that follows which involves teaching strategies that create an environment for the integration of indigenous/traditional knowledge.

The discourse of western/scientific knowledge and indigenous/traditional knowledge can be further explored with literature which calls for a relationship between the knowledge bases that are complimentary in nature rather than antagonistic. ***Agrawal (1995)*** suggests that there exist certain contradictions and conceptual weaknesses in most writings that are concerned with indigenous knowledge. His argues that a prevailing theme is to categorise western/scientific knowledge and indigenous/traditional knowledge by identifying differences between them. He suggests that attempting to categorise them is ridiculous where according to ***Agrawal (1995)*** they are categorised according to substantive, methodological and epistemological and contextual differences. In his interrogation of these differences it becomes apparent that in fact these differences do not hold water. For example, in terms of substantive differences which are concerned with the view that indigenous knowledge is relevant to people's daily lives while on the other hand western knowledge is removed from the daily lives of people, he points out that if one looks at life in the west there is definitely an imprint of science. He suggests that we move away from the view of labelling the two knowledge forms and rather engage in meaningful dialogue which focuses on the disadvantaged.

le Grange (2004) in acknowledging the differences between both knowledge bases also argues that there are also similarities between them. According to ***le Grange (2004)*** these two knowledge bases are complimentary. He points out that all knowledges even though they may differ in various ways share a common characteristic which is concerned with all knowledge being local in terms of that particular knowledge having a place. Another similarity identified is with the generation of knowledge in terms of it having heterogeneous components where differences are evident in viewpoints, local beliefs, local practices and resources. ***Turnbull (as cited in le Grange, 2004, p.87)*** states that knowledge assembly "is a process of making connections and negotiating equivalences between the heterogeneous components while simultaneously establishing a social order of trust". Understanding this point leads to the view that western/scientific knowledge and indigenous knowledge can share a relationship that is complimentary in nature. By bringing these heterogeneous components from western/scientific knowledge and indigenous/traditional knowledge together by establishing social order trust through negotiation between western and indigenous researchers, would create new knowledge spaces ***(le Grange, 2004)***.

Differences between the two knowledge bases are identified in the work of ***Jegede (1999)*** who suggests that western/scientific knowledge is firstly, mechanistic in nature which involves reductionist, rigid, product-orientated and consumerist western ways, while indigenous/traditional knowledge is holistic and anthropomorphic, where there is an emphasis on the blending with, or conserving the environment through the practice of taboos, elastic systems of measurements, classification and counting. Secondly, western/scientific knowledge seeks empirical laws and principles that are informed by the assumption that the universe is orderly and predictable, while indigenous/traditional knowledge is based on the philosophy that the universe is monistic-metaphysical, where the universe can be viewed as abstract, partly predictable and partly unpredictable, where everything could be explained in terms of one principle.

Indigenous Knowledge (Local knowledge) as prior knowledge

According to ***Antweiler (1996),*** local knowledge may on the one hand comprise fixed and structured knowledge which can be articulated, or on the other hand may by virtue of its combination with the performance of actions involve a more fluid process of knowing. Local knowledge forms a relatively organised body of thought based on immediacy of thought ***Nygren (1999).*** Traditionally, scientists simply did not see local forms of knowledge as having anything important to say. This has resulted in a view of local knowledge as non-knowledge ***(Nygren, 1999).*** Scientific knowledge was defined as the paradigm of knowledge. However, there are an increasing number of environmentalists and alternative movement activists who assert "that it is time to replace the reductionist framework of science with a

methodology that draws its guidelines from non-western traditions, based on holistic ways of knowing" ***(Nygren, 1999: 274).***

Students bring to the classroom ideas based on prior experience and children of different cultural backgrounds frequently interpret science concepts differently than the standard scientific view and teachers need to begin instruction by determining the prior knowledge of the learners ***(Jegede & Okebukola, 1991; Ogawa, 1995; Snively & Corsiglia, 2001).*** Teachers need to probe for and incorporate the prior beliefs of indigenous children ***(Snively & Corsiglia, 2001). Cobern (1996a: 589)*** asserts that science education as it is conceptualised frequently has little or no meaning for many students because "it fails to teach scientific understanding within the actual world in which people live their lives". Researchers have pointed out that the prior knowledge of indigenous learners may actually conflict with Western science ***(Baker & Taylor, 1995; Cobern, 1996a)***. ***Cober (1996a)***, asserts that construction of knowledge involves interpretation influenced by prior knowledge. Therefore we should not expect for example Nigerian students to understand science exactly the way students in western countries understand science. The Nigerian student will construct a view of science based on a Nigerian understanding of the human beings and the essence of the natural world, which does not mean to say it is unscientific ***(Cobern, 1996a: 304)***.

According to ***Ogunniyi (2008),*** commonsense knowledge is acquired largely nonformally, incidental and virtually every member of a given community overtly or covertly contributes something to the repertoire of our commonsensical knowledge. ***Driver, Asoko, Leach, Mortimer, and Scott (1994)*** assert that during the years of childhood, children's ideas evolve as a result of experience and socialization into "commonsense" views. The commonsense ways of explaining phenomena represent knowledge of the world portrayed within everyday culture. Local knowledge has been traditionally viewed as non-knowledge by scientists, and that local form of knowledge not having anything important to say. Scientific knowledge on the other hand has been defined as a paradigm of knowledge, and the only epistemologically adequate one ***(Nygren, 1999).*** Generally the most familiar fields of local knowledge which can be analytically distinguished are factual knowledge relating to specific themes, for example environmental knowledge, agricultural knowledge and medical knowledge. Today the hegemony of science is criticized by alternative movement activists who emphasize the necessity of creating space for competing modes of knowledge ***(Nygren, 1999).***

The question that can be asked is: is local knowledge equivalent to the knowledge gained through western science, or is it structured entirely differently? Local and scientific knowledge display commonalities and differences. For example, both scientific and local knowledge are based fundamentally on observations of the outside world. One difference between science and local knowledge is that science seeks information which is not context-bound whilst local knowledge seeks knowledge which is context-bound ***(Antweiler, 1996).*** Also, in contrast to science, local knowledge occurs in some cases in the form of magic ***(Antweiler, 1996).*** Local knowledge also has its weaknesses. For example, the validity of local knowledge is locally restricted, for example, they cannot be transferred to other local contexts. The potential for generalization is also limited. ***Antweiler (1996)*** argues about the radical polarization of local or "indigenous" knowledge on the one hand and scientific knowledge on the other hand. They are therefore seen as mutually exclusive, and separated by a "great divide" in spite of the fact that they have many things in common and could be mutually enriching. ***Ogunniyi (2008)*** concurs with ***Antweiler (1996)*** and points out that both are complementary rather than polar opposites.

Critique of indigenous knowledge

There has been an increased effort to include some aspects of indigenous knowledge in the mainstream science curriculum. ***Mwadime (1999)*** asserts that indigenous knowledge should not be presented as devoid of any shortcomings and has to be modified and adapted so that it can effectively function within the contemporary practices and social reality. According to ***George (1999b)***, indigenous knowledge is not included in most school curricula. The main reason is that indigenous knowledge is not normally 'packaged' as school materials are, for example science is compartementalised into different learning areas, such as mathematics, botany, etc. The teachers therefore are not trained to "handle" indigenous knowledge in the classroom because they must first access the indigenous knowledge, then understand it and devise teaching strategies to use it effectively. According to ***Mkosi (2005),*** the implication of this statement could be that teachers would have to be indigenous and creative if indigenous knowledge was to be implemented in the classroom. Also, it would be costly to produce teacher training materials.

Reynar (1999), on the other hand, asserts that when indigenous knowledge contributes to the cause of development, then it is viewed as having value. However, when indigenous knowledge does contribute to the cause of development, then it is labeled as irrational, misguided, or empirically unverifiable. ***Reynar (1999)*** then goes on to say that if indigenous knowledge is seen merely as one of the constituent bricks in the development process, then indigenous knowledge itself is reduced to a resource that can be exploited for economic growth***. Mwadime (1999)*** on the other hand raises the awareness to the fact that indigenous knowledge may be beneficial to the economically and politically underprivileged. He also claims that indigenous knowledge may be less effective for the long term planning due to its vulnerability to changes.

Authors, ***Shiva (2000) and Ogunniyi (2009)*** have presented unanswered concerns that are related to the epistemology and practices of indigenous knowledge, such as: Who will decide what counts as knowledge? Who will count as the expert or innovator of indigenous knowledge? Who will have the right to control the circulation of knowledge and who will have the right to benefit from it? The debate has even gone further to challenge the very process used in selecting what is to be taught, what counts as valid knowledge, and how such knowledge should be produced and shared ***(Dei, Hall & Rosenberg, 2000).*** There are also other concerns which include: What are processes of knowing and validating knowledge? Which knowledge is suitable for whom? Who produces the boundary between the canonical school science for instance and indigenous knowledge systems prevalent in the socio-cultural environment of most learners ***(Ogunniyi, 2009)? Semali & Kincheloe (1999)*** also ask similar questions such as: How is knowledge produced in an indigenous community? Is there a role for indigenous knowledge in the academy? In what ways can indigenous knowledge be integrated in the academy without devaluing one system over the other? Does culture have anything to do with how knowledge is produced in the academy?

No satisfactory answers have been found to these and similar questions. However, for indigenous knowledge to occupy a meaningful position in the academy, and as a possible instrument to alleviate the hardships of the poor and marginalised, the preceding concerns should be seriously interrogated for possible solutions. According to ***Dei (2000: 79)***, indigenous knowledge holds significant possibilities for social and ecological sustainability because "ecological unity focus on the responsible use of land and natural resources according to the principles of sustainability". ***George (1999)*** also notes that indigenous knowledge could play a worthwhile role in environmental management. Indigenous knowledge could also educate the exploiters of natural resources how the environmental integrity should be respected, honoured, and valued.

According to ***Semali (1999)***, indigenous knowledge could make a significant contribution in cultural revaluing among indigenous peoples. ***Semali (1999)*** calls for a more inclusive reconceptualized curriculum practice which is inclusive, democratic, and one which acknowledges African heritage, experience, identity, and history. ***Mkosi (2005: 95)*** concurs with ***Semali (1999b)***, and states that the inclusion and revival of "indigenousness" in the curricula, policies, and practices of societal institutions may have profound effects on the spirituality of the poor.

IK Notes **(2000)** claims that the educational reforms that have been taking place in Africa have generally created space for a new curriculum, and an indigenous curriculum may come to utilize this space. ***Williams and Muchena (1991)*** insist that indigenous systems could contribute to sustainable agricultural education. ***Quiroz (1999)*** claims that the inclusion of indigenous knowledge could make many curricula relevant to students and might equip them with a cultural tool to make sense of the world in which they live. According to ***Quiroz (1999),*** the subjects that the students are taught at school are perceived by students as uninteresting and irrelevant, and generally lead to high "drop out" rates at school. Any study has not been carried out in Nepal to analyze curriculum, textbooks and reference materials form indigenous knowledge and gender perspectives. This study has been carried out in order to fulfill this gap.

Research Methods

This chapter includes nature of the study, population and sample size, sampling procedure, development of research instrument, data collection and data analysis.

Research Design

According to ***Polit and Beck (2012)*** research design is the detailed description of the research plan. Similarly, ***Burns and Grove (2009)*** regard it as the blueprint of a research project. Research design is a term used to describe a number of decisions which need to be taken regarding the collection of data before the data are collected (***Nwana, 1981***). An authentic reliable research depends on the procedure adopted, it describes in detail, different aspects through which the research projects has undergone for collecting relevant information and documents in order to arrive at reliable conclusion. The study aimed to analyze curriculum of Foundation of Education (ED 511) from indigenous knowledge perspectives in the form of the opinion of teachers and students. Hence the study is of descriptive in nature and survey research design was used to undertake the study.

Sample

Data collection from the whole population was not possible for the researcher. So it was determined to collect the data from the specific sample with the help of field survey design. The sample of the study consists of 10 teachers of ED 511 of various colleges, Tribhuvan University and 20 students of post-graduation (M ED) who are studying at Sanothimi Campus, Tribhuvan University in Bhaktapur. The sample is closely related to the nature of the research being conducted and the resources of the researcher. Besides, it may not be possible to include more individuals to the sample because of the nature of the data collection method used in the research.

Tools

The basic method used in this research is semi-structured interview method. In the semi-structured interview method, it is necessary to ask a number of questions with a standard sentence structure produced and designed attentively to every interviewee following the same order.

Sampling Procedures

In this study, purposive sampling methods was used. Because of the nature of the study and easily accessible case sampling was used as the sampling method. This method provided the research with speed and practicality.

Data Collection

Interview method which is one of the most frequently used methods was used in this study. Thus, first of all, the relevant literature reviewed and semi-structure interview schedule was developed. The data were obtained through face-to-face interviews with students.

The Interview

In order to carry out the interviews, students studying at Sanothimi campus were attempted to reach in the first place. Most of the students that have been interviewed were contacted on the phone and asked for an appointment. Interviews were usually held in the office room and in vacant classrooms. The interviews lasted approximately 15-20 minutes. During the interview, the instruction in the interview form was read to the teacher, and after a relax atmosphere was provided, interview questions were asked to the students following the order. It was attempted to expand the students' opinions by giving probes from time to time.

Analysis and Interpretation of the Data

In the present study, data were analyzed using simple statistics percentage. After the analysis of the data, contextual meanings were derived and conclusion was drawn.

Results and Discussion

In this section, the results have been presented. Considering the main purpose of the research, the results are presented below, taking into account the order of the questions in the interview form.

Indigenous Knowledge related to general and specific objectives, contents, classroom delivery and assessment procedures

General and Specific Objectives of the ED. 511 Curriculum

Review of documents. Review of the curriculum of Foundation of Education (ED. 511) clearly shows that five general objectives are included in the curriculum. General objectives of ED. 511 curriculum are: to assist the students to analyze the philosophical base of education within different schools of philosophy; to analyze the sociological basis of knowledge and identify its possible use in education; to explore the role of state in education; to link power perspectives in relation to political, economic, cultural and global context; and to review the politics of education in Nepal at various historical periods and draw implications for future. Review of the curriculum shows that there is a satisfactory resemblance between general objectives and the specific objectives of ED. 511 curriculum. Accordingly, there is close relationship between general objectives and other aspects of the curriculum such as contents, pedagogical strategies and assessment so on. But any general objectives is not based on the indigenous knowledge. Accordingly, twenty two specific objectives are formulated for the curriculum of ED. 511 and any specific objectives is also not related to indigenous knowledge. There are five units in the curriculum. Indigenous knowledge based specific objectives could be included in all units of the curriculum. All units are suitable for the inclusion of the indigenous knowledge. But relevant indigenous knowledge are not included in the general and specific objectives of the ED. 511 curriculum. In this regard, respondents opinions regarding the relevance of Foundation of Education Curriculum from indigenous knowledge Perspectives is presented in table 1.

Table 1
Specific Objectives of Foundation of Education (ED 511) curriculum

Units	Specific Objectives	Researcher's View	Participants' View
Unit I Introduction to Eastern Philosophies of education (12 hours)	• Conceptualize the fields of philosophy. • Elaborate the eastern philosophical thought with their educational implications • Draw implications of each philosophies in terms of objective, curriculum and pedagogy • Identify the channel of eastern education system and its educational implications • Critically analyze the above eastern philosophies	Need to have our own philosophy written about Nepalese indigenous peoples, this is likely to enhance and attract global interest on IK philosophy. There is urgent need to add IK objectives in the curriculum to interact with indigenous students.	Might be a good starting point of IK in this unit of curriculum. Emphasis should be given to the indigenous knowledge of various communities

Unit II Introduction to Western Educational Philosophies (10 hours)	• Identify relationship of indigenous knowledge with the fields of philosophy • Explore philosophical elements like metaphysics, epistemology, Axiology and Logic embedded in different isms. • Compare the four philosophies and draw lessons for contemporary educational development. • Analyze reconstructionism, modernism and postmodernism in terms of their philosophical premises and draw lessons for educational implications	Explore Western IK in this unit. Establish policies which incorporate indigenous values, principles, teachings and education into all aspects of andragogy and pedagogy in philosophies.	Need to add specific objectives related to Western IK in this unit.
Unit III Theories of sociological foundation of education (8 hours)	• Elaborate the origin, development, theories and methodologies of sociological foundations of education • Clarify the contents and the scope of the sociology of education. • Discuss the theories and the methodologies such as structural and functional, conflict, and symbolic interactionism)	Linkage of indigenous knowledge to the various sociological theories.	Need to explore indigenous social norms, values and customs
Unit IV Social Transformation (10 hours)	• Clarify the concepts of social stratification, change, mobility and transformation • Analyze the elements, process and characteristics, of social stratification in education • Elaborate theories related to social change, types and measures of social mobility • Explain factors affecting mobility with reference to Nepal. • Specify the multicultural perspective of education and social transformation. • Analyze the role of education in social transformation in Nepalese context	Add indigenous issues related to social transformation Needs more input on indigenous social transformation knowledge	There is need to explore appropriate IK policies and practices related to social transformation
Unit V Politics of education (8 hours)	• Clarify the concept of politics and power • Explore different power perspectives in education • Explain the role of state in education • Analyze the educational development in Nepal in various historical times from political perspectives	Add more specific objectives related to indigenous knowledge such as to explore indigenous education system, indigenous power system, indigenous role of state in education and so on.	Sufficient space for objectives related to indigenous knowledge.

Opinion of the participants: Regarding the general objectives of the curriculum of Foundation of Education, a majority of the teachers (80%) reported that general objectives of curriculum of ED 511 were covered in the specific objectives formulated in the syllabus and contents instrumented in the syllabus. They further reported that some learning outcomes are vague and unspecific as well. Accordingly, another portion of teachers (56%) reported that general objectives of primary education did not represent the Bloom's taxonomy of the educational objectives. They further mentioned that most of the objectives represented the cognitive and affective domain. Psychomotor domains were not properly represented in the primary education curriculum. But they further mentioned that some specific objectives of ED 511 lacked comprehensiveness, cumulative progression, practicability, integration and important specific objectives were not incorporated in the existing primary education curriculum. They further added that some specific objectives were not attainable and they were vague and unspecific. They further reported that objectives of primary education were not based on the changed educational, social, and political context Nepal. A majority of the teachers (67%) also mentioned that various specific objectives were formulated on the scientific basis of curriculum development. But they complained that a nominal number of general objectives of primary education had a very remote relationship with the primary education curriculum, textbooks and teachers guides. In the context of the indigenous knowledge, all of the teachers complained that out of the twenty two specific objectives, any objectives was not related to the indigenous knowledge. Suggestions on the revision on the curriculum of Foundation of Education presented in the table 1.

Relevance of the Existing Contents and Possibility of Inclusion of IK in Syllabus

Review of documents. Review of the ED 511 syllabus showed that most of contents incorporated in the syllabus of ED 511 were selected on the basis of general and specific objectives of the syllabus. But some important contents were missing from the syllabus. It found out that only one topic namely linking above fields of philosophy with indigenous knowledge (Unit I; introduction to the eastern philosophy, 1.2) is based on the indigenous knowledge. There are total five units in the syllabus. All of this units are suitable for the inclusion of indigenous knowledge. Review also indicates that most of the contents instrumented in the teaching learning activities. Similarly, the contents of the ED 511 curriculum do not represent all communities, castes, religions, festivals, customs, and social norms and values. Contents of curriculum represented the majority, high social class, their customs, religions, and traditions. The warrior and expeditor of indigenous, disadvantaged, disabled are not mentioned in the existing curriculum and different festivals, cultures, temples religious places were not covered in the existing curriculum properly. Opinions of the researcher and participants on the relevance of the existing syllabus of ED 511 have been presented in the following table 2.

Table 2
Contents Analysis ED 511 curriculum

Units	Content	Researcher's Views	Participants' Views
Unit I Introduction to Eastern Philosophies of education (12 hours)	1.1 Fields of philosophy (Metaphysics, Epistemology, Axiology, and Logic) 1.2 Linking above fields of philosophy with indigenous knowledge. 1.3 Introduction to Vedic Philosophy and its educational implications Sankhya; Yoga; Vaishesika; Nyaya; Mimamsa; Vedanta 1.3.1 Gurukul education system 1.4 Introduction to Buddhist philosophy and its educational implication 1.4.1 Monastic education system 1.5 Introduction to Islam and its educational implications 1.5.1 Madarsa education system 1.5.2 The critique of eastern philosophies	Digging context, ontology, epistemologies, and axiology of various eastern indigenous philosophy. An explanation on how traditional Nepalese used to philosophies is missing in the syllabus yet it	Need to have our own philosophy written about Nepal by Nepalese people, this is likely to enhance and attract global interest on IK philosophies
Unit II Introduction to Western Educational Philosophies (10 hours)	2.1 Introduction to and implications (in terms of objectives, curriculum and pedagogy) of Western Educational Philosophies Perennialism; Essentialism; Progressivism; Existentialism 2.2 Reconstructionism (philosophical premises and educational implications) 2.3 Modernism and Postmodernism (philosophical premises and educational implications)	Studies on context, ontology, epistemologies, and axiology of Western indigenous philosophy	Motivate learner to search the indigenous knowledge such as African, American indigenous knowledge
Unit III Theories of sociological foundation of education (8 hours)	3.2 Sociological theories and their implications in education Structural-functional; Conflict theory; Critical theory; Symbolic interaction theory 3. 2 Integralism from eastern philosophy to above theories in contemporary society	Linking indigenous knowledge perspectives to the mentioned sociological theories	
Unit IV Social Transformation (10 hours)	4.1 Concept of social stratification, change, mobility, and social transformation 4.2 Social stratification • Basic elements, processes, and characteristics of social stratification; • Linking sociological theories (functional and conflict) to social stratification • Impact of social stratification on education 4.3 Social change • Theories related to social change (Evolutionary, conflict, cyclic)	social stratification, social change, social mobility, social transformation and indigenous knowledge perspectives	Discussion on the how to link indigenous knowledge to the various aspects of social transformation

	4.4 Social mobility • Types and measures of social mobility • Factors affecting mobility: socio-economic status (culture, caste/ethnicity, family status, demography, gender, income, property and resource), intelligence, education • Role of education for social mobility with reference to Nepal 4.5 Social transformation and education in Nepalese Society		
Unit V Politics of education (8 hours)	5.1 Concept of power, politics and politics of education 5.2 Different power perspectives(functional, conflict, elite and plural) in education 5.3 Linking power perspectives in relation to political, economic, cultural, gender and global context 5.4 Role of state in education 5.5 Politics of education in Rana, Panchyat, Multi-party democracy systems and their implications in education in Federal Nepal	Indigenous power, politics and education in the context of Nepal; Linking indigenous knowledge perspective to various sociological theories	Indigenous education system, indigenous political system, indigenous polity, and indigenous power relations

Opinion of the respondents. In response to the question, to what extent is the existing indigenous knowledge incorporated in ED. 511, respondents expressed their mixed responses. 45% of the total respondents said that it is always incorporated, 40% of the teachers said that it is rarely incorporated, 45% of the teachers said that IK is never incorporated and 20% of the teachers said that they don't know if IK is incorporated in ED 511. It is evident from the findings that indigenous knowledge that exists in society has historically been ignored, from the ancient times to present, where the university curricula are designed without including such knowledge. In his study, ***Mkosi, N. (2005)*** on the knowledge of traditional artifacts used by the tribe in Angola explored and then related to the various content learned in the classroom. The activities show how the indigenous knowledge can be structured and get related to the various knowledge taught in university but most teachers rarely or never incorporated the concepts in teaching learning. All participants agreed that it is necessary to include various aspects of indigenous knowledge in the syllabus of ED. 511. However, opinions varied about how this should be done respectfully and effectively.

All respondents stressed that indigenous knowledge should be incorporated in post-graduation curriculum. They further mentioned that indigenous Nepalese history, revealing information about indigenous treatment such as exclusion and assimilation should be included in the syllabus. It was thought that students should learn about indigenous culture to develop a cultural awareness and understanding of indigenous world view. In nutshell, it can be said the curriculum designers should carried out a survey on the selection of the contents to be included in the curriculum. In other words, situation analysis or diagnosis of need should be done on order to select the contents selection for the development of the post-graduation curriculum.

Pedagogical Practices

Review of documents. Review of the ED 511 curriculum showed that teaching learning strategies had been determined in the prevailing syllabus. There are two types of pedagogical activities determined in the syllabus-general and specific instructional strategies. Lecturer, question answer, discussion and guest lecture are included in the general instructional strategies. Similarly, specific instructional strategies are formulated for unit III, IV and V. But the classroom observation shows that teachers do not follow these teaching strategies. On the other hand, teaching learning methods developed in the curriculum are not easily applicable. It needs instructional materials, more effort, special skills, sufficient time and more patient.

***Opinions of respondents*.** A question was asked related to classroom delivery. In response to the additional question 'how can teachers deliver indigenous knowledge?' respondents provided various suggestions. In response to this question, it was suggested that first of all, the syllabus should include information about how to teach indigenous learner but also acknowledge the importance of indigenous teachers in university, particularly those university with a great percentage of indigenous students. A majority teachers claimed that only indigenous teachers can convey an indigenous perspective. "I have created a picture for a presentation about educational Pedagogy. Family and culture should be at the centre of education. Parental input and cultural ideas are very important. There needs to be an understanding of the importance of parents and community input. Then the curriculum next, and finally in the outer circle is indigenous teachers protecting indigenous kids and families". Finally, the point was made that teachers should

learn about possible barriers to learning such as how to cater for students with English as a second language, mental health issues, wellbeing concerns, and how to create a sense of belonging for indigenous students.

Teachers (54%) reported that activity based, learner centered and innovative teaching learning strategies had not included in the prevailing ED 511 curriculum. They further mentioned that most of the teachers did not use teachers' related materials. In fact, the teachers did not even have these materials and teachers did not know how to use the teaching aids and materials. Another group of teachers (45%) reported that the major problem of the existing ED 511 curriculum was that in most of the cases the instructional approaches used in the classroom were not interactive, participatory and meaningful to the learner. They further mentioned that the use of instructional materials for making learning meaningful was not found in most of the classrooms and the classroom process, which was envisioned to be learner centered, was found largely confined to the whole class teaching, with the effect that the weaker ones were left behind. A group of teachers (48%) of the teachers reported that they had been facing problems regarding the teaching learning process and they further reported that ED 511 curriculum had adopted learner centred approach to teaching learning but there were a large number of students in the classroom, sufficient teaching aids were not available, training on the pedagogical was not provided to the teachers and they had not sufficient knowledge on the teaching learning adopted by the new curriculum. In nutshell, they reported that there were a big gap between theory and practice of teaching learning. A majority of the teachers (84%) suggested that storytelling, talking circles, concept mapping, video, experiential learning and cooperative learning for the effective implementation of the indigenous contents.

A majority of students (56%) blamed that even in the semester system as well as, lecture, rote learning, imitation from textbooks and note are major pedagogical activities at post-graduation classroom. Thus most of students (86%) are not satisfied with the existing pedagogical practices.

Assessment Procedures

Review of documents. Assessment of student learning is another important component in the integration of indigenous Knowledge perspectives into the curricula. Review of ED 511 shows that two types of assessment procedures are designed in the ED 511 syllabus-internal evaluation and external evaluation. Out the total marks, 40 percent is given to the international evaluation and 60 percent marks is based on the final written examination. Internal evaluation (40%) will be conducted by course teacher based on the activities which are: attendance (5 points); participation in learning activities (5 points); first assignment (10 points); mid-term examination (10 points); second assignment/assessment (1 or two) (10 points) and total 40 points. External assessment is conducted by the controller of the examination at the end of the session. Desk review reveals that assessment activities and procedures are provided at end of the syllabus. Courses teachers use these activities attendance; participation in learning activities; first assignment, second and third assessment to evaluate the knowledge, attitudes and skills of the students. Final assessment includes subjective questions-long answer questions and short answer type questions and objective questions such as completion items are provided at the most of the lessons.

Opinion of the participant: Student assessment procedure is also one of the important aspects of the educational process. A majority of the teachers (48%) mentioned that assessment procedure were given at the end of the syllabus were not sufficient. They further complained that these assessment procedure were not adequate and sufficient for the evaluation of the overall aspects of the learner. Another group of teachers (40%) reported that evaluation procedures provided in the textbooks could not measure social, emotional, educational, and psychological aspects of the children. Accordingly, teachers (31%) of the present study mentioned that prevailing evaluation system emphasized on rote learning and memorization and paper and pencil tests and written examination. Adequate and proper assessment procedures are not included in the prevailing curriculum. Students (61%) of the present study complained that assessment process carried out at in the colleges or classroom were not sufficient and relevant. Most of the student (43%) laid more emphasis on the continuous evaluation. Accordingly, students (48%) also were also not satisfied with the evaluation process and they did not like the paper and pencil test which was most popular method of formal evaluation process. Since cultural bias often exists in the instruments used to measure student learning, approaches that consider indigenous student achievement from a broader perspective than quantifiable knowledge, measurable skills, and years of schooling must be adopted. Indigenous student success lies in more holistic ways of knowing therefore it is more appropriate to use culturally adaptive modes of assessing student performance, such as portfolios, exhibitions, demonstrations. These more flexible and responsive approaches to assessment allow teachers to recognize the various forms of intelligence and accommodate cultural differences at the same time.

Conclusion

It is evident from the finding that most of the respondents of the present study found somewhat confusing with terminology indigenous knowledge. From the findings the researcher concludes that this study was viable since majority of the respondents agreed that there is sufficient room for indigenous knowledge in the curriculum that could be incorporated in the syllabus of foundation of education (ED 511). In this context, sufficient indigenous knowledge related contents were not instrumented in the previous and existing curriculum of ED 511. Indigenous knowledge that

exists in society has historically been ignored and neglected. Thus, there is enough place for inclusion of the various contents of indigenous knowledge in the existing syllabus. Explicit indigenous knowledge and tacit indigenous knowledge could be incorporated in the ED. 511 syllabus easily. Accordingly, specific pedagogical practices and assessment procedure could be needed for the effective implementation of these contents. Thus, this study concluded that the existing syllabus should be revised and more relevant and appropriate indigenous knowledge contents should be included in the syllabus of ED, 511.

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