



The Integration of Indigenous Knowledge Systems (IKS) in the Tertiary Level Curriculum of Benguet State University La Trinidad Campus

Gigy G. Banes and Kristine Baniqued-Dela Cruz

Institute of Social Research and Development, Benguet State University

*Corresponding author email address: banesgigy@yahoo.com

Abstract

The marginalization of indigenous cultures by western-based educational systems bawls the urgency to revitalize the Indigenous Knowledge Systems (IKS) of the Indigenous Peoples to be at par with the era of globalization. The study aimed to establish baseline data on the experiences of the faculty members of Benguet State University in the integration of IKS in the curriculum. Key Informant Interviews (KII) and Focus Group Discussions (FGDs) were used to surface information from 33 key informants from the seven colleges and two institutes of Benguet State University-La Trinidad Campus. Findings show that some faculty members employed various initiatives in integrating IKS in their teaching methodologies even prior to the issuance of CHED Memorandum No. 2, s. 2019. Specifically, the IKS integration is evident mostly in the social sciences, and community development subjects. However, various challenges encountered by the educators affect the in-depth integration of IKS in the tertiary level curriculum. The absence of explicit university policy/memorandum and monitoring scheme on the IKS integration in the curriculum, teaching methodologies, and pedagogies impede the sustainable integration of IKS in the different subjects. Coupled with other factors like limited reference materials/resources on IKS, limited knowledge, exposure, and appreciation of IKS further weaken the hope for the faculty to integrate IKS in teaching. Despite these challenges, some faculty members do in-depth integration of IKS in the subjects they are handling, as reflected in their teaching pedagogies over the years. This finding implies that in-depth IKSP integration in the curriculum is a teacher's initiative and cultural advocacy.

KEYWORDS

Indigenous Knowledge
Systems (IKS)
Tertiary Curriculum
IKS Integration

Introduction

Indigenous knowledge and learning systems have long been recognized as indispensable components of indigenous people's education. The inclusion of indigenous knowledge into mainstream educational curricula is argued to raise self-esteem and relevancy of curriculum content to indigenous

students (Nakata, 2002). Victor and Yano (2015) also stated that the indigenous communities want an education that primarily nurtures the young generation's cultural well-being and personhood. This cultural nurturing becomes the foundation for developing other competencies that can enable them and, subsequently, the indigenous

communities to contribute to nation-building. Codamon-Dugyon (2019) also claimed that the educational sector plays a major role in preserving, protecting, and even transmitting IK from generation to generation. Hence, embracing and coordinating different education systems in any curricula is crucial.

However, globally, formal educational systems usually neglect indigenous knowledge, as it is labeled antiquated, especially because learning has been attached to the western perspective of pedagogy. As a consequence, the dichotomy between western culture and the local culture has been entrenched. Indigenous peoples have developed an ideal type of human development in which western education is the core and is identifiable with progress or civilization. Indigenous knowledge is, thus, perceived as obsolete or inferior. Formal education promoted by the state has contributed to the marginalization of indigenous knowledge (Enkiwe-Abayao, 2002). According to King and Schielmann (2004), millions of people are still denied their right to education, and indigenous peoples are among the most affected. They often lack access to an education that respects their diverse cultures and languages.

For the past decades, the Philippine education system has also been described as western-based that discredit the IK and Indigenous Learning Systems (ILS) of communities. The study of Victor and Yano (2015) confirmed that formal education in the Philippines had not addressed the educational needs of IP learners. The indigenous peoples instead encountered barriers to finishing schooling. Aside from the usual problem of access to quality of education in the school system that caused a high drop-out rate among indigenous children, there were hidden barriers like discrimination due to one's ethnicity, language difficulties, mismatched learning competencies, and pedagogies as compared to IP students' experiences in their communities, and others. With these concerns, there is a call for educators and educational institutions to build bridges between indigenous and western systems to achieve meaningful outcomes to IP, including non-IP learners.

Moreover, IKS are gaining significance as United Nations Sustainable Development Goals 2015 draws inspiration on IK to address the world's various concerns such as climate change,

disasters, malnutrition, poverty, human rights violations, wars, and others. According to Tharakan (2015), IKS developed prior to modern scientific knowledge systems, which followed colonization and "western" education. IKS encompasses agriculture, food processing and preservation, water, health, and other aspects of life. Aside from the indigenous peoples in other regions globally and nationally, the IPs in Cordillera also have IKS that sustained them despite colonization and globalization threats. Hence, IK is linked with sustainable living that needs to be exposed to younger generations.

The young generations are inheritors of the future. Their education in the academe prepares them to actively participate in solving their societies' needs and concerns through their acquired knowledge, skills, and experiences. Thus, IK should not be seen as an alternative knowledge but as one domain of knowledge, among others. This perspective inspires the different higher educational institutions (HEIs), accommodating IP and non-IP students, to be more aggressive in developing a culturally responsive curriculum.

At Benguet State University (BSU) La Trinidad Campus, some faculty members from the seven colleges and two institutes implement Indigenous Knowledge Systems and Practices (IKSP) integration in the different subjects and degree programs prior to CHED Memo No. 20, s.2013 and CHED Memo No. 2, s.2019. However, through time, it has been observed that not all the faculty members are integrating IKS in the subject/courses they are handling. This study's objective is to surface the experiences of the BSU faculty members in integrating IKSP in their subjects. It hopes to establish baseline data for policy recommendations to integrate IKSP in the curriculum to support CMO No. 2, s. 2019. Specifically, the study aims to explore the initiatives employed by the faculty members to integrate IKS; determine the challenges they encounter in integrating IKS in the tertiary curriculum; generate suggestions from the faculty members on strengthening teachers' initiatives, and address the challenges they experienced.

Legal Bases of Indigenous Peoples Education

Establishing indigenous people education in the Philippines is based on certain legal bases



from the international down to national policies. Article 14 of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) states that “Indigenous peoples have the right to establish and control their educational systems and institutions providing education in their own languages, in a manner appropriate to their cultural methods of teaching and learning.” The Universal Declaration of Human Rights (UNHR) also protects the right of indigenous peoples to education. Sections 15, 16 and 17 of the Philippine Constitution identified the role of the state in protecting the rights of indigenous cultural communities and how these rights become the basis for developing national plans and policies that support the preservation and development of their cultures, traditions and institutions. The enactment of Republic Act 8371 or Indigenous Peoples Rights Act (IPRA) in 1997 laid down the legal framework for addressing the indigenous peoples’ plight, while recognizing and promoting their rights as a people. On the other hand, implementation of RA 10908 in 2016 mandated basic and higher education to integrate the history, culture, and identity studies of IPs and Filipino-Muslims. Thus, indigenous peoples education and indigenous studies are supported by the Philippine constitution and legal mandates.

At the tertiary level, collaborative efforts were strategized to establish indigenous peoples education/ indigenous studies. First, the K to 12 curriculum and Indigenous Peoples Education (IPED) Program of the Department of Education (DepEd) opened a window for CHED to revise its 1996 General Education (GE) curriculum. The new GE curriculum aims to expose undergraduate students to various domains of knowledge and ways of comprehending social and natural realities, developing in the process, intellectual competencies, and civic capacities (CMO 20, s.2013). Second, the Commission on Higher Education released a memorandum on the offering of IP Studies/ Education in their respective curricula (CMO No. 2, s.2019) in support to RA 8371 and RA 10908. These aim to address the issues confronting the country’s IP communities, such as poverty and human rights. Hence, higher education institutions (HEIs) in the Philippines support indigenous studies, but continuous discourses still exist.

Philippine basic education institutions took a roadmap to integrate IK in the curriculum with IP principles. Through the initiatives of the

Episcopal Commission on Indigenous Peoples (ECIP), an agency of the Catholic Bishops’ Conference of the Philippines (CBCP) working on the issues facing indigenous peoples in the country, culturally sensitive educational interventions are implemented in South Cotabato, Zambales, Tarlac, Mountain Province, and Mindoro (ECIP, 2008). The Department of Education utilized reflective experiences from these institutions to finalize DepEd’s National IPED Policy Framework (DO 62, s. 2011) and IPED Curriculum Framework (DO 32, s. 2015); hence, Indigenous Peoples Education (IPED) is in place in basic education.

Previous Literature on IKS Integration in HEIs

Academic institutions establish IK integration, too, since universities help in knowledge production. It is but proper to share IK aside from the western systems of knowledge in the academe, especially now that IK is increasing its relevance to sustainable development. Barnhardt’s (2007) study on University of Alaska Fairbanks (UAF) identified a cultural immersion experience for teachers who are new in Alaska and students entering UAF’s graduate programs in cross-cultural studies. The program is in coordination with the Cultural Heritage and Education Institute of Minto, Alaska. Participants in the summer cultural immersion program spend eight days at Old Minto and go out of the camp fulfilled by discovering something unique about themselves. Barnhardt (2007) narrated that the University of Alaska Fairbanks and Alaska Federation of Natives had a collaborative project in 1995 funded by National Science Foundation. Its purpose is to systematically document IKS of Alaska Native people and develop school curricula and pedagogical practices that appropriately incorporate local knowledge and ways of knowing into the formal education system. The result of which is the Alaska Rural Systemic Initiative (AKRSI). UAF was able to integrate IKS by partnering with the IP communities.

In the Philippines, some universities offer tertiary degrees with IP principles. Agbas (2019) mentioned in a conference on IP education that the thrust of University of Southern Philippines – Pamulaan Center is to provide appropriate and relevant trainings and formation for IP youth. After community consultations, four-degree programs are created like Bachelor of Science in



Development Anthropology (BSDA), Bachelor of Elementary Education (BEEEd) with specialization in Indigenous Peoples Education, Bachelor of Science in Entrepreneurship (BSE) major in Social Entrepreneurship, and Bachelor of Science in Agricultural Business (BSAB). The students attend formal academic classes at the USeP-Mintal Campus, Davao City, while practical trainings and applications are done in the Indigenous Cultural Communities. Astete (2019) shared in the same conference that the Lyceum of the Philippines' offering of IP Education is anchored on their university's vision, mission, and goals. Concepts of rootedness, inclusivity, culturally appropriate approaches, sustainable environment, gender equality, health and well-being, and capacity-building cut across the curriculum. At the College of Arts and Communication of University of the Philippines – Baguio, the Bachelor and Master of Arts in Language and Literature allow the students a choice to study beginner and advanced level either a foreign language or a Philippine language as narrated by Fong (2019) in the same conference. USeP, LPU, and UP Baguio are pioneers in integrating IP comprehensively in their respective curricula.

HEIs initiatives to integrate IK is also supported by the study of Banes (2014). Her paper exposed best practices of IK integration among HEIs in Cordillera Administrative Region. Benguet State University holds semestral cultural presentations showcasing IK on native cuisines, songs, and dances in their Social Sciences 12 and 16. Photo exhibits on IK, gender, and social issues every 1st week of the Women's Month are also conducted. IKSP are regularly published in the school newspapers like Agshan and Mountain Collegian. Ifugao State University (IFSU) offered elective subject on Ifugao Indigenous Knowledge (localized and contextualized). The institution has produced an IK instructional material titled "Ifugao Indigenous Knowledge Workbook". Mountain Province State Polytechnic College (MPSPC) offered GE subjects on IKSP and Introduction to IPED and Rural Development. The institution offers Masters degree in IPED and has IPED Research Journal, which published IK researches of students and faculty. It is the lone state university in CAR with School of Living Traditions managed by its Tadian campus and funded by National Center for Culture and the Arts (NCCA). Pines City Colleges (PCC) holds semestral cultural presentations involving

international students. Saint Louis University (SLU) established Museum of Arts and Culture, which showcase Cordillera artifacts. The museum curator also gives lectures to groups of students and visitors on the history and IK of Cordillera. University of the Philippines Baguio (UP-Baguio) faculty members and students conduct qualitative researches and are disseminated through lecture series or published materials through the Cordillera Studies Center (CSC). Issues and concerns of the IPs were given emphasis in class discussions, fora, and seminars. It also has its Museo Kordilyera. To end, universities in CAR have experienced IK integration in their curriculum.

However, educational institutions integrating IKS in formal education encounter varied challenges. Seehawer's (2018) study involving Science Teachers in South Africa elicited that structured curriculum clash between religion and spiritual aspects of IK, including lack of (access to) indigenous knowledge, affects IK's integration. Concerning access to IK, the study confirmed that teachers have no generally available teaching materials and are confused about integrating since their students have different IK. Keane (2015) also affirms that most textbooks do not deal adequately with IK, and there are teacher reservations about integrating IK in the classroom since western science is a more powerful system than IK. Language is also a concern in teaching IK as shown in the study of Suazo and Montenegro (2018). The statement of Degawan (2019) and the research of Suazo and Montenegro (2018) proved that ineptness to language and insufficiency of learning materials also pose challenge to educators. Abejuela (2005), who had a case study for Suga-Ilaw School cited some challenges like minimal support from the local government. Further, teachers encounter problems like difficulty to outgrow their westernized education, insufficient knowledge on IK, lack of autonomy to construct curriculum.

Conceptual Framework

The study is anchored on the concept that education plays a significant role in transmitting culture to the next generations. At present, the academe or school is one of the best avenues to integrate cultural expressions or indigenous knowledge to the students amidst modernity, globalization, and migration. The school functions



to transmit culture such as indigenous knowledge, beliefs, practices, and social values to students and provide for their needs. To illustrate further, Sociologist Smelser (1981) concisely described the cultural function of education when he said,

“Education’s main function is to transmit culture....but it also fosters change Education walks a narrow line between conservation and innovation.It preserves cultural values and passes them from one generation to the next. At the same time, it contributes to social change by inventing new technologies and questioning traditional values”.

Bustos (1996) elucidates that the children of today will grow into the adults of tomorrow. Many children in our schools today will live some years into the 21st century. Therefore, it becomes essential that they, as well as their teachers, should have a grasp of what the future will bring by understanding the growth and development of culture. An understanding of culture gives us an insight into what factors affect society. It also provides us with a better appreciation of the different cultures of the people we may relate to now and in the future.

The research is also anchored on the IPED curriculum framework. The integration of IPED in the curriculum is guided by the principles of inclusion, participation, and empowerment as provided by DepEd’s National IPED Policy Framework (DepEd Order No. 62, s.2011 or “DO62”) and is consistent with the Indigenous

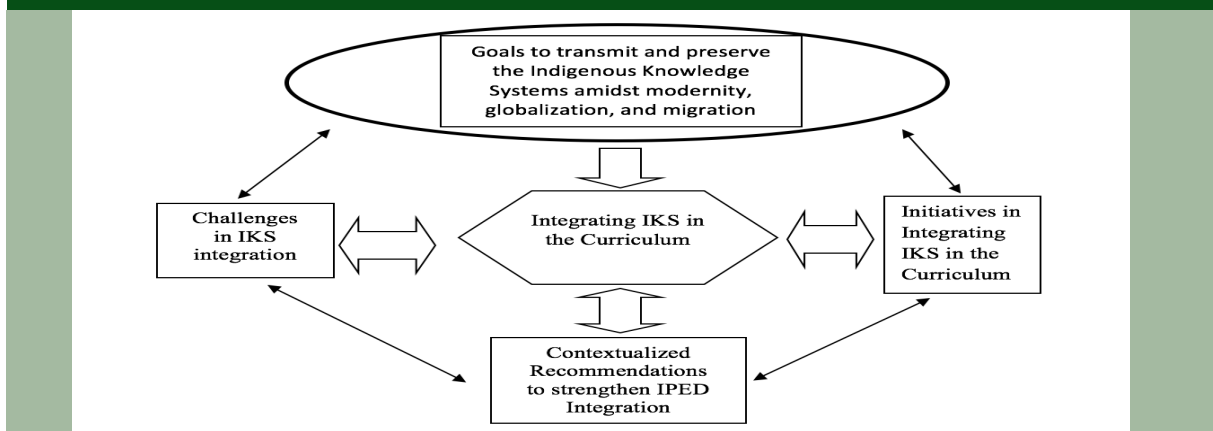
Peoples Rights Act (IPRA) of 1997 and the 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) which specify the right of IPs to “establish and control their educational systems and institutions”.

Figure 1 shows the interrelatedness of the concepts of the study. Raising cultural awareness among students is a step ahead to realize the goal of transmitting and preserving indigenous knowledge, systems, and practices to the young generation amidst modernity, globalization, migration, and acculturation. One way to attain this goal is through the integration of indigenous studies in the tertiary curriculum. This strategy aims to bridge the gaps in the cultural knowledge that the students have learned from basic education. It is also an avenue to revitalize nearly vanishing local cultures due to migration, change of lifestyles, and other factors.

With the change of time and students’ backgrounds, faculty members handling culture-related subjects are confronted with various issues and challenges that negatively affect the integration of IKSP in the curriculum. Nevertheless, these faculty members employed some initiatives to address such concerns to strengthen the transmission of IKSP in the formal setting. The advocacy to integrate indigenous studies in the curriculum hopes to transmit and preserve our ancestors’ positive cultural practices, traditions, and value systems to the young generation for socio-cultural and community development.

Figure 1

Schematic Diagram Showing the Concepts of the Study



The researchers believed that IKSP plays a significant role in strengthening social relationships. It is also vital in addressing current societal issues and problems that we are presently experiencing. This scenario motivated the researchers to identify the initiatives and challenges in the integration of IKSP in the curriculum as these also determine the success of IKS integration in the academe. This study aimed to provide policy recommendations to strengthen the IKS integration in the curriculum as an avenue of IKS transmission to the young generation amidst modernity, globalization, and migration.

Methodology

The study utilized a qualitative exploratory research design to obtain information on initiatives and challenges experienced by the faculty members in integrating IKS in instruction. Key Informant Interviews (KII) and Focus Group Discussion (FGD) were the primary data gathering methodology of the study.

Key informants were chosen based on the inclusion criteria (faculty members who are integrating IKS in the curriculum and willing to participate in the study). They were given the choice to participate in the FGD or individual key informant interviews, considering their time schedules. Hence, five focused group discussions were conducted in the colleges and institutes (IHK, IPA, COE, CHET, and DevCom). Each FGD is composed of 3-7 faculty members. The number of participants in the FGD depended on the faculty members' availability during the scheduled FGD. The composition of faculty members per FGD came from the same college. The rest of the faculty from the other colleges opted to participate through key informant interviews.

Thirty-three faculty members (22 females and 11 males) from seven colleges (Agriculture, Education, Engineering and Agricultural Technology, Forestry, Home Economics and Technology, Nursing, Veterinary Medicine) and two institutes (Human Kinetics and Public Administration) at Benguet State University (BSU) - La Trinidad campus who are integrating IKS in their teaching methodologies participated in the study. Three participants are from the 21-30 years old group, 22 from the 31-40 years old group,

and 8 are part of the 51-60 years old group. At the time of data collection, nine have doctorate degrees in Educational Management, 4 in Language Education, 3 in Rural Development, 2 in Communications, 1 in Public Administration, 1 for Science Education (Biology), while the rest are taking their doctorate degrees. Twenty-eight participants have 1-10 years experience in integrating IKSP, while 5 have 11-20 years. The seminars and trainings they have attended include Cordillera Autonomy; Ethics and Cultural Rights; 1st Regional Research on IKS; 1st National Conference on Gender, Biodiversity, Indigenous Knowledge; Gender and Culture; Igorot International Consultation; Integrating IK in the Curriculum; Regional and Dance Seminar Workshops. For ethical considerations, an informed consent document was provided to the participants before scheduling the FGDs and face-to-face interviews.

Thematic analysis was utilized to analyse the gathered data from focus group discussions and key informant interviews. Responses were analyzed based on the meanings given by the key informants.

Results and Discussion

Initiatives Employed by BSU Faculty in Integrating Indigenous Knowledge Systems

Faculty members are employing various initiatives to integrate IKSP into the curriculum and in their teaching methodologies. This section will present subjects and college degrees, class activities, development of instructional materials (IMs) and audio-visual presentations (AVPs), and faculty requirements to students related to IKSP integration prior to the 2018 implementation of the new general education subjects.

College Subjects and Degrees Integrating IKS

For the General Education subjects, participants from the Department of Social Sciences and Humanities claimed that they integrate IKSP in history, sociology, anthropology, and literature. The Department of Social Sciences also handles two major subjects (Local and Traditional History and Indigenous Knowledge Systems and Practices) for Social Studies majors in the College of Teacher



Education (CTE). In addition, the Institute of Human Kinetics integrates into a Physical Education subject the regional dances, which includes the Cordillera ethnic dances.

Respondents from the College of Agriculture identified two subjects (Sustainable Agriculture and Micrology) where IKSP is being integrated. In addition, the Development Communications, offering Bachelor of Science in Development Communication (BSDC), shared eight subjects (Common Culture, Communication and Society, Film Production, Indigenous Knowledge and Communication, Introduction to Communication Research, Photography for Development, Project Management and Undergraduate Thesis).

The College of Arts and Sciences Biology Department integrates IKSP in five subjects (General Biology, Botany, Zoology, Human Anatomy and Physiology, and Introduction to Environmental Science and Biological Sciences). This department is the one offering Bachelor in Environmental Science. The CTE integrates IKS in the subjects Principles of Teaching 1 and 2, and even in Strategies in Teaching Social Studies; the College of Home Economics and Technology in Local and Foreign Cookery; the College of Forestry in Forest Management and in the practicum of their students where they have to live in the community for few weeks and the Institute of Public Administration in Development Administration, Local Government and Regional Administration, and Peace and Order Situations in LGUs.

The data presented indicate that BSU is integrating IKS even before CMO 20, s.2013 and CMO No. 2, s.2019 were implemented. Various colleges already had initiatives to integrate IKSP in different subjects and degree programs at the undergraduate and graduate levels. In a presentation by Fang-asan (2019) in an IP conference among HEIs, the Development Communication department adopted the documentation of indigenous knowledge due to a dearth of information materials and the aging of IK holders. This situation is similar to the experiences of other HEIs in the country. However, there is a need to look into the depth of IK integration in the different subjects and degrees.

Gonzales (2020) of Ifugao State University shared that their university has a partnership

with UNESCO-Japan titled “Nurturing Indigenous Knowledge Education (NIKE) for the Young Generation”. This project’s output was an IK workbook with its pilot implementation for Bachelor in Elementary Education (BEE), Bachelor in Secondary Education (BSE), and Bachelor in Political Science. Camille Bagaipo, the President of Coalition of Ateneans for Indigenous People (CAIP), as interviewed by Ocampo-Tan and Roberto (2019), recommended that indigenous studies be integrated into the course on Rizal and the Emergence of the Philippine Nation and Philippine History. She suggested that the experience of Martial Law, can be analyzed from different regional, and often unheard, perspectives such as that of the IPs.

Classroom-based Activities

Lecture is often used to discuss and explain IKS content in the classroom. To substantiate the content of their lectures, faculty members attend seminars, observe, interview, discuss with their colleagues who were knowledgeable about the culture to clarify cultural stereotypes and personal biases. They also use the research results of their co-workers to establish facts in their subjects. It can be observed that faculty members organize knowledge to be shared in their subjects from their readings, sharing with colleagues, and research and community extension works conducted.

Faculty members also utilize group discussions and class sharing of cultural practices, even giving examples. *“Ijay klasek, adda estudyantek nga aggigyan ijay Asin ijay Baguio. Taga-Ifugao isuna ket nagpaet. Habang agpapaet ket nangipasa isuna ti momma. Inpadas jay dadduma nga kaklase na ti agmomma. Sak dinamag isuda nu kasanu experience da”*. (In my class, I had a student who is staying in Asin, Baguio City. He is from Ifugao, so he had wood carving. While his classmates are watching, he passed betel nut. Some of his classmates tried chewing then I asked them how they feel.) Some faculty members also localized and contextualized scientific terms for the students to understand the topics being discussed.

The majority of the faculty members interviewed used video clip documentations like “Byahe ni Drew”, Bendian dance, movie/video clips, and other IK-related documentaries. They also used pictures through PowerPoint



presentations as they cannot bring the students to their community visits and extension activities.

Catbagan-Aplaten (2015) recommended using the interactive method in teaching the IPEd curriculum and using IPEd learning materials on Cordillera Studies as materials in teaching localized lessons in History and Social Studies subjects for all academic groups of learners. She also recommended that the production of similar indigenous materials be developed for other IP communities to fully realize the integration of IP culture into the mainstream Filipino culture.

Using local language in teaching also increase students' appreciation of IK. As narrated by one faculty member, "*mas maawatan da no Kankanaey or Ibaloi usaren to explain local terms*". Mmola (2010) also found that more than 80% of their respondent-students from North-West University in South Africa think that students highly appreciated lecturers who incorporated indigenous African cultural elements, especially the local language, that is, Setswana, into their teaching practices. They also indicated that such lecturers made them experience a feeling of autonomy by getting the opportunity to learn university education using their language. This study also found that BSU faculty members did not tap knowledge holders and practitioners, unlike Kaya and Seleti (2013) on the IKS Teaching Program in North-West University (South Africa) in their post-graduate level and Barnhardt (2007).

Opportunities for Experiential Learning

The faculty members identified outside-the-classroom activities as complementary to classroom activities. Some faculty members identified students' visits to the museums like SLU Ethnographic museum, Baguio City Museum, and Museo Kordilyera-UP Baguio Ethnographic Museum and field trips to cultural communities as venues to learn about the culture of the different IP communities. One faculty member said that she let her students learn about indigenous foods in their communities and let them prepare in their cooking subject. They are required to use indigenous materials too. Another faculty mentioned that she let her students have actual cultural presentations and food preparations. Another shared that his students' practicum is to live in a community for few weeks. Thus, exposure to community life

enriches students' appreciation of IK. The faculty affirmed that one of the best ways to let the students appreciate culture is experiential learning.

Doronila (1997) included using locally adapted and indigenous materials for context-specific, community-based literacy and functional education program. Barnhardt (2007) mentioned UAF conducting science camps and fairs, which allowed students to work with Elders to identify topics of local interest and develop projects illustrating the use of "science" in everyday life in their community and environment. Student outputs are later on judged by Elders and scientists, using two sets of criteria to ensure that the students have incorporated both culturally accurate and scientifically valid principles and practices.

Faculty Requirements to Students

Students were also instructed to produce digital materials on IKS like documentary videos and visual or written materials such as newsletters, poems, local stories, term papers, researches on local cultures, photographs, and narratives of interviews with IPs. In addition, some faculty members required stage plays, simulations of Indigenous communications, and actual cultural presentations. Before presenting, students were encouraged to explain the culture that they would present. The College of Home Economics and Technology also included traditional practices in the food processing subjects and student organization activities. Furthermore, some faculty integrated IKS in selected college activities like Celebration of Indigenous Peoples Month, *Buwan ng Wika*, United Nations, and Women's Month to raise awareness of cultural diversities through cultural dancing and singing.

A study by Raymond (2011) on Multimedia Technology in teaching IKS found that IKS lecturers used this method to encourage students to integrate Indigenous African indigenous knowledge systems and relevance of higher education in South Africa knowledge into research and learning. Students used multimedia technology in understanding local knowledge and history through interviews with elders and other community knowledge holders and practitioners.

Banes (2014) on the best practices of HEIs



in the Cordillera on IKS integration in the curriculum confirmed some of the strategies employed by faculty members in their IKS teaching methodologies. These included the utilization of lectures, unstructured discussion, role playing, social research, community immersions, cultural presentations, museum tours, video and photo documentation, photo essay/story, seminars, and poem writing. Baniqued (2010) also cited that secondary level teachers identified IP content and integrated them in their selected subject matter; required their students to conduct interviews and produce write ups about IP customs, beliefs, and practices; come up with posters and slogans; document indigenous songs and instruments; and wrote cheers about IP struggles. Hence, cultural resources used in formal education like folk stories, songs, folk drama, legends, proverbs, myths, and others can effectively bring IK alive for students.

Preparation/ Development of IMs and AVPs

Some faculty members also developed their own instructional manuals on IKS, such as Cordillera Indigenous Cuisine (Bawang, 2015), Indigenous Forest Conservation Systems in the Cordillera Region (Tacloy, 2000) and Introduction to Environmental Science (Alafag et al., 2019). Since some cannot bring their students to the community, some prepared audio-visual presentations.

Furthermore, some faculty also conducted researches on IKS-related topics. A faculty member shared during the interview that he conducted a study on the “Disappearing Dap-ay in Sagada” and co-authored a book on the life and work of an indigenous leader named Bado Dangwa. He even translated the BSU Hymn from the English version to the Kankanaey version. Some faculty members also explored research for product development to enhance existing technologies that might lead to commercialization and inclusion of local products in the global market. They stated that “*to preserve the cultures, it should be at par with the change of time*”. In an interview with a female faculty member, she shared that she was involved as an organizer in conflict management on mining issues in Itogon and Tuba with the IP groups/ representatives and the Union of Local Authorities in the Philippines (ULAP).

Challenges Encountered by the BSU Faculty Members in Integrating IKS in the Curriculum

Limited IKS Reference Materials

Data shows that the faculty members' top challenge is the limited IKS reference materials readily available in the library like books, research on local cultures, documentary videos, material cultures, and other related instructional materials. Faculty members mentioned during the face-to-face interviews that they wanted to integrate IKS in their teaching but updated reference materials to be used were limited, specifically on the content. There is also scarce published research on IKSP explicitly dealing with the Cordillera culture available for faculty members. Some of the IK materials are privately owned by some faculty members and are not available in the library for common use. There is a Cordillera section in the University library, but it contains limited updated reference materials.

Paris (2016) also mentioned similar challenges in his study involving Benguet National High School teachers as participants. He identified the lack of reference materials and teacher preparation/training, like inadequate provision of the necessary knowledge and skills concerning the content and pedagogy of IKSPs, challenges of multiculturalism in the classroom, and structured curricular programs of the school. Not all subjects in the secondary school curriculum offer opportunities for the IKSPs in the province of Benguet. Seehawers (2018), Suazo and Montenegro (2018), including Keane (2015), uncovered the same concerns on instructional materials.

Limited Knowledge and Cultural Exposure

Data revealed that most faculty members have limited knowledge and exposure regarding indigenous knowledge systems of the indigenous communities especially, the culture of the Cordillera Indigenous Peoples. Thus, the challenge is integrating something you do not know and translating it into the curriculum? As a result, they opted not to integrate because they fear that what they teach may not be similar to how the IPs practice it.

Among the 33 key informants, only a few have



in-depth knowledge about the cultures of the people of the Cordilleras. They are the faculty members who came from IP communities. It is also sad to note that some faculty admitted that they have personal cultural biases and stereotypes in integrating IKS in the curriculum due to a lack of cultural exposure. These are the faculty members who migrated to the city and have negligible exposure to the culture of their community's origin. Data also show that the faculty members who usually integrate IKSP in their teaching methodologies are those who have deeper cultural exposure and orientations from their indigenous communities. As mentioned by a senior faculty from the College of Agriculture, his advocacy to integrate IKSP in teaching started from the exposure with elders in the indigenous communities. Thus, he tends to exercise what he has been exposed to in the academe. For example, he uses indigenous knowledge in organic farming like mushroom production, crop protection, and mycology. He cited the scientific explanation of the cultural practice of the people of Mountain Province called "tengao" or community rest day during disasters and calamities that affect their farm crops.

It is also noteworthy to mention that their travels to other places further enhance their appreciation of indigenous cultures. Previous work experiences with Non-Government Organizations (NGO) working with Indigenous peoples and educational institutions promoting awareness on IP issues also heighten the appreciation of some faculty to integrate IK in their teaching. This relationship was mentioned by one professor from the College of Forestry professor and another from the College of Teacher Education. This result implies that the in-depth IK integration in the curriculum is more on the faculty members' exposure and cultural advocacy.

Limited Appreciation of IKS among Faculty Members

The majority of the key informants admitted that they have limited appreciation of the indigenous knowledge and practices of the IPs since these cultural practices were not transmitted to them by their parents and elders. As mentioned by some Ibaloi and Kankanaey faculty members from Benguet who migrated to Baguio City, some of the cultural practices are sacred, like the rituals conducted in the

community. The elders do not teach it to the young ones. One faculty member stressed that in the Ibaloi communities, children were not included in the conversations of their elders. The elders do not explain the relevance of these cultural practices, "*haan mo makatongtong ti elderly*" (we cannot speak with the elderly); thus, the young generation cannot appreciate the culture because they do not understand the relevance or wisdom of such cultural practice.

The experience of teachers having limited appreciation on IKS integration is similar to Abejuela (2005) and Keane (2015) findings. Suazo and Montenegro (2018) also highlighted that most non-indigenous teachers are not prepared to teach in indigenous communities because they lack cultural training and understanding of indigenous peoples' values and ways of life.

Changing Contexts and Landscape

Changing context also is a factor in the lack of IKS appreciation by faculty members. Due to education and job opportunities, teachers migrate permanently to the city. They seldom go home to their indigenous communities. Through the years, they are not aware of their cultural practices. In addition, they have imbibed the lifestyles in the city. The non-practice of these cultural practices in the city posed a threat of vanishing or disappearing IKSP of their elders.

As explained in the study of Ngohayon and Gonzales (2011) conducted in Ifugao among the IP communities, the decline of IK is related to the idea that IK was depicted as primitive, simple, and static, "not knowledge" or folklore due to the influence of western education and modern ideas. In some countries, official propaganda depicts indigenous cultures and methodologies as backward or out of date. It simultaneously promotes one national culture and one language at the expense of minority cultures. This condition leads some local people and communities to lose their ability to be self-reliant, and they became dependent on external solutions to their local problems. The diversity of learners' cultural backgrounds from the different regions also affects students' appreciation for Cordilleran culture. Some lowlander students do not appreciate the cultural practices of the Cordilleras. One faculty member



from the College of Home Economics and Technology mentioned that some lowlander students hesitate to taste the Cordillera cuisine during their food presentations because they are not used to eating these types of foods. In addition, a faculty member from the Institute of Human Kinetics (IHK) shared that in her Physical Education classes, some students who are not from Cordillera did not want to participate. Also, Ibaloi (an ethnic group from Cordillera) students were shy to perform their cultural dances. The result implies that the students' changing IKS context and landscape affects the faculty initiatives to integrate IKS into the curriculum.

Modernity

Modernity also changes the perspectives of both students and faculty members about Indigenous cultures. With the introduction of western education and technological advancement, the present generation perceived indigenous cultures as backward. As mentioned during the interview, when one talks about IKS, the students feel it as "baduy" or outdated and do not fit with the current time. Students are caught between what element of culture should be changed and what is worth preserving to cope with changes in time and space. For example, in the wearing of indigenous attires, they do not know how to use them properly, and they lack knowledge of their cultural meanings. It was observed that younger generations are more open to pop culture than to their local cultures.

Modern technology has also discarded cultural practices like the *binnadang* (camaraderie or *bayanihan*) in the transfer of irrigation and the traditional way of harvesting rice grains by the community members. A faculty member from the College of Engineering and Agricultural Technology (CEAT) mentioned that this *bayanihan* is no longer being practiced in some places since people prefer to use modern agricultural technology like water hoses and tractors. These findings support Keane (2015), who pinpointed the reluctance of South African science teachers in integrating IKS since science is perceived as a more powerful knowledge system.

A Clash Between Religion and the Spiritual Aspects of IKS

Different religious beliefs and ideologies

impact the change of perspectives of the IPs about their cultural practices. Often, there is a clash of religion and culture. Religion taught them that indigenous cultural practices are evil and promote paganism. As mentioned by some key informants, their religion taught them that "*the source of Canao is unholy and Benguet songs are interpreted as paganism*". These religious perspectives prevent them from carrying out their cultural practices. Also, faculty members observed that some students do not want to participate during cultural presentations because, according to them, these practices are against the teachings of their religion. Thus, faculty members give them alternative requirements.

Awais (2011) had the same findings in their study of young people in Kabayan, Benguet. He identified that religion, education, lack of interest of the youth, lack of resources, and time constraints pose a challenge in developing cultural integrity. He even concluded that other challenges included opposition of parents, personal convictions of a community member, death of elders, and lack of documentation.

In the writing of Efraim (2012) for the revitalization of Dayak people's culture in Indonesia, he affirmed that formal education, spread of dominant religions like Islam and Christianity, modern technology and media, eradication of *rumah panjang* or longhouse, including laws and regulations are considered as dominant factors in the cultural degradation of Dayak culture in Indonesia.

Lack of University Mechanism in Monitoring the Integration of IKS in the Curriculum

The laxity of university policy on integrating Indigenous Knowledge in the Curriculum despite the provisions from CHED Memorandum Order (CMO) 20, s.2013 (General Education Curriculum: Holistic Understandings, Intellectual, and Civic Competencies) does not motivate the faculty members to incorporate IKS in their teaching methodologies. Also, no standard teaching guides exist for integrating IKS. Topics on IKS are not explicit in the course syllabi. Nevertheless, despite the laxity of university policy, some faculty members still do in-depth IKS integration in the subjects they are handling, as reflected in their syllabus and teaching methodologies. This finding implies that the integration of IKS in the tertiary



curriculum is a teacher's initiative and cultural advocacy.

CHED is already setting an opportunity for integrating indigenous studies in the curricula by releasing CMO No. 2, s.2019. However, it is up to the academe to develop a conceptual framework on IKS integration in the curriculum by consulting stakeholders before creating policies that may monitor and enrich IKS integration in the succeeding semesters.

Policies that Hinder Community Immersion

The CHED policies on educational tours and community immersions hinder the opportunity of the teachers and students to learn the cultural practices of IPs in rural communities. As cited in the CHED Memorandum Order No. 63, s.2017, before the off-campus activity, the President of the institution must require the submission of the following from its personnel concerned: curriculum, destination, handbook or manual, consent of parents or student's guardian, medical clearance of the students, first aid kit, fees/fund source, insurance, mobility of students, copy of acknowledgment letter from the LGUs, minutes and attendance of the briefing and consultations conducted to concerned students, faculty, and stakeholders, and other requirements. These tedious requirements by CHED hinder the faculty initiatives to organize educational tours, field trips, or community immersions. Thus, faculty members are limited to lectures, video clip shows, and storytelling using personal experiences with photographs in PowerPoint format. However, this alternative learning does compensate for the experiential learning in the actual setting.

Poverty of Time, Venue, and Opportunities to Discuss IKS

The poverty of time in integrating IKS in teaching methodologies is also a challenge to most faculty members. One faculty acknowledged that students could appreciate culture through experiential learning like community-based research, documentation of the cultural practices, actual cultural presentations, museum tours, and other activities. However, these are not being realized due to a lack of time to meet the requirements. One semester is not enough to teach in-depth cultural practices due to the number of topics discussed in one subject/course.

Thus, some teachers give shallow discussions on IKS topics to finish the course syllabus's content.

This finding is similar to Banes (2014), which identified lack of time as a factor limiting the faculty's implementation of in-depth integration of IKS in their subject matter. Keane's (2015) participatory research project among KwaZulu-Natal teachers admitted they are more concerned about finishing the regular science syllabus than introducing IKS in their classes.

Another striking concern that came out during the FGD with some Department of Development Communication faculty is the lack of time and avenue or space/opportunities to discuss IP issues like IP cultural rights, intergenerational discourse, preservation of culture versus tourism, IK patenting, Free Prior and Informed Consent (FPIC) in IK studies, localization and standardization of IKS, due to various factors like appended duties, and other priorities. A common sentiment of the faculty respondents is the lack of time to conduct research on IKS to be used as reference materials in integrating the IKS in the curriculum. The majority of the faculty narrated that much of their time was spent on teaching (preparing lessons, checking papers, consulting with students). In addition to these tasks are administrative designations and other appended functions, like serving as a coach in sports, advisers for student organizations, and thesis advising.

Recommendations from BSU Faculty to Strengthen Initiatives in the Integration of IKSP

The following are ways to address the challenges as elicited from faculty members who had firsthand experience on integrating IKS in the curriculum.

Generate Reference Materials on IKS-related Topics

All key informants from both FGDs and KIIs suggested acquiring books, literature, and other resources on IKS and placing them in the library. They also suggested that more IKS materials be placed in the Cordillera section in the library. They even proposed producing IKS materials like manuals, books, poems, and local literature on



culture. In addition, one faculty proposed that the university should consider procuring IKS materials using fiduciary funds.

Conduct Training/Seminars/Conferences/Workshops on IKS Related Topics and Issues

All key informants recommended series of trainings, fora, and conferences on emerging trends in IKS like organic farming, cultural food/product preservation, cultural sensitivity, addressing identity crisis, IP issues (FPIC & Cultural Rights), and others. To substantiate the content of the conferences, elders and cultural advocates/experts will be invited as resource providers for local, regional, and national conventions. Such events can be done annually and semi-annually. Conferences should be sustainable for continuity of giving updates or new trends on IKSP.

Maguen (2005) found out that integrating indigenous knowledge and practices in dancing and folk literature is feasible in social sciences, communications arts, information and communication technology, agriculture, professional education, and management/administration. She recommended that seminars, workshops, and conferences be conducted to awaken the faculty members and administrators on the need to integrate IKSP into the curriculum and equip faculty on integrating the IKSPs into their lessons. She added that faculty members should sit down as a team and discuss how integration could be done, especially with curricular courses where the integration seems more feasible. Astete (2019) also cited IP concepts that they integrate into the curriculum of Lyceum of the Philippines.

Conduct Researches on IKS Related Topics

Key informants emphasized the need for proper documentation of the indigenous cultures and practices like indigenous health and well-being, indigenous agriculture, local governance, issues on the commercialization of IP food in the global market, and other topics on IKS before the younger generations would forget these information. Some key informants suggested that a compendium of IKS researches be placed in the university library to be used as reference materials by students and teachers. The faculty researchers were also encouraged to

publish their researches on IKS. Ethics on social research, specifically on authorship and royalty of published IKS research, should be disseminated to faculty and student researchers.

In the study of Efraim (2012), he mentioned that the Dayak culture is revitalized and restored through the research and documentation of Institut Dayakologi (ID). One of ID's programs is oral tradition research, where research results are integrated into audio, visual, audio-visual, and written materials. To address the accusation that it conducts documentation for commercial purposes, the institute signs an agreement with the subjects before starting a documentation activity. The agreement indicates that the documentation is only for research and scientific study; resulting products may not be sold or used for commercial purposes. The copyright holder of the oral tradition is the subject of the oral tradition research.

Administrators to Review Policies on the Integration of IKS in the Curriculum

At present, no policies are being implemented on the integration of IKS in the curriculum. The provision of university policy or memorandum order can strengthen the incorporation of the IKS in the curriculum and teaching methodologies by the faculty. Thus, the key informants recommended creating a policy on the integration of IKS in the curriculum. As mentioned by one of the key informants "*kasano me ikabil iti syllabus ket awan met ti directives from the VPAA Office*". They also suggested that IKS be embedded in the University mission vision, especially that BSU is located at the La Trinidad Valley that caters to the majority of the IP students in the region. Administrators should also support and finance IKSP related activities and programs for sustainability.

Curriculum Development

Curriculum planners in the university might consider enhancing their curriculum to integrate at least one subject related to IKS. The Social Sciences Department should also consider taking the lead in proposing one course on IKS. There should be core IKS subject required to all students regardless of their degree courses, not only integration to deepen their cultural exposure



and appreciation. IKS topics and outputs should also be explicitly stated in the course syllabi prepared by the faculty.

In preparing Outcomes-based Education syllabi, the faculty should consider allocating more time for experiential learning activities or requirements. One example is giving ample time for the students to conduct research or practice their cultural dances before the actual presentations for a better appreciation of cultural practices. Faculty members also need to consider the depth or quality of the IKSP integration rather than the number of topics discussed.

Abadiano (2019) admitted that the convergence and partnerships among stakeholders like students, community, elders, peoples groups, LGUs, CHED, and other agencies paved the way for the foundation of IP curriculum in the Pamulaan Center. Alejandre (2011) also mentioned in his study that students of the Tinguian High School of Abra should be given more opportunities to learn their culture in their host school. He added that Tinguian culture and history are integrated into the first-year level in the local history subjects. He even stressed that history teachers could invite mountain Tinguians who are successful in their chosen career to come and speak before the students.

Community Immersions/ Travels/ Museum Tours

Community immersions, travels, and visits to ethnographic museums, historical landmarks were also suggested. One of the best strategies to teach culture to students is through experiential learning. As shared by one faculty member from CTE, traveling to different parts of Asia helped her to be exposed to different cultures. She was able to compare the culture of the Philippines with the neighboring countries. These experiences heightened her appreciation of the cultural practices of the different groups, which she integrates in her class discussions.

As cited by Baniqued (2010) in her study, IP integration was observed in two subdivisions of the school curriculum, namely, Practicum and Community Involvement Program (CIP). Under Practicum, students participated in the activities prepared by their chosen Activity Circles or student organizations. IP integration was strong in “Sining ng Lahi,” which dealt with Filipino

arts and culture, and “Tinig ng Kabataan,” which focused on public speaking and journalism. For CIP, each year level was assigned to visit a sector in society. The third-year students were assigned to visit Indigenous Peoples communities and learn about their struggles and livelihood. In school, their experiences were processed by the CIP coordinator. For the academe, the four core functions – Instruction, Research, Production, and Extension are possible avenues for IKS integration.

Establish IKS Center in the University

Majority of the key informants suggested creating an Indigenous Studies Center that caters to IKS concerns on research, education, production, and extension of the university. Specifically, research in this center will dwell on Cordillera cultural heritage and practices, local literature, and local history.

Establish Linkages and Networks

To strengthen the access of information on IKS, the university might consider establishing linkages and networks with other universities, NGOs, line agencies, people's organizations, stakeholders, and community elders. It would also be better to tap faculty or resource providers who are knowledgeable about the topics on IKS to teach the subject.

Employ Various Teaching Strategies to Integrate IKS

Another recommendation from the key informants is for faculty members to employ various strategies in integrating IKS to the subjects that they are handling such as the use of social media, digital documentations, photographs/ photo essays/visual research, recorded lectures which can be readily available for presentatons, and sharing/showcasing of cultural practices. They can also organize series of fora as a venue for students and teachers to discuss IP issues and concerns. As the faculty members from the Development Communication mentioned, there is a need to provide avenues or opportunities for discussions of IKS in the academe.

One key informant from the Institute of Human Kenetics also stressed,

“I believe that more exposure to our culture would teach as better, so I suggest that the



university should encourage all colleges to incorporate Cordillera inspired buildings, build student lounges that have Cordillera design, and encourage everyone to at least have motifs of decors from the Cordillera and other ethnic groups.”

This is to influence stakeholders and students to appreciate the local cultures. Another faculty member from Humanities suggested putting proverbs of elders in classrooms. According to him, a sample statement maybe “*Man iskwela kayu ta adi kayu matangla ta wada pangingadngadan you*”. (pursue your education so that you will not be disgraced and be a banner of your roots greatness). He reiterated that 'matangla' is a Kankanaey word he heard from his grandparents.

Teachers are encouraged to be flexible in the classroom by aligning IKS to students' interests and courses. One that can also help students appreciate their own culture is by letting them speak their own language. The faculty are also encouraged to localize and contextualize foreign terms and concepts for students to understand the lessons being discussed. It is also helpful that faculty members know students' backgrounds so that they will be able to support the learning needs of students in terms of IKS and to address which part of local cultures can be revived despite their exposure to pop culture. The discussions on actual experiences and readings may also be employed to influence students to appreciate IKS. Exhibits, video shows, and cultural practices, dances, chants, and performing arts can also supplement what is not taught in the classroom.

IK-inspired activities can be integrated into university programs like Celebration of Women's Month, Cordillera Week, Indigenous Peoples Month, Buwan ng Wika, Nutrition Month, United Nation Month, Foundation Anniversary, and Charter Day.

Conclusions

In this age of globalization and modernization, where indigenous knowledge is under threat of disappearing, the academe plays a significant role in integrating IKS in the tertiary curriculum. It plays a strategic role in transmitting the IKS to the young generations before it will vanish in the cognizance of humankind. Recognizing the

relevance of IKS in addressing the societal problems and issues such as discrimination and cultural biases/stereotypes in a melting pot institution, there is a need to strengthen the initiatives and address the challenges experienced by the faculty members in integrating IKS in the tertiary curriculum.

Recommendations

The study recommends that a University policy on IKS integration and monitoring scheme be put in place. A series of training on IKS integration in the different colleges and scheduled community immersions for teachers and students can then follow. The Colleges and Institutes in the University can study possibilities of integrating IKS in their curriculum; the library instructional committee is encouraged to regularly communicate with the faculty members on what IKS instructional materials are needed before procurement; the Research and Extension (R&E) sector has to strengthen the implementation of the inclusion of Cordilleran culture and practices in their programs to provide venue or space for the said topics; and encourage linkage between HEIs/ SUCs and Deped to facilitate capability-buildings on IPED subject integration. Lastly, the study recommends creating an Indigenous Knowledge Center as a centralized office to ensure the promotion of the integration of IKS in the university's core functions, namely: Instruction, Research, Extension, & Production.



References

- Abadiano, B.D. (2019). Panel 1: What is Indigenous Education? Pathways on Indigenous Education. *Indigenous Peoples Conference Proceedings*. Edited by Jimmy B. Fong. Baguio City: University of the Philippines Baguio.
- Abejuela III, R.B. (2005). *Indigenous Education in The Philippines: A Case Study of the Sagu-Ilaw School of Indigenous Knowledge and Traditions*. http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/papers/ABEJUELA_7d
- Agbas, M.G.Z. (2019). Good Practices in IP Education in HEIs: Curriculum and Instruction. *Indigenous Peoples Conference Proceedings*. Edited by Jimmy B. Fong. Baguio City: University of the Philippines Baguio.
- Alafag, J., Balangen, J., Dom-ogen, E., Domondon, D., Gomez, R., Guron, M., Duque-Lacanlale, V., Leung, J.M., Napaldet, J.T., Paltayan, J.C., Sandoval, A.M., Tabon, M., Tipayno, S.C. (2019). *Introduction to Environmental Science*. (Unpublished Course Manual). Benguet State University, La Trinidad, Benguet, Philippines
- Alejandre, L.S. (2011). *Ethnic Identity and Acculturation of Tinguian High School Student in Bangued, Abra*. (Unpublished Masters' Thesis). Benguet State University, La Trinidad, Benguet, Philippines.
- Astete, L.H. (2019). Advancing Indigenous Education: The LPU Experience. *Indigenous Peoples Conference Proceedings*. Edited by Jimmy B. Fong. Baguio City: University of the Philippines Baguio.
- Awat, F.Y. (2011). Secularization of the Sacred: Bendian Through the Passage of Time. *Benguet State University Research Journal*, 66: 43-74.
- Banes, G.G. (2014). *The Best Practices of the Higher Education Institutions in the Cordillera on Indigenous Knowledge Transmission*. (Unpublished Dissertation). Benguet State University, La Trinidad, Benguet, Philippines.
- Baniqued, K.T. (2010). *The Influence of Saint Louis School Center High School Department Curriculum on the Ethnic Identity Development of Fourth Year Students School Year 2009-2010*. (Unpublished Masters' Thesis). Benguet State University, La Trinidad, Benguet, Philippines.
- Barnhardt, R. (2007). *Creating a Place for Indigenous Knowledge in Education: The Alaska Native Knowledge Network*. http://www.ankn.uaf.edu/curriculum/Articles/RayBarnhardt/PBE_ANKN_Chapter.html
- Bawang, A. (2015). *Cordillera Indigenous Cuisine*. (Unpublished Course Manual). Benguet State University, La Trinidad, Benguet, Philippines.
- Bustos, A. (1996). *Psychological, Anthropological, and Sociological Foundation of Education*. Katha Publishing Co., Inc.
- Catbagan-Aplaten, M.A.C. (2016). *Indigenous Peoples Education (IPEd) Learning Materials (LM) on Cordillera Studies (CS): Its Acceptability, Effectiveness and Impact by Teachers and Varied Learners*. (Unpublished Dissertation). Benguet State University, La Trinidad, Benguet, Philippines.
- Codamon-Dugyon, E.M. (2019). Community Extension/Public Service, Production and Technology. *Proceedings of the Indigenous Peoples Education Conference*. Edited by Jimmy Fong. Baguio City: University of the Philippines Baguio.
- Commission on Higher Education. (2013). *CHED Memorandum Order No. 20, s.2013: General Education Curriculum: Holistic Understandings, Intellectual and Civic Competencies*. <https://ched.gov.ph/cmo-20-s-2013/>
- Commission on Higher Education. (2017). *CHED Memorandum Order No. 63, s.2017: Policies and Guidelines on Local Off-Campus Activities Category/ies*. <https://ched.gov.ph/wp-content/uploads/2017/10/CMO-63-s-2017.pdf>
- Commission on Higher Education. (2019). *CHED Memorandum Order No. 2, s. 2019: Integration of Indigenous Peoples' (IP) Studies/Education into the Relevant Higher Education Curricula*. <https://ched.gov.ph/wp-content/uploads/CMO-No.-02-Integration-of-Indigenous-peoples-studies-into-the-relevant-Higher-Education-Curricula.pdf>
- Congress of the Philippines. (1997). R.A. 8371: The Indigenous Peoples' Rights Act. <https://www.officialgazette.gov.ph/1997/10/29/republic-act-no-8371/>



- Degawan, M. (2019). Indigenous languages: Knowledge and hope. *The UNESCO Courier*. <https://en.unesco.org/courier/2019-1/indigenous-languages-knowledge-and-hope>
- Doronila, M.L.C. (1997). A Research and Development Approach to the Delivery of Comprehensive Functional Education and Literacy in the Philippines. *Asia Literacy Regional Forum*. <https://files.eric.ed.gov/fulltext/ED418217.pdf>
- Efracim, B. (2012). *Cultural Inheritance, Cultural Revitalization, Empowerment and Advocacy*. In Wahono, F.X. et al. *Pacur Kasih Empowerment Movement*. Baguio City: Tebtebba Foundation. <https://www.tebtebba.org/index.php/resources-menu/publications-menu/books/86-pancur-kasih-empowerment-movement-volume-1/file>
- Enkiwe-Abayao, L. (2002). Indigenous People's Learning Systems: A Discourse on Indigenous Emancipatory Pedagogy. *Indigenous Perspectives*, 5(2): 55-62. Baguio City, Philippines: Tebtebba Foundation. <https://www.tebtebba.org/index.php/resources-menu/publications-menu/journals/110-indigenous-perspectives-vol-5-no-2-2002-bequeathing-indigenous-knowledge/file>
- Episcopal Commission in Indigenous Peoples. (2008). *Indigenous Peoples Education: "From Alienation to Rootedness"*. <http://www.hurights.or.jp/education/2008/indigenous-peoples-education-from-alienation-to-rootedness.html>
- Fang-asan, M.L.D. (2019). Cutting Across Instruction, Research Extension, and Production: Lesson from "Stories of Alapu". *Proceedings of the Indigenous Peoples Education Conference*. Edited by Jimmy Fong. Baguio City: University of the Philippines Baguio.
- Fong, J. (2019). Philippine Indigenous Languages in Higher Education. *Indigenous Peoples Conference Proceedings*. Edited by Jimmy B. Fong. Baguio City: University of the Philippines Baguio.
- Gonzales, M.G. (2020). Webinar on Roundtable Discussion on Integration of IP Education in Higher Education Institutions [PowerpPoint]. <https://www.facebook.com/SDRCDSLUSU/videos/1825683260943162/>
- Kaya, H.O., & Seleti, Y.O. (2013). African Indigenous Knowledge Systems and Relevance of Higher Education in South Africa. *The International Education Journal: Comparative Perspectives*, 12(1): 30-44. <https://files.eric.ed.gov/fulltext/EJ1017665.pdf>
- Keane, M. (2015). Why indigenous knowledge has a place in the school science curriculum. *The Conversation*. <https://rb.gy/rxchxx>
- King, L., & Schielmann, S. (2004). *The Challenge of Indigenous Education: Practice and Perspectives*. Paris United Nations Educational, Scientific and Cultural Organization. UNESCO Organization. <http://unesdoc.unesco.org/images/0013/001347/134773e.pdf>
- Maguen, R.K. (2005). *Integration of the Indigenous Knowledge and Practices in the Curricular Courses of Mountain Province State Polytechnic College*. (Unpublished Dissertation). Benguet State University, La Trinidad, Benguet, Philippines.
- Mmola, S. (2010). *A survey of perceptions of IKS students and IKS lecturers on IKS programme at North-West University (Mafikeng Campus)*. (Unpublished manuscript), IKS Programme: North-West University.
- Nakata, M. (2002). Indigenous Knowledge and the Cultural Interface: Underlying Issues at the Intersection of Knowledge and Information Systems. *IFLA Journal*, 28(5/6): 282-290. <https://journals.sagepub.com/doi/pdf/10.1177/034003520202800513>
- Ngohayon, S.L., & Gonzales, N.A.P. (2011). *Ifugao Indigenous Knowledge (IK) Workbook*. Lamut Ifugao: Ifugao State University, Banaue, Ifugao, Philippines.
- Ocampo-Tan, M.C., & Roberto, F.C. (2019). IP inclusion in nationalized spaces of learning. *The Guidon*. <https://theguidon.com/1112/main/2019/12/ip-inclusion-in-nationalized-spaces-for-learning>
- Paris, N.E. (2016). *Appreciation of Indigenous Knowledge Systems and Practices (IKSPS): Bases for Enrichment of the Secondary School Curriculum*. (Unpublished Master's Thesis). Benguet State University, La Trinidad, Benguet, Philippines.



- Raymond, A. (2011). *IKS programme and multi-media technology at University of North-West, Mafikeng Campus: Prospects and Challenges*. (Unpublished Manuscript) University of North West: Faculty of Human and Social Sciences).
- Seehawer, M. (2018). South African Science Teachers' Strategies for Integrating Indigenous and Western Knowledges in Their Classes: Practical Lessons in Decolonisation. *Educational Research for Social Change (ERSC)*, 7: 91-110. <http://www.scielo.org.za/pdf/ersc/v7nspe/08.pdf>
- Senate of the Philippines. (2015). *R.A. 10908: Integrated History Act of 2016*. http://legacy.senate.gov.ph/republic_acts/ra%2010908.pdf
- Smelser, N.J. (1981). *Sociology*. Brentice, New Jersey: Hall Englewood Cliffs.
- Suazo, M., & Montenegro, G. (2018). Implementation of a Culture-Based Education. *American International Journal of Research in Humanities, Arts and Social Sciences*, 18: 146-152. <http://iasir.net/AIJRHASSpapers/AIJRHASS18-231.pdf>
- Tacloy, J. (2000). *Indigenous Forest Conservation Systems in the Cordillera Region*. (Unpublished dissertation). Benguet State University, La Trinidad Benguet, Philippines
- Tharakan, J. (2015). Integrating indigenous knowledge into appropriate technology development and implementation. *African Journal of Science, Technology, Innovation and Development*, 7(5): 364-370. <https://doi.org/10.1080/20421338.2015.1085176>
- United Nations. (2007). United Nations Declaration on the Rights of Indigenous Peoples. https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf
- Victor, M.L., & Yano, B. (2015). Actualizing the Inclusion of Indigenous Peoples' Rights in Education: A Policy Initiative in the Philippines. *Human Rights Education in Asia-Pacific*. <https://www.hurights.or.jp/archives/asia-pacific/section1/9%20Indigenous%20Peoples%E2%80%99%20Rights%20in%20Education.pdf>

