OULUN
YLIOPISTO

Inka Mari Tuulia Järvinen

"*Knowledge is life to me*" – perceptions on knowledge at the origin of the River Nile

Master's thesis

FACULTY OF EDUCATION

Intercultural Teacher Education programme

2019

1

Education is often described as means to prepare the rising generations for the world they inherit. At the core of this is the question of knowledge that they need to acquire. A lot of discourse revolves around what this knowledge should include, but this, however, is not the focus of my research. What I turn our attention to is the idea of knowledge itself, analyzing how it is perceived and what is meant by this knowledge that we, as educators, are to pass on. (Järvinen, 2017)

According to Pat Howard (1994), a certain view of knowledge has been valued and regarded over others – that is, the predominantly Western idea with an emphasis on objectivity, neutrality and rationality. This, according to some, has led to an epistemicide – one system of knowledge being so dominant that it causes the weakening or extinction of other knowledge systems. (Hall & Tandon, 2017)

Recently, through the contributions offered by the decolonizing perspective to education, there has been more and more discussion around the role of local knowledge gained at the grassroots all around the globe, and its contribution to the fields of science and development work. (Howard, 1994) What this discourse occasionally leads to is a confrontation of two knowledge systems – the local and the contemporary. When there is an emphasis on local knowledge, contemporary science is labelled as white, western science that has lost its touch on reality happening at the grassroots, forcing its ideas in a top-down approach to local communities. Conversely, when there is an emphasis on contemporary sciences, local knowledge is seen as superstitious, underdeveloped and irrational. (Howard, 1994)

With this dichotomy in mind, my interest in this thesis is to look for experiences where education taps into both sources of knowledge, local and contemporary with the intention of seeing what kind of assumptions are created and advanced in such settings. One example of such an educational imperative is offered by an NGO called FUNDAEC, founded in Colombia and now branching out all around the rural areas of the world. In this research, I am carrying out a phenomenographical study on the participants of one of its branching programs called Preparation for Social Action program (PSA) located in Uganda. (FUNDAEC, 1988)

Through semi-structured interviews and phenomenographical data-based analysis, I formed two outcome spaces to represent the views of the participants. (Marton & Booth, 1997) According to them knowledge can be acquired from various sources and human groups either separately or from the integration of several sources. All knowledge, as the participants' state, is not useful, however and need to be weighed by how well the knowledge can be applied to answer the needs of the individual or the community. As to its nature, knowledge is of multiple kinds – ancient and modern, religious and scientific, practical and theoretical. Regardless of the differences, all of these are facets to knowledge and when they are integrated and applied, it is possible to bring about progress that caters to the needs of all human beings and groups.

Keywords: knowledge, phenomenography, contemporary knowledge, local knowledge, epistemic justice, decolonizing knowledge

Kasvatusta usein kuvaillaan keinona valmistaa nouseva sukupolvi perimäänsä maailmaa varten. Tämän ajatuksen ytimessä on usein kysymys tiedosta, joka tämän sukupolven tulee sisäistää. Paljon keskustelua käydään siitä, millaisia asioita tämän sisäistettävän tiedon tulisi pitää sisällään – tähän osallistuminen ei ole kuitenkaan tutkimukseni tarkoitus. Sen sijaan kiinnitän huomion itse tietokäsitykseen, analysoiden sen määritelmiä ja pyrkien tarkastelemaan mitä tarkoitetaan sillä tiedolla, joita meidän, kasvattajina, tulisi jakaa ja välittää eteenpäin.

Pat Howardin mukaan tietynlaista näkemystä tiedosta on pitkään arvostettu yli toisten. Tämä Howardin mukaan valtaosin länsimainen näkemys asettaa tiedon keskiöön ja sen perustaksi objektiivisuuden, neutraaliuden ja järkiperäisyyden. Tällainen tiukasti rajattu näkemys autenttisesta tiedosta on joidenkin tutkijoiden mukaan johtanut "tietämisenmurhaan" (epistemicide), joka rinnastettuna kansanmurhaan ja "kielenmurhaan" (linguicide), kuvailee tilannetta, jossa yksi tietämisen tapa ja näkemys siitä on niin voimakas, että se johtaa muiden tietämisen tapojen heikentymiseen ja tuhoon. (Hall & Tandon, 2017; Lindstedt, 2002)

Dekolonialistisen näkemyksen kautta viime vuosikymmenten aikana käsitys tiedosta on kuitenkin laajentunut ja monimuotoistunut. Erilaisten väestöryhmien ja alkuperäiskansojen "paikallinen tietämys" (local knowledge) ja sen panos ihmiskunnan edistykseen on saamassa enemmän jalansijaa maailmanlaajuisessa keskustelussa koskien kasvatusta, tiedettä ja kehitystyötä. (Corsiglia & Snively, 2000; Hall & Tandon, 2017) Joissakin tapauksissa tämä kehityssuunta on johtanut kahden tietämysjärjestelmän (knowledge system) vastakkainasetteluun; paikallisen ja nykytieteellisen (contemporary science). Painotettaessa paikallisen tiedon tärkeyttä, nykytieteellinen tietämysjärjestelmä leimataan usein valkoiseksi länsimaalaiseksi tieteeksi, joka on menettänyt kosketuksensa ruohonjuuritasolla tapahtuvaan todellisuuteen ja pakottaa ideansa ylhäältä-alaspäin suuntautuvalla lähestymistavalla paikallisten yhteisöjen sovellettavaksi. Kun taas painotetaan nykytieteellisen tiedon tärkeyttä, paikallinen tietämys nähdään takapajuisena, kehittymättömänä ja yliluonnollisiin uskomuksiin perustuvana. (Howard, 1994)

Tämä vastakkainasettelu mielessäni pyrin etsimään kokemuksia kasvatuksen laajalta kentältä, jossa koulutuksessa hyödynnetään sekä paikallista että nykytieteellistä tietoa tarkoituksenani selvittää millaisia oletuksia tiedosta ne vahvistavat. Tällaisen esimerkin tarjosi Kolumbiassa perustettu FUNDAEC-niminen järjestö, jonka toisen asteen koulutusohjelma on levinnyt maaseutualueille ympäri Latinalaista Amerikkaa ja koko maailmaa. (FUNDAEC, n.d.) Tässä tutkimuksessa toteutin fenomenografisen tutkimuksen FUNDAEC'in Preparation for Social Action-ohjelman osallistujista Ugandassa.

Teemahaastattelujen ja aineistolähtöisen analyysin avulla muodostin osallistujien kuvauksista kaksi fenomenografisen tutkimuksen mukaista tulosavaruutta (*outcome space*). (Marton & Booth, 1997) Näiden mukaan tietoa voidaan saada monenlaisista erilaista lähteistä ja ihmisryhmiltä joko erikseen tai samanaikaisesti useita lähteitä integroiden, mutta kaikenlainen tieto ei itsessään ole hyödyllistä – se pitää punnita käytännössä ja olla sovellettavissa yksilön ja yhteisön tilanteen vaatimusten mukaan. Tietoa on osallistujien mukaan monitahoista – ikivanhaa ja modernia, uskonnollista ja tieteellistä, käytännöllistä ja teoreettista. Kaikki ovat nimityksestään huolimatta tietoa ja niistä yhdessä ammentaen ja soveltaen voidaan saavuttaa edistystä, joka vastaa oikeudenmukaisesti kaikkien ihmisten ja ihmisryhmien tarpeisiin.

Avainsanat: tieto, tietokäsitys, fenomenografia, nykytieteellinen tietämysjärjestelmä, paikallinen tietämysjärjestelmä, episteeminen oikeudenmukaisuus, tiedon dekolonisaatio

TABLE OF CONTENTS

1 ABBREVIATIONS

FUNDAEC

Acronym of the Spanish title "Fundación para la Aplicación y Enseñanza de las Ciencias" (Foundation for the Application and Teaching of the Sciences), a non-governmental organization founded in Colombia

SAT

"Sistema de Aprendizaje Tutorial" (Tutorial Learning System), an educational program developed by FUNDAEC

PSA

Acronym for "Preparation for Social Action", an equivalent of the SAT program being applied in the English speaking countries

2 INTRODUCTION

In its widest sense, education is often regarded as a means to equip the rising generation with the capacity needed to take charge of their own development and shoulder the responsibilities of the world it is inheriting. At the heart of this is passing on the knowledge humanity has so far acquired. A lot of discourse revolves around what this knowledge should include and what kind of skills are needed to prepare the next generations for future – or even to respond to the current reality around them. This discourse is not, however, the focus of my research. What I turn our attention to is the knowledge itself, analyzing how it is perceived and what is meant by this knowledge that we, as educators, are to share. (Järvinen, 2017)

According to Pat Howard (1994), a certain view of knowledge has been valued and regarded over others – that is, the predominantly Western idea with an emphasis on objectivity, neutrality and rationality. Recently, however, there has been more and more discourse on the role of local knowledge being gained at the grassroots all around the globe and how it can contribute to the fields of science and development work. (Howard, 1994; Järvinen, 2017)

This trend has led to a confrontation of the two knowledge systems – the local and the contemporary. When there is an emphasis on local knowledge, contemporary science is labelled as white, western science that has lost its touch on reality happening at the grassroots and is forcing its ideas in a top-down approach to local communities. Conversely, when there is an emphasis on contemporary sciences, it seems that local knowledge is seen as something superstitious, underdeveloped and irrational. (Howard, 1994; Järvinen, 2017)

Paulo Freire argues for the importance of looking deeper into this discussion and its relevance especially to educators, since it is through education that we can bring a change to the existing systems and power relations is the world around us. It is not enough to ask ourselves how we educate – we need to go deeper into thinking what kind of assumptions we are passing on to the children and youth we work with. By doing this, we are "asking in favor of whom am I educating" or "against whom am I educating", as Freire phrases it. (Freire and Shor, 1987, p. 46) In the case of this research, there is a need to pause and reflect on what kind of an assumptions of knowledge are we passing on to those who we teach.

With all this in mind, my interest in this thesis is to look for experiences where education taps into and integrates the two seemingly opposing systems of knowledge – local and contemporary – with the purpose of discovering what kind of assumptions are created and advanced in such settings.

One example of such an educational imperative is offered by an NGO called FUNDAEC, founded in Colombia but branching out all around the rural areas of the world. In this research, I

am carrying out a phenomenographical study on the participants of one of its branching programs called Preparation for Social Action program (PSA) located in Uganda (FUNDAEC, 1988), with a focus on how the PSA participants define knowledge and sources of its acquisition. This objective is crystallized into the following research question that has two, more specific sub-questions.

How do the graduates of the PSA programme conceptualize knowledge?
- What do they define knowledge to be?
- How do they describe the sources of it?

3 BACKGROUND

3.1. FUNDAEC

FUNDAEC, an acronym in Spanish for "The Foundation for the Application and Teaching of the Sciences", a non-governmental organization in Latin America, was founded in Colombia in the 70s during a time of debate around development work and the reformation of education. The founding members consisted of a small interdisciplinary group of professors that decided to relocate to a small rural community to be able to get involved in the local life of its peoples and be better able to form an educational programme that would enable the community to take charge of its own progress. What this group had in common was a shared understanding on the right of everyone to "have access to information and to fully participate in the generation and application of knowledge" (Juma & Yee-Cheong, 2005, p. 98) and this is seen as the overarching goal of the organization.

FUNDAEC's work has taken forms from working together with families in the rural settings in the fields of agricultural production, forming collaborative groupings in the community, developing appropriate technologies for agriculture jointly with the locals, working to empower the rural youth by helping them develop different capacities and cooperating with local businesses and economies (Juma & Yee-Cheong, 2005). From these continuous endeavors that FUNDAEC, together with members of the local community, made in different fields emerged a set of educational materials targeted for secondary and tertiary levels of schooling, the aims of which was not only to help the participants and students to become professionals in fields of work that already existed in the community, but also to provide them with career paths that did not necessarily exist in the community and for which there was a great need. By now, FUNDAEC's programme for higher level education and rural university have become part of the nationally acknowledged educational systems of Colombia. The programme for secondary education has now spread to other countries in South America and even out of the Americas to Africa and Asia where different NGO's together with local communities work to apply it in accordance to the specific nature and needs of the communities. FUNDAEC, according to the United Nations task force on Science, Technology and Innovation, offers a significant and valuable experience of ways an NGO can involve rural populations excluded from global efforts of knowledge production and application in the creation of educational innovations. (Arbab & Stifel, 1982; Juma & Yee-Cheong, 2005; Järvinen, 2017, p. 23; R4D, 2015)

3.1.1 Preparation for Social Action (PSA)

As mentioned previously, FUNDAEC has established programmes for higher education of which the programme for secondary education called the "Sistema de Aprendizaje Tutorial" or SAT (Tutorial Learning System), has become the most widespread and known within and outside of Colombia. (FUNDAEC, n.d.)

Although engaging the participants in rigorous study of scientific concepts and methods, SAT also include other aspects of a human existence. The materials and the whole framework of the SAT is organized around the idea of building capacity for promoting community wellbeing. This idea is an 'axis', as described by FUNDAEC, around which the programme integrates knowledge from various sources and disciplines in an effort to imbue the participants with the knowledge, skills, attitudes and qualities needed for a life the purpose of which is seen to be tied to a service to mankind. (FUNDAEC, 2003) By now, the experience gained by the growing numbers of people participating and applying the SAT programme is showing that such an approach to curriculum and programme design is enabling students to learn and gain capacity with rapidity.

While the materials comprising the core of the tutorial learning system each include facts and concepts from various fields of science and knowledge, the practical components of the study require the participants to interact with their surrounding community and learn further from such an interaction. In this way theory and practise are done simultaneously to really equip the students with the skills, attitudes and qualities needed to serve their communities. (FUNDAEC, 2003)

In addition to integrating knowledge from various fields and from theory and practise, the SAT takes a perhaps more unorthodox approach to formal secondary education in an effort to integrate spiritual concepts to its curriculum. By spiritual concepts they mean concepts relating to the immaterial aspects of human life and themes such as the purpose of life and the qualities needed to serve humanity in a selfless and ethical manner. FUNDAEC did not make a specific unit or material to address this spiritual or also known as the moral aspect of the human existence nor did it want to create a specific course on religion. Rather it chose to treat spirituality as a state of being, an inner condition, that affect how we interact with one another and the world around us. This conviction can be seen as being integrated seamlessly into the materials of the SAT, a conviction that is made clear to the participants when they begin the study of the programme. (FUNDAEC, 2003; FUNDAEC, n.d.)

It is for this integration of knowledge that goes beyond integrating information from the different disciplines of science to that of theory and practise, science and religion that I made the

decision of carry out my research on it and its participants. Since SAT is offered in Spanish and I do not have the required level of competency in the language, I looked for countries applying a programme called the PSA – Preparation for Social Action. PSA is a programme created in an effort to spread the reach of the SAT programme to English speaking nations. While it does not have the same formality to the SAT programme and does not include all the units, it consists of the same materials and is organized around the same framework. Additionally, the NGO's applying the PSA programme have to do it with the permission and coordination of FUNDAEC. One of the countries with a longer history of applying the PSA programme successfully in its rural cities and towns is Uganda, a place I chose to carry out my research and data collection in. (FUNDAEC, n.d.)

3.2. Uganda

(Uganda High Commission, n.d.)

Since my research is taking place in Uganda, it is useful to know a bit of the country and its reality. Located in the East-Central Africa, next to Kenya and Democratic Republic of Congo, Uganda is a country right at the equator. It has a population of around 40 million people living in an area of 240 000 square kilometers. Although known as one of the poorest countries in the world, Ugandan soil is rich in nutrients which makes it possible to grow various crops throughout the country. (BBC News, 2018)

Uganda gained its independency in 1962, after having been a British protectorate since 1894. Uganda is an area made up of several kingdoms and areas ruled by various chiefs due to which the inhabitants speak several languages and come various ethnical backgrounds. However, due to being introduced to English by the British rule, it remains as Uganda's official and administrative language. (Uganda High Commission, n.d.)

Since its independency from Britain Uganda has gone through hardships in its path towards more stability and prosperity. Many remember a brutal dictator Idi Amin and his regime that ended in 1979, after which the current president Museveni came to power and has lead Uganda since. Although there are a lot of complaints around the re-elections of Museveni and his long regime, it is during his time that Uganda has enjoyed more relative stability and economic growth. (BBC News, 2018)

Concerning poverty, Uganda has been able to able to reduce its extreme poverty by half, but due to an overall increase in the population, poverty is still increasing especially in the remote rural areas of Uganda whose inhabitants lack access to basic health care or other services. Due to this a lot of effort from the government and NGO's, local or foreign, go to a targeted development aid for the rural Uganda, focusing on agriculture and developing the local infrastructure and providing education. (IFAD, 2013)

4 THEORETICAL FRAMEWORK

The theoretical framework of my thesis will build largely around the phenomenon of knowledge. Although essential for any qualitative research, having a thorough look into how a phenomenon that is being researched is treated in literature, in earlier research and among various cultures and throughout history, is a responsibility of anyone embarking on a phenomenographical research. (Marton & Booth 1997, 129)

Starting from a look into how the definition of knowledge has generally developed through history, this part of the thesis moves into discussions about the relationship between knowledge and power with an emphasis on the decolonizing perspective. Lastly, three perspectives are introduced that offer examples on which kinds of descriptions of knowledge allow for empowerment or limit it. In the construction of this part of the thesis, I draw largely from my earlier research and occasionally use parts directly from my Bachelor's thesis that are relevant to this research. In those cases I state my own thesis as a reference.

4.1 Knowledge

4.1.1 Defining knowledge

Knowledge as a concept has developed through various stages and roles, and according to Peter Burke, varies most with language. In the Greek and Latin vocabulary, which can be seen as one of the foundation for Western culture and world-view, there has been a division into *techne* (Greek) or *ars* in Latin which means 'knowing how', *episteme* (Greek) or *scientia* (Latin) 'knowing that', *praxis* (Greek) for 'practice' and in Latin *sapientia* and *experientia* which mean 'wisdom'/'to know' and the other 'knowledge that comes from action'. Burke states that "in Arabic episteme was translated as '*ilm* (plural 'ulum)", scholars being known as the '*ulama*, 'the ones with knowledge' (Burke, 2016, p. 8). In Chinese, on the other hand, there is a distinction between 'knowledge in general' – *zhi* – and *shixue*, which stands for 'knowhow'. These are only some few examples of differences in verbalizing knowledge, but hopefully give a glimpse of the variations of different approaches in describing it. (Burke, 2016; Järvinen, 2017)

In one of his articles, James C. Lang (2011) analyzes the history and foundation of knowledge, brings up a concept of mainstream knowledge epistemology and stirs ups conversation on it through the feminist perspective of situated knowledges. According to Lang and a historical overview written by Burke, the modern idea of knowledge has been greatly influenced by Enlightenment and personages such as Immanuel Kant and Descartes. These, as Lang describes

them, white and European men, claimed that knowledge – in order to be valid – needs to be based on neutral and objective observations and methods. This view, as questioned by feminist approaches to epistemologies, is based on the assumption that a knower is and ought to be capable of full neutrality and objectivity and is similar to other 'knowers' – hence, can be expected to come to same conclusions. Additionally, this perspective assumes that there exists something to be known and that this something can be known. '*S knows that p*' is a famous rubric one cannot avoid facing when looking into the ideologies stemming from the times of enlightenment. (Burke, 2016; Järvinen, 2017; Lang, 2011)

4.1.2   Multiple knowledges

As stated by Burke, our current understanding of knowledge has moved to a point where we see the history and the current time as being composed of different knowledges. These exist between cultures and peoples, but also within them as differences between the concrete and abstract, learner and teacher, male and female, universal and local (Burke, 2016). With this point of view in mind, we can look back to the rubric of '*S knows that p*'. As the feministic theories that Lang elaborates on in his article bring out, the context of the *S* affects a lot how the '*p*' is understood, but also the '*know*', how one comes to know and what is seen as 'knowing'. (Järvinen, 2017)

In addition to the views presented, knowledge is also categorized in ways that demonstrate the specific view held on how knowledge *ought* to be generated and distributed. Some examples provided by John Corsiglia, Gloria Snively (2000) and Boaventura de Santos (2007) are Western Modern Science (WMS) or Mainstream Knowledge (MK), Traditional Ecological Knowledge (TEK) and Indigenous Knowledge (IK). (Corsiglia & Snively, 2000)

The Western Modern Science (WMS) or Mainstream Knowledge (MK) according to Corsiglia and Snively's study have not existed as concepts for a long time. They were formed out of the need to distinguish knowledge that includes scientific research with "logically consistent rules outlining how theoretical statements can be derived from observational statements" (Corsiglia & Snively, 2000, p. 9). WMS or MK placing an emphasis on 'westernity' or 'modernity', are used to separate them from any other forms of knowledge which are seen as less scientific or modern such as common sense, traditional or indigenous knowledge systems, religious systems and, occasionally, humanities. According to Boaventura de Sousa Santos, the current model of knowledge came out of the scientific revolution starting from the 16th century that took place largely in the field of natural sciences. Later this dominant knowledge and science paradigm was adopted to the social sciences. (Corsiglia & Snively, 2000; Järvinen, 2017; Santos, 2007)

As it places objectivity and rationality at the centre of knowledge, MK questions the evidence of individual's observations and calls such an evidence illusory. Galileo, one of the scientists contributing to the emergence of the dominant paradigm, states how earth seems to be motionless for the observer when, in fact, it is moving – hence our observations can lead to false conclusions. Whilst this has helped humanity to advance greatly by questioning our long held beliefs and testing them, the view such an approach to knowledge holds on nature and the reality is one of striving to unveil its mysteries no matter what the cost is. In short, science is a tool by which humanity claims ownership over nature and a true scientist is a disinterested observer of it. (Santos, 2007)

Another problem that arises from the dominant view is the centrality it places on mathematics. As Santos summarizes, in such a view "to know means to quantify". (Santos, 2007, p. 18) Additionally, for us to know of the world, we need to break it into smaller parts and to classify it. This method we can now see reflected in the "hyperspecialization" of higher education into different, isolated departments, fields and faculties. (Santos, 2007, p. 35)

Regarding the Traditional Ecological Knowledge (TEK), although the term itself has not existed for a long time, the system of knowledge it is seeking to describe is one that has existed for thousands of years and has been "handed across generations of long-resident oral traditional peoples" (Corsiglia & Snively, 2000, p. 11). Due to the fact that 'tradition' is seen as instable and changing with time, a term that is used instead or in addition is IK: Indigenous Knowledge, which is in its broadest and shortest sense means a knowledge or an approach to it in which science is interwoven into every aspect of a culture and lives of people. In short, knowledge influencing all aspects of life and all aspects of life impacting and informing knowledge. Glen Aikenhead, a researcher who has a long history with culturally sensitive education, states that the term 'Indigenous Knowledge' is problematic due to the fact that the word 'knowledge' is in itself embedded in Western or Eurocentric epistemology. He suggests that this word should be replaced with something more adequate such as 'Indigenous way of knowing or coming to know' – a term that would more ably demonstrate the personal, participatory, holistic journey towards gaining wisdom that the Indigenous communities, according to Aikenhead, are engaged in. (Aikenhead & Elliott, 2010; Järvinen, 2017)

It is in their methods of acquiring knowledge that the difference of the knowledge systems is most visible. WMS or MK is often described and defined to carry out its research in a controlled laboratory through observations aiming to produce knowledge that is objective, in this context implying free from distractions caused by environmental or social influences, and universal – never minding the fact that it is, as Burke points out in his book, often being carried out in very practical

and secluded places. (Burke, 2016) (Corsiglia & Snively, 2000) On the other end of the spectrum, TEK is carried out in an interaction with environment and people by gathering information and observation carefully throughout a lifetime or lifetimes, as knowledge has been transmitted from generation to generation orally and often in a metaphorical language. (Järvinen, 2017)

In addition to methods, the goals and aims of these two systems differ. According to Corsiglia and Snively, TEK seeks to find ways to "balan[ce] human needs with environmental requirements", whereas WMS is seen as being based on the notion of humanity claiming dominance or control over nature. (Corsiglia & Snively, 2000, p. 14; Järvinen, 2017)

A more recent trend in the interaction between these different knowledge system is an approach where TEK and IK are seen as contributing useful knowledge and practices to the body of knowledge of MK and WMS. Arun Agrawal offers an example of this in his research on World Bank and efforts in establishing a global data system for gathering IK and TEK (Agrawal, 2002). The problems with this kind of a posture are various. First of all, one can clearly see that in such an approach to TEK and IK regards them as instances to benefit from and to collect from, which might, even if the goal is to strengthen the position of TEK and IK, create new ways of maintaining the status quo of WMS holding monopoly over deciding what can be seen as a valid and scientific knowledge. Corsiglia and Snively agree with this view. They state that although IK and TEK can contribute a lot to the fields of ecology, this approach is not enough. What is needed then, according to them, is a cross-cultural scientific approach where all different knowledge systems are tapped upon equally, especially in the context of education. (Corsiglia & Snively, 2000; Järvinen, 2017)

4.2 Knowledge and power

To further understand why the question of knowledge is of vital importance, it has to be understood in the context of power. This is closely linked to the ideas of critical pedagogy, which, although widely known, deserves an introduction. Critical pedagogy and one its central figures, Paulo Freire, see education as central to change. It is then, as Freire states, political in nature since education is not, neither it cannot be, neutral. Education carries within itself values, ideologies, assumptions that can maintain or recreate a society within which it happens and is affected by the power-relations of that same society. Critical pedagogy sees history as a story of the oppressors and the oppressed – a power struggle between the dominant culture and that which is the minority. In order for education to serve as a tool for liberation from this continuous struggle, Paulo Freire states that it is essential to make the underlying power mechanisms visible and address them. (Freire, 2014)

According to Michael Young, a researcher that looks into the power-relations embedded in different curricula , the assumption of knowledge that educational systems are built on are among some of these power mechanisms that can maintain an unequal power-relation in a society. He adds that is not sufficient to look at who has had the power to define education and the curricula. There is a need to looking at the forms of knowledge integrated in it since "some forms give greater power than others with access to them, irrespective of their origins" (Muller & Young, 2016, p. 139)

To describe shortly and accurately the kind of unequal power-relation that is created when certain sources of knowledge or certain groups of people, due to their background, are 'wronged' as contributors to knowledge, the concept of *epistemic injustice* comes in handy. According to Miranda Fricker (2012), this injustice manifests itself in two ways. There is a hermeneutical and testimonial epistemic injustice, the first describing the scenario in which a person – a subject – lacks the proper language to convey his or her message in the socially intelligible way so that institutions and other instances that the person seeks to address understand it. The second, testimonial injustice, describes the case that correlates with the issues raised in this thesis. This is discriminating a person or people in their capacity to provide credible information and knowledge due to their background. (Fricker, 2013)

Another useful concept to be aware of in the context of knowledge and its relation to power is that of *epistemicide*. Epistemicide is a word used for a scenario in which one system of knowledge is so dominant that it causes the weakening or extinction of other knowledge systems. According to Budd Hall and Rajesh Tandon (2017), epistemicide belongs to the same category with cultural genocide and linguicide all of which they see as the by-products of the spread of Western model of higher education. (Hall & Tandon, 2017)

According to multiple researchers elaborating on the effects of colonization and imperialism on education, the current epistemological landscape – the landscape of knowledge – can be split into a Global North and Global South. (Santos, 2007) According to Boaventura de Santos, the North has for a time had a monopoly on knowledge validation and research. This is also known by the name of knowledge hegemony. Linda Tuhiwai Smith, a Maori researcher from New Zealand, states that research and science rests on the legacy and effects on imperialism and colonization in which experiences, findings and actual artifacts from the 'New World' were brought back to Europe to be analyzed and internalized to the European paradigm. After this internalization the knowledge, with the Western paradigm was then again distributed back to the margins via colonial education, a process that can be seen as assimilation. At the heart of this approach was the

idea of Western and the 'Other', the civilized and the barbarian/uncivilized. (Santos, 2007; Smith, 1999)

4.3 Knowledge and empowerment

In this part of the theoretical framework, I spend a moment elaborating on three discourses around knowledge and its role in empowering communities to take charge of their own development. At the end of this chapter, I form a synthesis of these perspectives, a summary that visualizes what kind of views on knowledge support community-driven development or prevent it.

The three perspectives I have chosen are that of i) decolonizing education and knowledge, ii) the contributions of Paulo Freire and his ideas on a pedagogy of the oppressed and lastly, iii) the perspective offered by FUNDAEC, the founding organization for the PSA programme, offering valuable insight accumulated through centuries of work with community empowerment in Latin America.

4.3.1 Decolonizing knowledge

To reach global justice is not possible without worldwide cognitive and epistemological justice, states Santos. According to her, the world is moving towards a "new emergent paradigm", one based on efforts to bring about this justice, not seeing knowledge and rationality in fixed terms but including various ways of making sense of the world into its holistic framework. (Santos, 2007) In short, this process can be called as a process of decolonization.

To decolonize something means to first acknowledge the effects that colonialism has had on the whole of humanity. As briefly mentioned in the previous chapter, the colonies were not only lands to be claimed, but the people of these territories were also systematically assimilated through education – a practice that was seen as civilizing the uncivilized. (Smith, 1999) According to Hall and Tandon, the current forms of education, primary to tertiary, are built largely on the legacy of such a process and education will continue to pass on this process of westernization if it continues unchecked. (Hall & Tandon, 2017)

Smith states that the critique of this current dominant scientific paradigm emerged from the people that were the subject of assimilation and the objects of rigorous research, study and tests made by scientists for centuries. She adds that the purpose of such research was and is to extend the boundaries of what is known, but unfortunately, most of what has been researched has benefited a very specific population – and clearly not the populations that have been the object of research. (Smith, 1999)

The critique of the dominant paradigm states that the effects of this can be seen to be reflected in education, especially that of academic level. At the core of academic education, states Tuhiwai Smith, is the belief that science and scientific research is a universal and the most effective

method for understanding the world around us. Knowledge in the context of this belief is seen as being fragmented into different disciplines the classification of which was developed to manage all the new knowledge that was being gained through discovering – and colonizing – the new and foreign territories of the globe. (Smith, 1999)

To decolonize education as the means through which knowledge is passed on the rising generations, is to understand that all communities and people have had their way of research. All people have sought out ways to expand the boundaries of knowledge through systemic ways of inquiry. (Smith, 1999) It is also to acknowledge that knowledge is formulated and shared through diverse forms such as numbers, images, texts, but also through music, drama, stories, ceremonies and meditation (Hall & Tandon, 2017) and allow for these forms to contribute their share in the ever-evolving scientific pursuit of mankind.

4.3.2   Knowledge of the oppressed (Freire)

"Any situation in which some men prevent others from engaging in the process of inquiry is one of violence"

Paulo Freire, 1972

When looking deeper into the power-relations in education and particularly the role of knowledge or the view of knowledge it promotes and how this can affect the power-relations in the society, one cannot ignore the thoughts Paulo Freire, an influential Brazilian educator sheds on the topic. Freire is one of the renowned contributors to the field of critical theory and its link to education, but not the only one. (Järvinen, 2017)

According to Freire's view in his book call the Pedagogy of the Oppressed (1970), humanity and its history can be viewed from two perspectives: humanization and dehumanization. The first is a struggle for freedom, whilst the latter is its absence – first is fighting for justice, the latter is forms of injustice prevalent in the society and its structures. Education has an important role to play in this historical setting, since it is contributing to one or the other due to the fact that, according to Freire, education is based on assumptions shaped by past experiences and aims for a goal (Roberts, 2000). Even educators and educational policies emphasizing neutrality or being 'apolitical' have a stand which is to maintain a status quo – hence, education can never be neutral (Järvinen, 2017; Roberts, 2000).

The only way to change a status quo, then, lies within the dehumanized, which Freire calls the 'oppressed'. In his opinion it is the task of the oppressed "to liberate themselves and their oppressors as well" (Freire, 1970, p.44). This is because the oppressors are not able to tackle the

problem without causing a setting where the oppressed become the objects of what Freire calls 14 'false charity' – objects in need of assistance from the oppressors rather than being workers for the transformation of the world, as Freire thinks they ought to be. (Freire, 1970; Järvinen, 2017)

The question that needs answering then, according to Freire, is how can the oppressed take part in the formation of a pedagogy that liberates them and others from dehumanization? The first step to this direction is, according to his theory, for the oppressed to become aware of the oppression and of the fact that they have what it takes to change the situation. As Freire states: "it is only when the oppressed find the oppressor out and become involved in the organized struggle for their liberation that they begin to believe in themselves." (Freire, 1972, p. 40) The formation of this 'organized struggle' that he mentions should on the level of principle lie on the shoulders of the oppressed. Nevertheless, the process can be started by a group of investigators that do not belong to the category of the oppressed but want to work alongside them. (Järvinen, 2017)

Formation of pedagogy of the oppressed: guiding principles

As a starting point, the source of content and the form must reflect the aspirations and the situation of the people it will concern (Freire, 1972, p. 68). This approach will help the educator avoid reinforcing the gap between himself or herself and the people which is formed by a language is not linked and attuned to the lives of the people. "In order to communicate", Freire states, "educator [--] must understand the structural conditions in which the thought and language of the people are dialectically framed" (Freire, 1970, p. 69) – in short, understanding the 'thematic universe' of the local population. (Järvinen, 2017)

To be able to form an educational content and language that incorporates and is based on the thematic universe of the people, a group of investigators need to immerse themselves in the lives of the local community. This process is started off by a meeting with the community where the aims and means of the investigation are discussed and agreed on – in the best and most desirable scenario the group will be able to identify local members to work alongside with in the process of investigation. This helps avoiding the pitfall of shifting from the investigation of the thematic themes present in the lives and aspirations of the local populations to the investigation of the people themselves, which results in regarding them as objects of investigation (Freire, 1972). "The investigation for thematics involves the investigation of the people's thinking – thinking which occurs only in and among men seeking out reality together" (Freire, 1972, p. 80) – in a dialogue. (Järvinen, 2017)

According to Freire, the investigations carried out by the educators need to permeate the whole spectrum of the life of the community, including different practices, places and ways of interacting between diverse members. Also the time and number of visits need to be such as to allow this in-depth analysis to happen. Each visit should be followed by writing a report and sharing the observations with a team of investigators working with and within the same community. As Freire makes sure to state, the inhabitants of the community under study should be present in all these stages – aware of and contributing to the insights being formulated. (Freire, 1972; Järvinen, 2017)

During this stage of the research process, first versions of the educational programme and its content start to form. By now, the content will be consisting of the contradictions and themes that rise from the life of the community – occasionally, the educators might add themes that have not been observed in that particular context to the programme if they identify foundational themes they feel impelled to bring to the discourse to be had with the students. In order to carry out the educational programme that is to be based on the principle of dialogue between the teacher and the students who are engaged in a process where they learn from one another and together attain to a new understanding, the working team needs to find ways to codify the different contradictions found: finding out the best means of introducing the themes for a class. These codifications aim at raising discussions and could be anything from sketches to photographs that are representing situations familiar to the local people. (Freire, 1972; Järvinen, 2017)

After the codification and formation of the didactical materials to assist in the implementation of the programme, a community gathering is arranged again and the work presented and evaluated with the inhabitants. Once this is done, a study group(s) is formed and the thematic themes are introduced and discussed with students – in these conversations the students also introduce themes for the exploration of the group. (Freire, 1972; Järvinen, 2017)

From this quick description of the process leading to a formation of an educational content which, of course, continues to be refined as more experience is being gained by the team working on it, it is possible to point out the main principles that have to do with how educational content in formulated and what is seen as a valid basis of knowledge from which the educational 16 content can be built from: the life and the situation of local populations. This knowledge can only be accessed to, according to Freire, with the local people themselves. (Freire, 1972; Järvinen, 2017)

Freire, later in the same book, writes that this process of identifying thematic themes and forming the educational system on that foundation is one of the first steps toward what he calls 'cultural synthesis'. The educational content through dialogue poses problems, and from this problem-posing action is stemmed and that action is aimed at a cultural transformation. At the heart of this process is knowledge of the culture that Freire describes as alienating or oppressive or dehumanizing – and the knowledge of this culture leads to action towards a culture free of alienation, and this action, empirical experience, leads to a more sophisticated knowledge to be formed. This creates a positive cycle in which "knowledge of the leaders is remade in the empirical knowledge of the people, while the latter is refined by the former". (Freire, 1972, p. 148; Järvinen, 2017) In the praxis towards liberty, new knowledge emerges and a new culture is reformed.

All in all, education can only lead to humanization as long as it is characterized by cooperation, dialogue and leads to the oppressed taking the role of protagonists of a process in which all are seen as subjects to work together with rather than object to be conquered. Only when all are seen as subjects, claims Freire, can a true cooperation exist. And what is more, none of this is possible without the belief that all "people are capable of participating in the pursuit of liberation" (Freire, Pedagogy of the Oppressed, 1972, p. 137). As Freire puts it, due to the fact that "this view of education starts with the conviction that it cannot present its own programme but must search for this programme dialogically with the people, it serves to introduce the pedagogy of the oppressed, in the development of which oppressed must participate" (Freire, 1972, p. 95; Järvinen, 2017).

4.3.3 Knowledge for community development (FUNDAEC)

The reason for analyzing this specific organization is the conceptual framework that FUNDAEC is founded upon. Faced with the confrontation of two opinions on modern and traditional knowledge systems – one stating that perfect solutions and technologies already exist and should be implemented internationally and the other arguing that modern technologies should be rejected and focus should be on traditional technologies – the organization decided to focus on application of science in a way that is in accordance to the needs of the community. And these needs of the community cannot, states one of the founding members of FUNDAEC, Farzam Arbab, be defined in any other criteria but in the participation of the community in the process of

scientific research and in the continuous strengthening of its capability to search and try out solutions to the needs and problems that the community is facing. (Arbab & Stifel, 1982). According to it, the interaction of contemporary scientific discoveries and traditional knowledges is needed for equipping individuals with skills and a capacity to participate in this above mentioned scientific research. Without this participation, FUNDAEC states, "knowledge is easily managed for the benefit of the privileged in the global society" and the role of science in contributing to the creation of a just and balanced social order becomes a 'castle in the air' (FUNDAEC, n.d., par. 12; Järvinen, 2017).

Since its inception, FUNDAEC has hold firmly on the idea that that science is the heritage to all. By this is meant that myriads of cultures and communities have contributed to the field of science and also should benefit from it. The underlying assumption that this is based on is the view that there exists only one science which pierces through and makes use of different knowledge systems the aim of which should be the continuous refinement and transformation of the entirety of knowledge of the humankind. (FUNDAEC, Guiding principles, n.d.) This paradigm makes it possible for the educational systems of both secondary and tertiary levels to join and validate both the mainstream knowledge system and the knowledge of the local population as sources of facts. While holding that these two points of view to knowledge are compatible, they also acknowledge the differences between the 'rationale' of a rural population and that of mainstream, mostly urban-based scientific methods. In FUNDAEC's view and experiences in Colombia mainstream scientific methods have an emphasis on technology and holding to the view that inventions can be applied universally. Local populations have an emphasis on finding specific solutions that have to do with profit, but also sustaining relationships and nature that provides for them. (FUNDAEC, n.d.; Järvinen, 2017)

Educational content

Through years of experience in teaching, it became clear to the professors working with FUNDAEC that an alarming number of university students were at a total loss when being faced with a complex challenge of formulating new knowledge or finding solutions presented by real life circumstances due to being accustomed to well-defined problems and situations posed by their education. Faced with this concern the group of professors sought to create a series of educational material – 75 in total for the secondary level education offered in Spanish (Juma & Yee-Cheong, 2005) – helping youth and young adults reach competence in creating new knowledge and answering the needs stemming from irrespective communities. They decided that this material

needs to be based on the praxis and foundation of service to the community and that the logic of the books needs to build on capacities and knowledge that helps any individual to start a process of such a service gradually growing in ability and efficacy. By having an explicit social purpose of service as the basis of the educational system it is possible to avoid the dichotomy between theory and practice often faced especially in tertiary education since practice and theory need to go hand in hand if one is to contribute to the development of one's own region. (FUNDAEC, n.d.; Järvinen, 2017)

Another element in contemporary education that FUNDAEC sees could lead to issues in applying what is learnt in schools to one's everyday reality is the division of education and knowledge into different disciplines. "Knowledge is one", they state, "and its division into disciplines is nothing more than the result of the finiteness of the human mind" (FUNDAEC, n.d., par. 74). This being said, FUNDAEC agrees on the fact that this classification and division helps in specializing and in strengthening our understanding on complex issues – it becomes problematic however, when such division is seen as an inherent characteristic of knowledge itself. One reaction to tackling this is the trend of integration of different disciplines and subjects in education, which, while acknowledged by FUNDAEC, is conducive to learning but needs to have a purpose. In the materials organized by the NGO concepts and themes are integrated, but they are organized around capabilities that are seen as leading to the capacity of being of service to one's community and humanity at large. (FUNDAEC, 2003) In short, there is no integration just for the sake of integration. (FUNDAEC, n.d.; Järvinen, 2017)

The modality of the programme is through a distant-education system, which can be carried out in any environment or place. The basic requirements for the learning system is a regular coming together of a tutor, students and the materials in any suitable venue, whether it be in a classroom or under a tree. This is a concrete reflection of the fundamental ideas of FUNDAEC, according to which all need to have access to education. (FUNDAEC, n.d.; Järvinen, 2017)

A research on one of FUNDAEC's programs offered in English in Uganda offers an example of what all this looks like in practice. In 2011, a researcher called Emily Lample visited a local NGO in Uganda with the aim of looking more closely at the knowledge sharing activities that happened between the participants of the PSA programme and other community members, with the aim of seeing how this interaction contributes to the development of the community. According to her research, through the study of the programme the students began to draw from the knowledge of their families and found this knowledge relevant to the questions they were facing. With the help of the textbooks, the PSA tutors and other students, the participants of the programme were able to seek out the knowledge of people they were less or not at all familiar with

and hence spread the circle of knowledge-sharing activities even more. From this thesis, it seems that the knowledge-flow was not only from the community to the students, but the students were also able to share relevant insights from the study of the 27 textbooks with the members of the community, enabling contemporary sciences and local knowledge to interact. (Järvinen, 2017; Lample, 2011)

Roles of the educator and learner(s)

The students of the programs offered by FUNDAEC are, from the very beginning of their studies – usually in the adolescent years – introduced and involved to a process of knowledge generation through interaction with their local communities. These interactions happen through different conversations, investigations and projects. (Juma & Yee-Cheong, 2005) Each group of students is guided by a teacher, going by the name of a tutor, whose task is to facilitate a process of learning by guiding the students through the concepts and themes addressed in the materials. Usually a first cadre of tutors, when establishing the programme in any given area, is raised from the pool of people who have finished at least some if not all of the books in the sequence. It is stated clearly in the materials and documents of FUNDAEC that the role of both of the students and the tutors are that of participants in the exploration and investigation of knowledge. (FUNDAEC, 2003; FUNDAEC, n.d.) This does not imply that the tutor does not have a special position due to access to more experience in or knowledge of the field than the students. What FUNDAEC states is that authority is not within the person of the teacher, but authority is that of knowledge. "Moreover", the organization states, "everyone is taught that the authority of so-called scientific knowledge is not absolute either." (FUNDAEC, n.d., par. 70; Järvinen, 2017)

The programme is not to the least interested in educating the students for examinations and tests since it sees these as being over-emphasized by a culture competition in the society. Hence, the task of the tutor is not only to help the students go through the set of texts and pass exams or fill a check-list of required capacities, but help them comprehend the potential they have for participating in the development of their communities. (Järvinen, 2017)

All in all what FUNDAEC can offer is an example of constructing a whole educational programme from the axis of allowing for universal participation in the process of knowledge-generation and application, in comparison and in addition to efforts to how mainstream, science education can integrate local knowledge. (FUNDAEC, Guiding principles, n.d.; Juma & Yee-Cheong, 2005) The organization states, however, that integrating the different views on knowledge whilst being a step towards creating a more just social order, is by no means sufficient by itself.

What is needed is to help students acquire a strong sense of purpose and mission that is the foundation of building the before mentioned just social order. According to FUNDAEC this cannot be achieved through an education that is neglecting human and moral development. Education, for the sake of being scientific, has "separated the discourse of the inner conditions of the individual from every other aspect of importance in life" (Arbab, 1984, pp. 27-28). A task greater than integrating local and global knowledge systems in education, according to the organization, is that of integrating the material and immaterial – that is, moral, spiritual, ethical – aspects of life in it. The task, by no means an easy one to tackle, has been approached by FUNDAEC by integrating spiritual concepts such as the dual moral purpose of a human being to take charge of his or her own development and contribute to the advancement of the whole in the materials and curriculum of the programs of secondary and tertiary level education. In addition to this integration, service and action in one's own community is seen as a sign of moral development. Even with these efforts, the organization strongly feels that there is yet much to be learnt from this territory and does not claim to hold the answers. (Arbab, 1984; FUNDAEC, n.d.; Järvinen, 2017; Skinner et al, 2016)

4.3.4 Synthesis

CATEGORY	A FOR B	A WITH B
Knowledge	possessed by a knowledgeable one, handed to the ignorant one – knowledge something to bank, to gain, to give	knowledge created and re-created in a dialogue that has a problem-posing approach
	consisting of a fixed idea of facts and proved information	communities involved in the generation of a knowledge-base and in its application. Gaining knowledge and applying it is seen as a way to contribute to the development of one's community
	based on a narrow outlook on scientific research, most often Western/Eurocentric	knowledge as an accumulating body and heritage of all, belongs to all
	fragmented and materialistic in the name of being scientific	

In this synthesis, I bring together of the theory of Paulo Freire, decolonizing discourse and the experience and conceptual framework of FUNDAEC with the aim of creating a standard consisting of a set of categories by which to analyze whether an educational programme is based on a view on knowledge that allows and strengthens community-driven development or limits and prevents it.

From the study of the three perspectives, two wide categories seem to stand out. One characterized by the dual setting of oppressor-oppressed or colonized-colonizers and the other a one aiming for empowering the 'oppressed' or 'colonized' to take charge of their own progress. In my synthesis I will call these two categories i) 'A for B' implying that knowledge and education is defined and validated by a certain group of people (A) and handed to the others (B, and ii) 'A with B' implying that there are two (or more) groups that are making a joint effort in the generation and application of knowledge and finding ways to help more people to participate in this process via education. This dual view is not an idea of my own but it is inspired by the ideas of Peter Robert's analysis on Freire's pedagogy in a book called Education, Literacy, and Humanization: Exploring the Work of Paulo Freire (2000). Of course this division into just two opposing categories can be questioned. One could, for example, put the category of a neutral education as a third larger

category, but as Freire states such a genre does not exist since there is no education that is absolutely neutral. (Freire, 1972; Järvinen, 2017)

5 EMPIRICAL FRAMEWORK

METHODOLOGY	DATA	RESEARCH SUBJECTS
Phenomenography	7 theme interviews	8 participants with different exposure to the PSA programme*

* there were two participants in one of the interviews

The goal of my research is to bring to the surface some underlying assumptions held of knowledge and the sources for its acquisition. Since in doing this I am identifying different ways we as humans perceive a phenomenon, in this case that of knowledge, my approach and method of research will follow the principles of phenomenography. As perhaps already evident, this research will take place in the field of qualitative research since its aim is not to generalize different perceptions people hold of knowledge nor to state what kind of perspectives we *ought* to have, but rather to raise awareness of the qualitatively diverse ways this phenomenon is understood by a group of people studying a same educational programme. (Uljens, 1996)

The assumptions this research is based on correlate with the views of Ference Marton, the founder of phenomenography. (Kakkori & Huttunen, 2014) Marton states that phenomena and the world exist regardless of how it is observed and that no one mind can claim to have reached the full understanding of what constitutes that world. It is through studying the qualitatively different ways in which the world and a given phenomenon is perceived that we can, however, understand more of the world around us. In short, this research is based on the view that to understand something in depth it is not sufficient to increase our own understanding of it *per se*, but also to explore the understanding of others of it. Avoiding the points of view of extreme relativism or stating that each person forms their own world or worlds, this study reflects the idea that there is a reality that we are all part of, existing whether we are aware of it or not and that grasping it is relative to our capacity of perceiving and understanding it – our understanding is not the reality in itself. (Marton & Booth, 1997)

Furthermore, this research sees the observer, the human being, as not being separate from the world and the phenomenon he or she observes. The understanding we form of the world is through our interaction with it, interaction which is not only haphazard but intentional. A human being is able, as phenomenographers state, to look around the world and ponder on it intentionally, constructing and deconstructing ideas of it in a never ending effort to formulate an increasingly accurate image of the reality in which we live. (Marton & Booth, 1997)

Regarding the role of the researcher, it is stated by Leena Syrjälä and her colleagues (1994) that all researchers bring into the equation their own perspectives and ideologies which will

inevitably have an effect on the research itself. What is required from him or her, is openness about those perspectives, reflection on their possible influences on the research process and an effort to distance one's self from one's own experiences and seek to understand the logic behind the perspectives of the other. (Marton & Booth, 1997; Syrjälä, Ahonen, Syrjänen & Saari, 1994)

In the light of this idea, it is helpful to shortly state my own understanding of the phenomenon at the centre of this research so that it becomes evident for the reader whether my own perspective has been affecting it. Knowledge, in my current view is much like an ever-advancing and developing pool of information, facts, knowhow that have been generated through experience, experiments, observations, conclusions by all of humanity throughout history. My views resonate a lot with the views of FUNDAEC in the fact that knowledge belongs to all and it is the heritage of all. (Arbab, 1984)

5.1 Phenomenography as an Approach and Theory

Phenomenography is both a research approach and a theory stemming from research projects carried out by a group of students from the University of Göteborg, Sweden, back in 70s. Part of these endeavours and elaborating more on this emerging approach Ference Marton, a professor of the University of Göteborg, is regarded as one of the founders of phenomenography. (Kakkori & Huttunen 2014) The etymology of the word phenomenography can be found in the combination of two Greek words, *fainomen* (phenomenon) and *graphein* (to desrcibe or measure). (Uljens, 1989) and although similar in name to another approach to qualitative research, phenomenology, which focuses on how the world is experienced, the two approaches are not directly related. (Kakkori & Huttunen, 2014) In its search for how we interpret the world, it can be stated that phenomenography and hermeneutics share a lot in common. Phenomenography focusing on how the world is interpreted or understood, hermeneutics on how communication and different texts are being interpreted and understood. (Kakkori & Huttunen, 2014)

While identifying the different ways a world is perceived, phenomenography does not attempt to make claims of generalizing different perceptions or offering insights into how the world ought to the perceived nor on how the world actually is. It focuses on the mind of a human being, analyzing the lens through which he or she sees a phenomenon. (Marton, 1988) Every different understanding constitutes a glimpse into the phenomenon, another perspective into what the phenomenon could be, but does not in itself constitute the reality of it. (Marton & Booth, 1997) Marton states that there are two levels of perspective that we hold of the world and phenomena around us: i) looking at how the world is and coming up with our own assumptions of it, ii) looking

at how the world is perceived by other people. The first is called a first-order perspective and the latter second-order perspective and it is the second kind that phenomenography focuses on. (Kakkori & Huttunen 2014)

The variations between these different second-order perspectives are not to be seen as being affected so much by the age of an individual, but more by the experiences and context he or she comes from or currently is in. These perspectives or conceptualizations held by individuals should not be confused with mere opinions, rather they reflect the internalized assumptions through which we make sense of the world around us. These conceptualizations according to phenomenographers do change, however, and have a sense of fluidity since they are constructed and reconstructed by the individuals themselves. (Syrjälä, Ahonen, Syrjäläinen & Saari, 1994)

5.2 Phenomenography as a Methodology

Phenomenography does not have a set method for carrying out a research. Since it seeks to discover the ways in which minds grasp the world around them, the most common method often used is a theme interview organized around open-ended questions around the given phenomenon. Other methods such as observations, collecting narratives and the use of questionnaires are also used – even the application of quantitative data collection and analysis methods are occasionally utilized to support the research if need be. (Kakkori & Huttunen 2014)

Michael Uljens breaks down the most commonly used steps in the phenomenographical research approach as follows: 1) identifying and defining the phenomenon to be studied, 2) defining one or several perspectives to the phenomenon, 3) carrying out interviews on the phenomenon, 3) transcribing the interviews, 4) analyzing the transcribed texts and 5) forming description categories out of the findings. (Järvinen & Järvinen, 1996) It can be stated that phenomenography is inductive in its approach since it starts from a detail – a defined subject – and moves on to illustrate a wide range of ways of interpreting it. (Häkkinen, 1996) This happens by a formation of an *outcome space* that aims at offering an image of all the qualitatively differing ways of perceiving the phenomenon in question within a selected group of people. (Marton, 1981) This will be demonstrated further in the part describing the data analysis of my research.

Regarding the first few steps delineated by Uljens that talk of defining few perspectives to a phenomenon that is the object of research, it has to be borne in mind that fundamentally phenomenography is a data-based approach. This means that although it is recommended that the research has spent time on exploring the phenomenon themselves by referring to relevant literature for example, this pre-knowledge should not be applied as a way to categorize and analyze the data.

Rather the categories need to stem from the data itself from which the researcher can possibly see if there are some parallels to the theory she or he is acquainted with. (Huusko & Paloniemi, 2006)

5.3 Participants and Data

As Marton states, understanding something implies being aware of it, being exposed to it. As the goal of my research is to bring to the surface the underlying assumptions that people hold of knowledge, I wanted to search out for individuals that have had some exposure to thinking about it more in depth. This is why I focused on people that had been interacting with the programmes of FUNDAEC, SAT or PSA. My assumption was that they would have come across with the concept of knowledge relatively often, providing me with research subjects with a heightened awareness on it and an ability to, perhaps, dwell on it on a deeper level. (Marton, 1994)

After searching for different possibilities of NGO's and Foundations applying the programmes, I came across one that was located in the rural areas of Uganda. What I learnt after being in contact with the people working in the foundation was that in Uganda the programme was offered in English and that it had already been there for almost a decade. For these reasons, I chose it as a place of the visit which took place in May 2018.

When I arrived to Uganda and to the learning centre in Jinja where I had the chance to meet with two PSA study groups and their facilitators, I decided to select a few interviewees from each study group and from amongst the facilitators. This allowed me to have a sample that would help me to understand more of how both people that have been working with the programme view knowledge, but also see how such things might be perceived in the beginning – knowing that these understanding do not necessarily just reflect the exposure to the progamme, but also just participants' personal perspectives on the matter.

In the end, I had eight participants that I interviewed alone, except for one case in which two participants wished to be interviewed together. Four of the participants had just started their studies with the PSA, two were in the facilitating role, one was serving as a PSA tutor in her neighbourhood, and another one was taking charge of the agricultural endeavours of the PSA programme. Five of the participants were female, three of them male.

5.4 Interview process

As stated earlier, theme interviews are the most commonly used ways of gathering data for a phenomenographical research. In the beginning of my work, I planned on using a combination

of an interview and a questionnaire that the participants would fill, but later decided to rather identify three main questions and organize an interview around them. In their article *Fenomenografia laadullisena tutkimussuuntauksena kasvatustieteissä* (2006), Huusko and Paloniemi talk about how the interview questions have to be tailored to bring out as many perspectives as possible.

Before my actual interviews in Uganda, I had the chance of exploring the topic with one of my acquaintances. While Marton states that interview questions should be "as open-ended as possible", from that experience I realized that simply asking a person to share their understanding of what knowledge is and the sources for its acquisition are so open-ended to the extent that they become paralyzing. (Marton, 1988) With that realization, I formulated the actual interviews as follows:

1) First, I spent a moment in describing the purpose of the interview and stating that I am interested in learning more about how people understand this idea of knowledge and how it is gained. I mentioned that there are three questions to guide the interview and described the interview as a conversation on these questions.

2) The first question started from something more specific and was usually asked in two different ways: "what are the different sources of knowledge or, in other words, where do we get knowledge from?"

3) The second one was there for me to understand more of what they are saying and help in transitioning to the last question that is (even) more philosophical in nature: "would you say that knowledge is important? Why or why not?"

4) When presenting the last question I usually summarized the conversation so far and said something in the lines of "so far we have been talking about the sources of knowledge and how important it is, but now I would like to know *what* you think knowledge is?"

In addition to the actual questions I decided to use, one needs to pay attention to the atmosphere formed around the interview. While I did not have a lot of control over the actual venue of the interviews, I tried to make sure that the interviews happened in a location where the participants would feel like they could answer to my questions freely. For example, some of them took place in the room of the participant or during a break when all the others were absent. Occasionally, due to a lack of a space, I needed to carry out the interview in the same place where there were other people present, in which case we sought a spot little bit further from the crowd. This might have affected the freedom in which they expressed their ideas. Since the topic of my research had a clear link to what had been studied during the day, however, these interviews felt

like a natural extension to the conversations in the study group and did not force the participants to share any personal or delicate details of their own lives.

To ensure that the participants felt relaxed and free to share what it was that came to their minds, I made an effort to establish trust by stating the goal and my intention for the interview very openly and honestly and making sure the interviewed understands the confidentiality that I will abide to. During the interview, I aimed at allowing for silence and pauses so that the interviewee had the time to think and formulate ideas. There was no rush in proceeding to the following question and I had no specific time limit set for the interview. The average length of a single interview ended up being around 20 minutes.

In terms of my own attitude, I made the effort to listen carefully and ask questions to clarify the points made by the participant and to encourage them to share more of their thoughts. At times, I feel I might have been too enthusiastic in my listening, however, nodding my head to the answers and encouraging the participants with words of affirmation such as "exactly" and "yeah" throughout the interview. In retrospect, I hope that my enthusiasm did not encourage and welcome only certain kind of ideas.

6 ANALYSIS

As Marton states, phenomenography can be seen as a tool for 'mapping' all the multiple ways in which a given phenomenon is apprehended. In his works, Marton describes the creation of description categories and outcome space as the means to produce such a mapping. Additionally, outcome space and the description categories it consist of are seen as the last phase of the process of analysis in phenomenography and as the actual research outcome. (Marton, 1988)

In this part of the thesis, I describe the steps of analysis I took with the data I collected from the interviews. Before doing that in detail, I will give an overall image of the process of the data analysis and the way I will present the final phase, the outcome space.

There are not a set way of carrying out the data analysis for phenomenography. That being said, Anneli Niikko (2003), a professor at the University of Eastern Finland, has broken down the steps of phenomenographical analysis into four distinct phases that proved very useful for my own research. In this thesis, I have decided to follow her steps of data analysis in the following manner:

Phase I) Reading through the data carefully and several times and identifying expressions relative to the research question, keeping the focus on the expressions themselves and not on who made them since the same individual might have several ways of describing the same phenomenon. In this stage it was useful to form a summary of the expressions to highlight their main points

Phase II) Grouping the expressions according to the initial categories stemming out from the expressions and their summaries

Phase III) Forming categories of description from the initial groupings. Each category should cover one distinct perspective on the phenomenon, the researcher should make sure that each expression has a category they belong to and that there would not be overlapping of different categories

Phase IV) Forming an outcome space in which these categories are put into an order horizontally, vertically or hierarchically. (Niikko, 2003)

As stated in the last phase, the outcome space can be of several kinds: horizontal, vertical or hierarchical. (Häkkinen, 1996; Niikko, 2003; Uljens, 1989) Anneli Niikko describes these types as follows:

In the horizontal system, the different description categories comprising the outcome space are presented in an equal manner, showing the qualitatively different ways in which the phenomenon has been described.

In the vertical system these categories are organized around a specific order to show which description has been the most common or otherwise more important.

In the last kind, the hierarchical system of categorization, the categories are presented 'unequally', some as more advanced as others due to being more elaborate or more closely linked to the theoretical framing of the research. (Niikko, 2003)

Since in this research the aim is to describe all the different ways in which the PSA participants perceive knowledge and the sources of it, it makes most sense to present the outcome space in a horizontal manner. This will state that all the different perceptions are equally valid – regardless of the amount of times they were brought up and regardless of the clarity in which they were described.

6.1   Phase I of Analysis

As a preliminary step to the analysis, I listened to the interviews again and made the choice of transcribing the parts of the interviews linked directly to the questions we explored together with the participants and left out material that was linked to their experience and background with the PSA programme. After having transcribed all the interviews, I read the transcribed text with the lens of my research questions to identify relevant expressions. Having picked them, I transferred them to another document, grouping expressions with a similar content close together in a table with several rows. To keep a track on whose expression was quoted, I numbered each as follows, the number referring to a certain participant:

"What you know is what you (are) purposefully thinking and acting on in a personal space" #5

Marton points out that the meaning behind the expressions should be realized by going back to the context in which it was made. (1988) In this light my familiarity with the participants outside the interview settings and the reality in which they made the statements has proved useful. This helped me to hear their thoughts on the themes of my thesis in other, more informal settings and additionally in getting to understand their specific way of speaking in English, which despite being an official language of Uganda, is not the mother tongue to the participants.

In relation to what was mentioned above, the expressions I chose to excerpt from the data are made of sentences, but occasionally consist of an entire paragraph. I made these choices in the light of my knowledge of the participants in question and that they had a habit of sharing different examples in trying to explain their point rather than just 'cutting to the chase'. In choosing where

to cut the excerpt, I chose to rely on where the participant themselves finished their elaboration on a topic. Here is an example of one of such excerpts:

"I think knowledge is life to me because in like in Africa most people are not knowledgeable like when you go back to the rural settings people are illiterate so illiteracy is just a lack of knowledge. They don't know how to go about their problems they don't go to church they don't go to school so they don't know about God they have no knowledge how to calculate, how to take their kids to hospital because they are not knowledgeable. So they are poor in mind and so end up being poor. They die because they are not knowledgeable someone does not know that I'm supposed to take my child to in [--] so that they are not affected or killed by measles, they stay back don't know anything about measles so I think being knowledgeable is like having knowledge from God or from the Bible or other Holy Writings is very important because it makes you know the purpose of your creation, what God expects of you and then this other knowledge we got from schools and these other institutions, books and the media, makes us also know what we are expected of and you know that instead of sticking to the traditional ways of farming for example you know that if I apply manure to this soil it get more so when you know that when you have veggie crops definitely you have higher yields and maybe you won't be affected by any famine or any hunger so I think when you don't have knowledge you're more or less dead without knowledge life can be very very very miserable and most of all people who die at the rural areas normally die because they lack knowledge." #3

In order to make the second step of the analysis more straightforward, I created a summary for each expression.

"KNOWLEDGE IS (A/AN)…"	
Summary	**Expression**
purposeful thought and action	*"What you know is what you (are) purposefully thinking and acting on in a personal space"* #5

As stated before, I have two different sets of materials – one under the question of sources of knowledge, one on the understanding of the concept of knowledge itself. As one might assume, the expressions in these two different pools overlap. In some cases I decided to include an expression in both categories since it elaborated on both of the questions. Here is an example of an answer to the question of sources of knowledge that sheds more light on the nature of knowledge itself:

"Through experience that knowledge is also divided, there's a theoretical knowledge and and then there's a practical knowledge so theoretical knowledge it probably would entail maybe things that you are just aware of that can place them practically. And then there are like, y'know, just awareness is this loud knowledge that is… but then there's also this knowledge of putting it into practise, putting something into practise yeah – application so the experience is really from… the knowledge is generated then it's applied" #6

6.2 Phase II of Analysis

As the different stages separated by Niikko flow together and do not always happen in a certain sequence but overlap, it was already possible to see different expressions resonate with one another in the first stage of analysis. In this phase of analysis, I took these observations further and organized the samples according to first initial categories.

Do to this, I colour-coded different expressions and their summaries that to my understanding were touching on a similar theme. In the case of some, this grouping was straightforward, while there were other expressions that while touching upon a similar theme with others, offered such a distinct perspective to the matter that I decided to group them under an initial category of their own.

"KNOWLEDGE IS (A/AN)…"			
Description category	**Initial category**	**Summary**	**Expression**
ABILITY	an ability to think and act purpose-fully	followed with actions, bears fruit	*"When I say that I know it's that I'm now able to generate, to apply and to disseminate this so-called knowledge I am having. Then I can consider that I'm knowledgeable because I'm able to do the three things – knowledge is something resourceful and when someone gets knowledge it's expected to have something that shows that she is knowledgeable, but information just say it is upon the recipient to decide which information to take because information is somehow subjective. You may want this information when I actually don't want such – but knowledge has to be followed with actions and will give forth fruits." #1*

		ability to understand and apply in practice	*"To me I think knowledge is the ability to understand something and put it into practise, for example we go to school to learn we learn many things like the things around us in the environment how to use them for our prosperity and to me I think that is knowledge. We are provided with hospitals, if you fall sick you have to go to the hospital and seek for medication, that is knowledge. Knowledge on how to use the environment which is around you as to how to keep the environment clean that is the knowledge we get from schools and other medias. Knowledge is the ability to understand something and put it into practise."* #3
		something to apply, to use	*"You share it with the rest of the people, but I have said according to me it goes beyond just attaining your interest, you look at how you apply that and how much skill are you attaining from that knowledge from that, from the knowledge you have attained. What attitudes you are going to… In what way are you going to use it, is it going to be in a way that is going to harm people or be helpful to humanity."* #7
		purposeful thought and action	*"What you know is what you (are) purposefully thinking and acting on in a personal space"* #5
MEANS	means for individual develop-ment	means to an end	*"Of course here it first comes as a means to an end. Most of us go to school so that you can come out, get good jobs and all that, then maybe as time goes by in case you're lucky you encounter these Holy Writings it changes your perspective about the whole knowledge thing time comes when you learn that after getting all my engineering knowledge I am to serve the people and you try to deviate from only making money yeah but it takes time you can't just get it so maybe at first it is a means to an end and maybe after some time in case you're lucky to get the holy Writings then comes more of a tool of serving people."* #4

Sometimes there were two different ideas mentioned in the same expression in which case I decided to quote the expression twice with a different summary and later, an initial category. As both Uljens and Marton mention, the researcher is seeking a diversity of thought both amongst individuals and within an individual. (Marton, 1984; Uljens, 1996) In the following expression, the participant offered an example of how knowledge can at first be seen as a means to get what one wants, but with an added knowledge, knowledge turns into a tool for serving others.

"KNOWLEDGE IS (A/AN)…"			
Description Category	Initial category	Summary	Expression
MEANS	a means for something	means to an end	*"Of course here it first comes as a means to an end. Most of us go to school so that you can come out, get good jobs and all that, then maybe as time goes by in case you're lucky you encounter these Holy Writings it changes your perspective about the whole knowledge thing time comes when you learn that after getting all my engineering knowledge I am to serve the people and you try to deviate from only making money yeah but it takes time you can't just get it so maybe at first it is a means to an end and maybe after some time in case you're lucky to get the holy Writings then comes more of a tool of serving people." #4*
		tool for service	*"Of course here it first comes as a means to an end. Most of us go to school so that you can come out, get good jobs and all that, then maybe as time goes by in case you're lucky you encounter these Holy Writings it changes your perspective about the whole knowledge thing time comes when you learn that after getting all my engineering knowledge I am to serve the people and you try to deviate from only making money yeah but it takes time you can't just get it so maybe at first it is a means to an end and maybe after some time in case you're lucky to get the holy Writings then comes more of a tool of serving people." #4*

6.3 Phase III of Analysis

In this part of the analysis, I focused my attention to first categories I had identified, by working on them further on a separate table created for the purpose. While keeping the original expressions in mind, I tried to see what unique perspectives to the phenomenon each initial category offered and see whether the perspectives related to one another. A Niikko states, it is important that the categories do represent their own specific perspective and that no over-lapping occurs. (Niikko, 2003) When there was an over-lapping, I formed a larger category under which both initial categories could be grouped in.

"KNOWLEDGE IS (A/AN)…"			
Description Category	**Initial category**	**Summary**	**Expression**
DISCOVERED	needs to be discovered	already exists	*"I know is that knowledge already exists but then you find that because people have taken the initiative to discover more things they are able to share" #7*
GATHERED	acquired information and facts	gathered information	*"Of course knowledge is the that information that you acquire from various groups of people, that you acquire from books, that you acquire from movies, acquire from church, school that is the information that you acquire from individuals that you can use for your wellbeing. That is how I understand knowledge." #2*
		gathered facts	*"Maybe it could be a range of facts gathered together through various methodologies, either through observations, through studies, through experiments, through direct involvement" #7*

6.4 Phase IV of Analysis

In this part of the analysis I looked at the largest categories I identified in the previous phase – categories that describe the different descriptions of the phenomenon – and formed the largest categories* that form the last stage of the phenomenographical research, the outcome space.

				"KNOWLEDGE IS (A/AN)…"
	Description Category	**Initial category**	**Summary**	**Expression**
*GATHERED	DISCOVERED	needs to be discovered	already exists	*"I know is that knowledge already exists but then you find that because people have taken the initiative to discover more things they are able to share" #7*
	GATHERED	acquired information and facts	gathered information	*"Of course knowledge is the that information that you acquire from various groups of people, that you acquire from books, that you acquire from movies, acquire from church, school that is the information that you acquire from individuals that you can use for your wellbeing. That is how I understand knowledge." #2*
			gathered facts	*"Maybe it could be a range of facts gathered together through various methodologies, either through observations, through studies, through experiments, through direct involvement" #7*

In this example you can see all the different phases of the analysis. Starting from the right you can see the selected expression, a summary of its main argument followed with the first initial category arising from the summary in comparison to other summaries, and then the description category that arises when the initial categories are compared to one another and to the original statements. The largest categories from which the outcome space consists of were formed from relating the description categories to one another in an effort to see whether there are some that could go together and fall under a common title.

For most, I created a more concise title to include in an outcome space that should reflect the overall differences in ways of perceiving the phenomenon of knowledge and its sources. While doing this, I tried to make sure to formulate titles that would address the core of what I grasped from the expression of the participant.

Overall, going through these phases has not been linear, but rather a process of continuous reflection, where I felt the need to go back to the very first phase couple of times to make sure that the categories of description actually reflected what was being said by the participants. As Marton summarizes, it has been a "continual sorting and re-sorting of data" where "[d]efinitions for categories are tested against the data, adjusted, retested, and adjusted again. There is, however, a decreasing rate of change and eventually the whole system of meanings is stabilized." (Marton 1988, p. 155)

7 FINDINGS

My two research questions were both centered on the concept of knowledge and how it is understood. As stated in the previous chapter, the research outcomes – in this case, outcome spaces – can presented in a hierarchical, vertical or horizontal order. (Gröhn 1989; Uljens 1989; Häkkinen 1996). In presenting the two outcome spaces of this research, I chose to stick to the horizontal categories of description that presents the different categories as equally important, and only different in content. (Niikko, 2003) This choice has to do with the nature of my research questions that are on the different ways of perceiving a phenomenon, not on how a phenomenon is most commonly viewed.

In relation to the outcome spaces themselves, Marton and Booth state that although the wide description categories are per se reflecting the qualitatively different ways in which the phenomenon has been described and as themselves can be regarded as the research results, an outcome space offers a visual image of the results and allows for the reader to compare the variations with much more ease. Because of this, the following chapters present the two outcome spaces and continue then elaborating on each of the categories of description that make up the spaces. (Marton & Booth, 1997) This I will do first by summarizing the meaning of the category after which I present the different perspectives together with excerpts from the data to support the creation of such a category.

Although my conversations with the participants started on exploring the question of where do we get knowledge from, for the logical flow of this thesis I chose to start from presenting the understandings of knowledge itself, after which I proceed to present the ideas on its sources.

7.1 Defining Knowledge

In the course of the interview and through the several stages of analysis focusing on themes and categories arising from the data, I were able to identify seven different ways that the concept of knowledge is defined by the group of participants of the PSA programme:

1) ability, 2) body, 3) defining us, 4) gathered, 5) limitless, 6) means, 7) negative.

"Knowledge is (a/an)…"						
ABILITY	BODY	DEFINING US	GATHERED	LIMITLESS	MEANS	NEGATIVE

ABILITY	
to understand	to apply

In this perspective, the participants connected knowledge with the ability to understand something in depth and being able to apply it.

> *"When I say that I know it's that I'm now able to generate, to apply and to disseminate this so-called knowledge I am having. Then I can consider that I'm knowledgeable because I'm able to do the three things – knowledge is something resourceful and when someone gets knowledge it's expected to have something that shows that she is knowledgeable, but information just say it is upon the recipient to decide which information to take because information is somehow subjective. You may want this information when I actually don't want such – but knowledge has to be followed with actions and will give forth fruits." #1*

> *"To me I think knowledge is the ability to understand something and put it into practise, for example we go to school to learn we learn many things like the things around us in the environment how to use them for our prosperity and to me I think that is knowledge. We are provided with hospitals, if you fall sick you have to go to the hospital and seek for medication – that is knowledge. Knowledge on how to use the environment, which is around you as to how to keep the environment clean that is the knowledge we get from schools and other medias. Knowledge is the ability to understand something and put it into practise." #3*

> *"What you know is what you (are) purposefully thinking and acting on in a personal space" #5*

As can be seen, in this conception knowledge is something that goes beyond just "attaining your interest". It is "something resourceful" and "has to be followed with actions and (--) give forth fruits". Knowledge is differentiated from mere information by its practical outcome and increase in abilities. It is understanding the reality around us and how to use or live in it in a purposeful way that leads to prosperity.

Knowledge as a Body

BODY
several bodies of knowledge

Seeing knowledge as a body is a definition that one of the participants brought up on two different occasions.

> *"We can come up with a new body of knowledge because both things are good but no single body of knowledge is perfect so as you incorporate them you look at this side and this side then you collect all the good and make up one good body of knowledge" #1*

> *"They are rich bodies of knowledge" #1*

According to this view, it seems that knowledge can be seen as being comprised of different bodies. There are not different knowledges, but various bodies of knowledge created by men. What is more, it looks like each individual comes up with their own body of knowledge that they build by collecting from other bodies of knowledge or from people that are seen as possessing "rich bodies of knowledge".

Defining Us

DEFINING US
what we know shapes us

According to this view, knowledge is something that shapes us by affecting our views and perception.

> *"If you're getting good knowledge so the knowledge will determine what you are doing or it will also determine the kind of person you are. For example, if you are feeding in your mind very very useful information we are sure that you are going to produce useful ideas, going to produce important ideas as compared to when*

you're feeding your mind garbage, useless information in your mind see how you are going to be having very wrong ideas you're going to be behaving in a very lousy way so if you feed in your mind bad information, you produce wicked ideas so the type of information you feed in your mind is directly proportional to the amount of ideas that you will produce" #2

In this context, knowledge is seen as something that you "feed your mind with", and the kind of person you are or become is directly linked to what kind of knowledge you have fed your mind with. This perspective does not define knowledge *per se*, but rather describes its effect on us. That being said, one can see that knowledge is perceived as something that has an amount or producing a certain amount of effects, since the participant refers to the amount of ideas one produces as having a relationship with the type of information (or knowledge) one has internalized.

Gathered

GATHERED	
exists everywhere, needs to be discovered	needs to be gathered by different means

This category is for the statements that view knowledge as something existing 'out there', needing to be discovered and gathered by various methods.

> *"I know is that knowledge already exists but then you find that because people have taken the initiative to discover more things they are able to share"* #7

Although short, these statements defines knowledge in its own particular way. Knowledge is an entity having a nature of existing 'out there', waiting to be discovered. This view seems to assume that it is not necessarily just a property of the human being, but has an existence of its own.

> *"Of course knowledge is the that information that you acquire from various groups of people, that you acquire from books, that you acquire from movies, acquire from church, school that is the information that you acquire from individuals that you can use for your wellbeing. That is how I understand knowledge."* #2

"Maybe it could be a range of facts gathered together through various methodologies, either through observations, through studies, through experiments, through direct involvement" #7

Linked to the idea of knowledge existing out there, these statements define it as a range of facts or information that are everywhere, but need to be sought out by an individual by various methods. What makes these statements differ from the first one is the fact that they limit knowledge as being found in man-made materials or institutions.

Limitless

LIMITLESS	
Endless	Ever-evolving

According to this perspective, knowledge is something that has no limits. We can never claim to know something completely, nor does knowledge itself stop evolving.

"I know we cannot claim to be having knowledge, because actually what we know is very very little about what we don't know and some of the things that I have studied they say that people who are studying so much may realize the more you continue to know the more you realize that you don't know so knowledge is endless and we don't stop acquiring knowledge that explains why we continue learning throughout life we don't stop learning especially maybe after university or after... we continue learning throughout life." #2

"It's hard to have the complete knowledge of something because people are always writing books about certain ideas, concepts, things, and it's so hard to exhaust all the books" #4

"One thing I know is that it is ever-evolving because the world is in its progressive stages, like right now you look at basic concepts we are told that the world is in a stage of turmoil, peril and opportunities we are living in those moments of adolescence those chaotic situations, sometimes you don't even know why you are doing certain things – it's because of knowledge and that understanding that things will definitely not be the same tomorrow and the way they are today, it's because of knowledge." #7

Endless. As can be seen from the excerpts above, this view sees knowledge as something that one cannot stop acquiring, it is in essence inexhaustible. There is always more to know out there.

Ever-evolving. Linked with the idea above, there is an understanding of knowledge as something that also evolves and progresses. It is not only something to acquire, but the knowledge itself goes through stages in development tied to the stages the whole of humanity evolves through.

Means

MEANS		
for individual development	for collective development	to live, survive

In this category – which includes the majority of the expressions from each of the eight participants – knowledge is seen as a tool for to achieve something.

> *"Knowledge is very important and knowledge is something that drives development an uh knowledge I'd say is… without knowledge there wouldn't be any development anywhere in the world nor in here" #6*

> *"Maybe it helps us to prosper. Like the professors we have they help us to explore new things new ideas like the scientists that we have it is the knowledge they have that help us to discover new things like medical programs as in such is that knowledge that helps us to prosper." #3*

For individual development. In line with this specific perspective into knowledge being as a means, knowledge is something that serves the individual in managing one's family, one's business and the environment in which one lives. Combined with the knowledge received from Holy Writings, as stated by one of the participants, knowledge changes from just being means to these individualistic ends into a tool for serving others.

> *"Of course here it first comes as a means to an end. Most of us go to school so that you can come out, get good jobs and all that, then maybe as time goes by in case you're lucky you encounter these Holy Writings it changes your perspective about the whole knowledge thing time comes when you learn that after getting all my engineering knowledge I am to serve the people and you try to deviate from only making money yeah but*

it takes time you can't just get it so maybe at first it is a means to an end and maybe after some time in case you're lucky to get the holy Writings then comes more of a tool of serving people." #4

"You can face the challenges – there are very many problems we face in our environment, but simply because we have knowledge we can face them we don't barely run away from the problems that we have. We may be having a family, in the family there are some few problems that you can iron out with your way with your family with your children but at the same time because you don't have knowledge of those issues you decide to run away – so lack of knowledge can make you fail to be with your family, so if you have knowledge that means that you are able to manage your homes. Business, if you're a businessman you have a lot of knowledge, you'll be able to know where you're going to sell your products, two you know where to get the products, you know where to sell them you'll be having that vast information concerning those who are going to consume your products so that means that you have to get actually the needs the services they need the right services that you are going to produce to them, you are going to give them simply because you have knowledge concerning them." #2

For collective development. In keeping with this view, knowledge is not only as means for individual growth, but even more for collective development. It is that something that can transform lives of many people by offering us what is needed to make new discoveries. It brings prosperity, but not only for some, but prosperity that caters for all.

"I think if it's used rightly, knowledge can transform everyone's life and development can really... Development I mean development that caters to everyone. And not just a few people but yeah, it is development that helps everyone come out of their situation." #6

To live, to survive. In one specific view, knowledge was linked closely with life. According to it, people lead a life of absolute misery due to a lack of access to knowledge that would allow them to solve their problems, to know how to take care of themselves and their children – "they die because they are not knowledgeable", the participant states.

"I think when you don't have knowledge you're more or less dead without knowledge life can be very very very miserable and most of all people who die at the rural areas normally die because they lack knowledge." #3

"I think knowledge is life to me" #3

To summarize, knowledge is what *ascertains* the survival of human beings, *brings* the development of whole humanity, *helps* us to prosper and *provides* the individual with the know-how needed to take charge of their own lives.

Negative

NEGATIVE	
Harmful	Weakened

This category of description sees knowledge as something not innately positive, but carrying with it dangers and weaknesses.

> *"So sometimes too much knowledge is not good, and even in terms of like the example there are some people who make everything so complex so when things are basically straightforward, they don't accept – even if you try to explain to reach an understanding, someone doesn't understand just because he knows a lot of information, maybe there is something basic he doesn't know not accept." #4*

> *"Knowledge it also disturbs you, you've seen professors who don't cut their hair, yeah, so sometimes too much knowledge is also not right just know something but if you really dig so much it ends up disturbing you that is with knowledge." #4*

> *"Not every knowledge is useful so when you're the recipient of course I can say that you have to filter it what you've received to recognize and see the content and in what instance is this applicable" #1*

Harmful. In these statements, it is evident that knowledge is seen as something that can lead to disturbing people and in forgetting the need to take care of the other aspects of their lives, such as basic hygiene. Additionally, an overload of knowledge might cause an individual to 'making everything too complex', which in turn might lead to them accepting new knowledge and information that is straightforward and simple.

Another perspective in relation to this category is that not all knowledge 'out there' is useful. The usefulness of knowledge is something to be assessed by an individual according to the context in which the knowledge would be applied.

Weakened. This perspective is based on the notion that knowledge at its best can be a fuel for development for all, but that it has been weakened by several reasons:

> *"Knowledge is just in the hands of very few, not everyone has access to that knowledge so if that is reversed, then knowledge is very beneficial." #6*

> *"You find that there's no relationship between the different areas of maybe subjects so when someone is studying science, it's in isolation with mathematics... it's in isolation with agriculture. It's all fragmented so that's the challenge about knowledge right now" #6*

> *"Disregarding the past knowledge, the ancient knowledge is another weakness, so people tend to ignore the past and they think that it's in the past but if you look deeply, the knowledge we now have has been built through past knowledge" #6*

As stated by this particular participant, knowledge has weakened due to the lack of integration and correlation between different fields and subjects. For example, when one studies science, it happens in isolation from mathematics or from agriculture. In short, knowledge has become compartmentalized – fragmented.

Another sign of weakening of knowledge is that its distribution is not equal – that is, reaching everyone. Knowledge is something that belongs to all and should be in the hands of all.

Additionally, knowledge, when looked at carefully, is seen as being based on the past knowledge. It is something that accumulates gradually and ignoring the knowledge that has been accumulated by the past generations and bygone ages leads to a weakening of knowledge.

7.2 Sources of Knowledge

After a thorough examination of the data I gathered around the question of sources of knowledge, I formed six categories of description that picture the ways in which the participants believe that knowledge is gathered:

1) experience, 2) integration of seemingly opposing sources, 3) interactions, 4) place, 5) several methods, 6 single source.

"Knowledge is gained from/through…"					
EXPERIENCE	INTEGRATION OF SEEMINGLY OPPOSING SOURCES	INTERACTIONS	PLACE	SEVERAL METHODS	SINGLE SOURCE
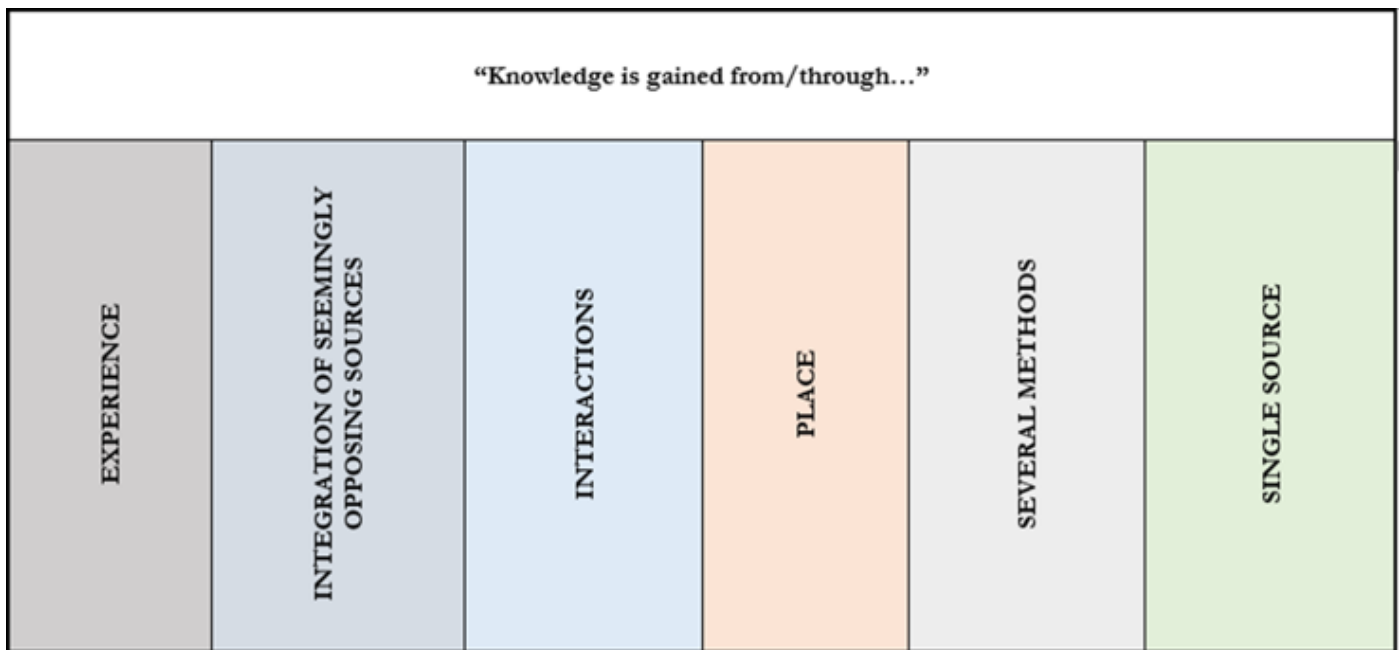
Experience

EXPERIENCE
from action, experience in a given field

"Knowledge is always the new ideas one acquires in our actions that becomes that knowledge" #5

"We describe knowledge is more of an understanding that stems out of experience, the more experience you have about something, then you're knowledgeable about it yeah, so it can be anything yeah. If I have experience in building houses although I have never gone to school I have knowledge about building houses so its' something I'd say it's an understanding generated through experience that deep understanding of something that's generated and then it's applied correctly." #6

As stated by this specific view, the fundamental source of knowledge is found 'in the field'. The more experience one has accumulated from action, the more knowledge they have. One of the participants state that the knowledge we gain through experience is that 'deep knowledge' from which one might deduce that knowledge gained through other means, say – in theory, is not ' as deep'.

Integration of Seemingly Opposing Sources

INTEGRATION OF SEEMINLGY OPPOSING SOURCES			
old & modern	experience & intuition	science & religion	theory & practise

Although very different in content, what all the sub-categories have in common is that they hold a view that no single source of knowledge is perfect as it is. As one of the participants says, "no single body of knowledge is perfect so as you incorporate them you look at this side and this side then you collect all the good and make up one good body of knowledge". This category of description collects all those seemingly opposing sources of knowledge that the participants' state should be integrated and collaborate.

Old and modern. This view is based on the notion that we seek knowledge to create a new kind of a world civilization. To do this, we need to learn from the lessons in the past, but also take advantage of what is being learnt in the world of today. By taking from both sources one is able to avoid two pitfalls – not advancing due to sticking to old ways, or disregarding the old and falling to the trap of over-mechanization.

> *"Here we are now looking at how we can bring the understanding in the traditional ways compare them with the modern so that we can come up with a new body of knowledge because both things are good but no single body of knowledge is perfect so as you incorporate them you look at this side and this side then you collect all the good and make up one good body of knowledge because when you extremely rely on the tradition then you will keep yourself thinking in the past ways how things used to be yet we are looking at building a new world civilization. Then when you overthink on this like what they always think today that it is civilization is the use of mechanization the use of electric gadgets like computers telephones what, they think that's knowledge it's again too bad coz we shouldn't go both extremes we should at least try to strike a balance such that we are able to tell both bodies of knowledge both the traditional and the modern are good but they are not the best." #1*

> *"Disregarding the past knowledge, the ancient knowledge is another weakness, so people tend to ignore the past and they think that it's in the past but if you look deeply, the knowledge we now have has been built through past knowledge" #6*

Experience and intuition. This perspective has the idea that there are two sources of knowledge – one in which we gain knowledge from practise and another where we know things intuitively. These inevitably work together since they are two sides of knowledge, but both require effort – knowledge from experience requires action and intuitive knowledge needs nurturing the spiritual, God-given side of a man:

"My understanding is that there are two sources of knowledge. There's a knowledge that is acquired through experience and then this knowledge that is I would say intuitively acquired so it is innate in us, something that I would say God has given someone like I give an example like no one teaches you how to breathe no one teaches you really how to walk but somehow you manage to do those things – you learn it" #6

"The other side of the knowledge I'd say has to do with our spirituality well, like I said it's innate in us, it's intuitive but it has to be nurtured yeah – that kind of knowledge is the type of knowledge that can easily disappear away from you if you are not maybe spiritually inclined like so that awareness can actually disappear so that's why you see people who will… they are not conscious of spirituality so that knowledge I would say is has not been nurtured well yeah as we… I would say it's a tool for the moral purpose to nurture these two knowledge systems require there has to be a balance. Otherwise if you nurture one, then you forget the other, then there is a problem. There has to be a balance also. Yeah at times you tend to nurture just the spiritual knowledge and you forget this other side that exists" #6

Science and religion. This view holds more than one 'unorthodox' ideas. Firstly, it regards both science and religion as systems of knowledge and secondly, states that they should be combined for humanity to prosper. Both sources serve in their specific roles – religion helps us to know the purpose of our creation and act accordingly, science provides means by which to survive and improve our lives materially.

"God created knowledge so the knowledge about God is like everything we need. Okay, we need the knowledge from God, the spiritual values the spiritual, there is also knowledge from science – we discover different things but that goes hand in hand. You can't have knowledge from God only and then you don't have the knowledge from the scientist. You prosper, I think it's a combination of knowledge from God and knowledge from science. Even the literature knowledge helps so much. We read and discover new ideas which will help you prosper through reading like novels, papers yeah. Getting ideas." #3

"I think being knowledgeable is like having knowledge from God or from the Bible or other Holy Writings is very important, because it makes you know the purpose of your creation, what God expects of you and then this other knowledge we got from schools and these other institutions, books and the media, makes us also know what we are expected of and you know that instead of sticking to the traditional ways of farming for example you know that if I apply manure to this soil it get more so when you know that when you have veggie crops definitely you have higher yields and maybe you won't be affected by any famine or any hunger so I think

when you don't have knowledge you're more or less dead without knowledge life can be very very very miserable and most of all people who die at the rural areas normally die because they lack knowledge." #3

"Most of us go to school so that you can come out, get good jobs and all that, then maybe as time goes by in case you're lucky you encounter these Holy Writings it changes your perspective about the whole knowledge thing time comes when you learn that after getting all my engineering knowledge I am to serve the people and you try to deviate from only making money yeah but it takes time you can't just get it so maybe at first it is a means to an end and maybe after some time in case you're lucky to get the holy Writings then comes more of a tool of serving people." #4

"Here so as we go along there are a lot of experiences that we generate and learn now but this experience teaches you about the two wings y'know like the spiritual wing, the material wing all this go hand in hand" #6

Theory and practise. This idea is about the balance and the necessary link between theory and practise. Theory is seen as a source that gives you an awareness of a given thing, and practise is the knowledge that is accumulated and sharpened when this awareness is applied in action. It is not sufficient to attain to a theoretical knowledge, but this has to be followed by putting it into practise.

"Through experience that knowledge is also divided, there's a theoretical knowledge and and then there's a practical knowledge so theoretical knowledge it probably would entail maybe things that you are just aware of that can place them practically. And then there are like y'know just awareness is this loud knowledge that is… but then there's also this knowledge of putting it into practise, putting something into practise yeah – application so uh the experience is really from, the knowledge is generated then it's applied" #6

"How do you put the theory and the practise together that is what gives a lot of context to knowledge according to me coz I can have all this information within me and if I sit with all this then I'm not giving anything, I'm not bringing about any change so knowledge has to be attained, so it has to be… so you first attain it, and then you find ways of how to apply it and then you disseminate it, you spread it to the rest of the people." #7

Interactions

INTERACTIONS			
community members	local leaders	farmers	organizations

"Also elders in the communities they also provide us with different sources of knowledge if we are for us in this way personally we are looking at agriculture so when we are going to after acquiring the knowledge then we have to integrate the knowledge, the knowledge of the PSA and the knowledge from the communities, so we identify some farmers, also the elders to provide us with the knowledge so we bring back the data of information and we put them together then we weigh and think of what can do and get a precise measure how we integrate the knowledge you can have two pieces of learning portions you can decide to learn the local information, on the local information that you've got and also choose one portion to learn from PSA and then you can try to see if I interpret what I got from here, what do I come up with. Like for the education of the children and maybe morality, helping the children develop their intellectual and spiritual growth, and also moral development we normally integrate the matters the best information for the growth of the children so interviewing them, you get your data you sit back so in every step that you, in this line of action we document" #5

What became evident from the outset was that one of the categories would highlight the importance the participants placed on interactions as a source of knowledge. While the participants that just began the study of the PSA programme mentioned this interaction quite shortly as referring to friends or elders as some sources of knowledge, the participants that had been exposed to the programme for consecutive years and were themselves serving as its facilitators, elaborated on this more thoroughly and with more detailed examples of how such an interaction takes place as a method of generating knowledge. Vital to these interactions, as one of the participants' states, is a posture of learning and humility.

"The programme has really taught me to be humble y'know having that posture of learning, having that converse with people and not coming with the approach that oh, I know a lot, I have the solutions, I have studied a lot, no. [--] Here you sit down with the people, then you discuss solutions, come up with an answer that is suitable for that particular area of activity you're trying to work on." #6

Community members. This is a category for the expressions that referred to the members of a community as sources of knowledge, help and information. These members include friends, family members and elders that can help either in personal questions and issues, but also in figuring out ways in which help the whole locality to advance – for example, in terms of agriculture and education.

"There was also knowledge that was already existing in the communities" #7

"Then the friends in the community. Whenever we go out for the investigations we go out for research of course we expect that they have something – we also have something so together we can share we can get a new body of knowledge that we are using" #1

"Maybe personally also you can carry out research from friends you may be having an issue that is so big to you, you carry out research you get information from your very friends, the community member around they are also sources of information." #2

"Our interactions with friends, from them you get basic knowledge and somewhere else you get in-depth knowledge" #4

"There was also knowledge that was already existing in the communities that is also guiding therefore our living for example we talk of the elderly as sources of knowledge because they had this past experience of life how things are in line of agriculture maybe, in line of raising of children then we also have the archives as sources of knowledge so you find out in case you need to find out any information about anything, you can still go and get information from there" #7

"We look at individuals who have been part of certain systems so many things, studied them and come up with range of facts about different situations so because we talk about the community, the community is so broad, is so broad, we look at the people themselves, we look at the resources themselves." #7

"In Africa we also have this bit of elders terms of storytelling" #4

Local leaders. While the leaders are also part of the community itself, they have a distinct role especially in the rural Uganda, which lead into the creation of a separate sub-category. In this

category local leaders are seen as a source to be tapped into when looking for ways to identify the needs of the community and to implement activities for social change.

> *"The local leaders of course they are approached by very many organizations and when we've gone there for introduction of course we share with them everything concerning your programme so they are rich bodies of knowledge." #1*

> *"You're going through the materials so as the first source of knowledge as you're acquiring it so as you go back for us this way in Uganda when we live here we go and consult on each activity that we are going to integrate the learnings from we go to the local leaders, give the knowledge of the education of their children, how has it been evolved for over you can take 20 years, they become also one of the sources of knowledge." #5*

Farmers. In the context of agriculture and in trying to identify ways for crop production and animal husbandry, the PSA participants regard the local farmers as sources of relevant information and experience.

> *"These farmers, they are not educated in agriculture but there's a lot that they know, there's a lot you can learn from them about the seasons about the soils everything they know." #6*

> *"When you go out to the communities these farmers, they are not educated in agriculture but there's a lot that they know, there's a lot you can learn from them about the seasons about the soils everything they know so the programme has really taught me to be humble y'know having that posture of learning, having that converse with people and not coming with the approach that oh I know a lot, I have the solutions I have studied a lot no but here you sit down with the people, then you discuss solutions, come up with an answer that is suitable for that particular area of activity you're trying to work on." #6*

> *"I remember when we were wanting to plant pineapples and we visited some farmers in (…) that are like prominent farmers of pineapples." #1*

Organizations. One participant shared an opinion on the importance of turning to the like-minded organization in the region as a way to access more knowledge on a specific area. They are seen as a source of relevant knowledge, but also as a receiver of knowledge that the PSA programme generates.

"Also we have the different like-minded organizations that we do always collaborate with in our district, in our communities so we always share and we get to learn what they are doing and they also get to learn what we are involved in" #1

Place

PLACE				
all around us	home	educational institutions	excursions	religious institutions

In this category of description are grouped all the expressions that point to a certain *place* as a source of knowledge. The different subcategories included here do not state that knowledge could only be received from one of these places – usually the same participant referred to all of them in their description. One, for example, regards home as the fundamental source of knowledge that affects the acquisition of knowledge from the other places stated above.

"If for example you are home, you are not build up well – you're not brought up well, you told bad manners, it becomes very difficult for you to access education in school and even if you get it, still you remain with those poor mentalities that you may have acquired at from your homes" #2

All around us. This subcategory is created around one expression that assumes that knowledge is to found everywhere and from anyone. It is very similar to one of the subcategories in the previous chapter that touched on defining the concept of knowledge itself, where it was stated how knowledge exists out there, ready to be discovered.

"Knowledge is something that's everywhere so if you look around there's knowledge, but this knowledge has been fragmented" #6

Home. In this perspective, home is seen as the origin of knowledge and as the foundation for how it can or can not be acquired in the future. The role of the mother is mentioned specifically, as the first source of experience and knowledge, but home is also a space in which an individual mingles with several people that guide and offer insights – such as the grandparents, for example.

"First of all we get knowledge from our homes [--] We received knowledge about respecting others, we are told how to be clean, we are told how to behave well in society things like beating others or maybe fighting at home and we were also told other duties. Basically that one we were just told at home" #2

"The first area where we can get information from home so at home we have very many people who guide us we have our parents our mothers fathers uncles. Some of us stay in extended families so therefore we have grandfathers who tell us all those good things and bad things for example my grandfather since he is very old he knew many things that existed before us so he was a very big source of information that we used to get. The biggest information was much, I spend most of my actually my entire time with my grandfather so had a lot of time with him because he had no time to he used not to work so he could sit there tell him more about what you wish, he always had answers concerning almost every question that used to ask because he was such kind of an old man" #2

"If for example you are home, you are not build up well – you're not brought up well, you told bad manners, it becomes very difficult for you to access education in school and even if you get it, still you remain with those poor mentalities that you may have acquired at from your homes" #2

"The first experience I think is from the mother as a person is growing up from the immediate family that kind of experience is gained from there and as you go to school the experience is added on." #6

Educational institutions. According to this view school and other such institutions are one source of knowledge among others. Interestingly enough referring to school as a source of knowledge or as a place to acquire it, however, was not something that all participants explicitly stated. When it was, it was after something else or in addition to some other source of knowledge.

"I also acquire knowledge from school. Because if I didn't go to school, I don't think you'd be speaking to me this way. I don't think I would understand the questions that you're asking me so when we go to school we learn language, we learn behaviour, a school really does a lot in giving us information but again when you are in school of course the home also must have played a bigger part in you to make sure that you are, you can get the information in the school." #2

"Then there are some institutions this one we are in and colleges schools and from home" #3
"[--] learn different things from like schools, institutions" #3

"We don't live in isolation so definitely get maybe an experience from school" #6

Excursions. Like Marton states, the categories of description have to reflect the whole spectrum of expressions. (1981) This category is formed around one, albeit short, expression that suggests that one contributing source and place to gather knowledge from are tourist attractions and excursions.

"Sometimes you can also go and visit these tourist attractions" #4

Religious institutions. Slightly different from what has been mentioned before about religion as a source of knowledge in other categories, this category is formed around the idea of religious institutions such as the church as a place to acquire knowledge – especially before an individual goes to school.

"We were also told from churches because for us we go to school at 7 years of age those are the periods when we start study at 7 year old. So before you go to school you are told some of the things from the churches yeah" #2

Several Methods

SEVERAL METHODS
research through observations, application, conclusions

This category of description is for the view that knowledge is to be gathered through a process during which an individual carries out different purposeful ways of investigating things for themselves. These different ways are referred to as different methods and go as follows:

"Gathered together through various methodologies, either through observations, through studies, through experiments, through direct involvement, and when you find yourself in such situations and you already have something that is conclusive" #7

"So now together we can make at least something that will give like in agriculture when we are doing DHA like there is a material called DHA, we use like raise beds and all but we first make research on the farmers in that community like we inquire from them how was agriculture like in the past 30 years how were they able to conserve water how were they able to keep the soil fertile. Then we also visit these modern farmers that are there now, then we ask why is it that they are using chemical fertilizers, how are they managing water, how are they looking at pests and diseases, which kind of measures are they using to control pests and diseases, are they using biological methods, chemical methods, like social… everything. Then altogether of course for us we are looking at a method that can help us sustain the fertility of the soil, manage water in the soil, look at pest control biologically not like chemically no we don't want coz these chemicals out of research they harm the soil and we are looking at treating the soil as a living thing something that will feed us years and years to come." #1

Single Source

SINGLE SOURCE			
divine	internet & media	literature	science

This category is for all those phrases that referred to one source of knowledge in isolation from other sources. They are not necessarily seen as the 'one and only', but they are held to have a distinguished role as specific sources of knowledge.

Divine. In this subcategory are collected all those expressions that see a deity, God, or religious Writings as the source of all knowledge. It is expressed that all knowledge emanates from God and hence turning to Him provides one with knowledge.

"God, God is a provider knowledge. If you seek knowledge from God through prayers and guidance, He provides knowledge. ("Where should we go and search knowledge from?") Like she said I think if knowledge comes from God coz He is the one who put everything on this earth or in the world so first of all, to me I'm a Christian we go to church, read the Bible, there is knowledge in the Bible" #3

"If you look at texts or material eventually for religions and different Holy Writings, we are encouraged to live the kind of life that is praiseworthy. So, sometimes you wouldn't notice if you have been through it so

we are always encouraged to study to meditate and reflect on the Words of God, so when we do that they gives us a hope for living. They give us a reason for doing the services we are rendering in the communities, because it takes you back to the purpose of creation." #7

Internet and media. Almost all the participants referred to internet or social media as specific sources of information. Although mentioned, there is not much elaboration on what kind of a source internet or media is, except with one participant who states that knowledge in the world of web is not limited and as such, contains both useful and harmful information. Another participant sees internet as something to turn to when research in one's own community has not brought enough knowledge.

"The third one which I think about is internet or maybe the media where I've acquired very many useful information from the media carry out research there are some things that we do learn from the media of course the media is not limited there is some information which is bad and some information which is good but we all acquire information from the media so it's also another source of information." #2

"Then what has failed for both the materials the community we always research from the net so internet has also helped us to do coz I remember when we were wanting to plant pineapples and we visited some farmers in … that are like prominent farmers of pineapples. Then after sharing with them we further enriched our research by visiting the websites and we see the different planting methods of pineapples and how best we can manage them and that's at least something that at least helped us to grow some pineapples in our community" #1

Literature. One source of knowledge specifically referred to is literature, including books and other printed reading materials. Specific materials highlighted by the participants were the PSA materials themselves, religious writings and materials relating to agriculture.

"Then we also have written books, literal materials which could be in different areas of life agricultural, either spiritual development we have the Holy Writings, we have textbooks" #7

"One is the PSA materials I do interact with coz they are so rich in like in knowledge" #1

Science. Although science has been mentioned before in the context of integration of science and religion as complementary sources of knowledge, it needs its own separate category since it has also been mentioned separately and in isolation from religion.

> *"The professors we have they help us to explore new things new ideas like the scientists that we have it is the knowledge they have that help us to discover new things like medical programs as in such is that knowledge that helps us to prosper." #3*

In this respect, science is seen as something that is produced by professors and scientists and which has a specific role in making new discoveries that advance humanity.

8 FINDINGS IN LIGHT OF THEORY

In this part, I will highlight those findings that correlate with the theories and views that I introduced in the theoretical framework. As mentioned in the theoretical framework, in the research I did for my Bachelors thesis I formed a synthesis of different theories and perspectives to knowledge. This I summarized into forming a table summarizing what kind of conceptualizations and approaches to knowledge, according to several theorists, lead to community development, and which hinder it.

CATEGORY	A FOR B	A WITH B
Knowledge	possessed by a knowledgeable one, handed to the ignorant one – knowledge something to bank, to gain, to give	knowledge created and re-created in a dialogue that has a problem-posing approach
	consisting of a fixed idea of facts and proved information	communities involved in the generation of a knowledge-base and in its application. Gaining knowledge and applying it is seen as a way to contribute to the development of one's community
	based on a narrow outlook on scientific research, most often Western/Eurocentric	knowledge as an accumulating body and heritage of all, belongs to all
	fragmented and materialistic in the name of being scientific	

Next, I spend a moment in analyzing the outcome spaces and their description categories presented in the previous chapter in the light of this table to see whether the understanding of knowledge and its sources that the selected PSA participants hold reflect views that allow for community-driven development or limit it – according to the views of Paulo Freire, FUNDAEC and the decolonizing perspective.

To do this, I went through all the findings with the lenses of A for B and A with B and the definitions given to them in the table above. On the following page, one can see a table visualizing where the different description categories fall. The category of "Standard" stands for the synthesis I created in my Bachelors thesis, "Knowledge" those categories of description offering perspectives to knowledge and "Sources" those that have to do with the sources of knowledge.

CATEGORY	A FOR B	A WITH B
Standards	1) possessed by a knowledgeable one, handed to the ignorant one – knowledge something to bank, to gain, to give	1) knowledge created and re-created in a dialogue that has a problem-posing approach
	2) consisting of a fixed idea of facts and proved information	2) communities involved in the generation of a knowledge-base and in its application. Gaining knowledge and applying it is seen as a way to contribute to the development of one's community
	3) based on a narrow outlook on scientific research, most often Western/Eurocentric	3) knowledge as an accumulating body and heritage of all, belongs to all
	4) fragmented and materialistic in the name of being scientific	
Knowledge	**Defining factor**: 1&2**, Discovered**: 1, **Gathered**: 2, **Harmful**: 2	**Ability**: 2, **Body**: 3, **Means**: 2, **Weakened**: 3
Sources	**Experience**: 1&3, **Places**: "home", "school", "excursions", "churches" 1&3, **Single source**: "literature", "science" 1&2	**Integration of Seemingly Opposing Sources**: 1&2&3, **Interactions**: 1&2&3, **Places**: "all around us" 1, **Several methods**: 1, **Single source**: "internet & media" 2

As can be seen from the table above, there are descriptions of knowledge and its sources that can be seen to hold in them assumptions that are in line with the views that limit community-driven development, but also those that would allow for a community-driven development to happen.

8.1 Defining Knowledge

In regards to defining knowledge, the descriptions that refer to it as something to be gathered and discovered, as something that once gained, defines the way we are, or as something harmful when gained in excess seem all to view knowledge as something that exist out there, something that can be constructed and then be shared with others – it is something that consists of pieces of information and facts build up together and is either discovered or learnt from others. In these views one can see a correlation with the idea of knowledge being 1) "possessed by a knowledgeable one, handed to the ignorant one – knowledge something to bank, to gain, to give" and 2) "consisting of a fixed idea of facts and proved information".

The descriptions that perceive knowledge as an increasing ability to think and act purposefully in a given context, as a body among other bodies of knowledge, as means for individual and collective development, and as being weakened by fragmentation, unjust division of knowledge and the disregard of past knowledge all seem to hold assumptions that link knowledge to the development of the community like the description A with B number 2) "communities involved in the generation of a knowledge-base and in its application. Gaining knowledge and applying it is seen as a way to contribute to the development of one's community", see it as an accumulating body belonging to all and being the heritage of all like description A with B number 3) states.

8.2 Sources of Knowledge

Relating to the sources of knowledge, the sources that highlighted the role of experience or literature and science, different places such as homes, schools, churches, all are based on the notion that there is something that imparts knowledge on us – either a more knowledgeable and experienced individual, or scientific research and literature. These assumptions resonate with the ideas of A for B, an instance with more knowledge offering it to a less knowledgeable one – number 1) –, knowledge consisting of proven facts – number 2) – or even number 3), which holds within

it all the views that regard knowledge only valid if it is of certain nature, such as to be gained from literacy or science.

Views that state that knowledge is gained from the interactions between individuals or with the community at large, including its institutions, from the integrations of seemingly opposing sources such as science and religion, theory and practice and the old and the modern, by using several methods of generating knowledge, and lastly, that see that knowledge is to be gained from all around us, all resonate with one another and with the standards listed under A with B that see knowledge being born out of interaction, by a collective effort and that knowledge is an accumulating body that includes the knowledge gained in the past.

9 DISCUSSION

As stated by Peter Burke, humanity's collective understanding of the idea of knowledge has gone through several stages of development. Now, throughout the globe, knowledge is seen more and more as multiple, implying that there are separate, different knowledges existing between different cultures and human groups. This could be said to be a pluralistic conception of knowledge. (Burke, 2016) Due to this contemporary understanding of knowledge, there are various ways of categorizing these different knowledges. In the theoretical framework, I highlighted some, such as the Western Modern Science (also known as the dominant paradigm), the Traditional Ecological Knowledge and Indigenous Knowledge (Corsiglia & Snively, 2000; Santos, 2007).

It seems that the definitions used by the participants of the PSA programme dare to differ with this pluralistic conception of knowledge. While they elaborate quite a lot on different ways and sources from which one receives knowledge, knowledge itself is not seen as being fundamentally plural in nature. There are several bodies of knowledge and we gain knowledge from various sources such as the Holy Writings and science, from practise and intuition, but all of this adds to knowledge – knowledge, which in itself, is endless and ever evolving.

Moreover, most of the participants saw knowledge as something that builds up and has to be gained through several sources at once. One of the participants states that the fact that knowledge is fragmented and compartmentalized is a weakness to it and not something to aspire for. When different ways of knowing are working in their own isolated fields and do not interact, this produces a weakness into the overall knowledge. Knowledge from the Holy Writings without science is not enough for prosperity. Theoretical knowledge is not enough and value needs to be given to people who gain their knowledge through work and daily life. Knowledge can be received from the various people around us, but also be further complemented with what one can find from the internet and printed materials. Ancient wisdom needs to be weighed and updated with the contemporary knowledge, which, in turn, needs to build on what has been learnt before. No one kind of knowledge, in itself, is sufficient or innately better. As long as, as one participant states, it bears fruit and leads to action, any kind of knowledge is useful.

At the heart of all these assumptions there seems to be a view of the knower as a conscious seeker and gainer of knowledge, utilizing different possibilities around him or her, nurturing his intuitive knowledge, learning from all through humility, applying what he or she learns and making sure that that knowledge brings forth fruit.

These results correlate with ideas presented by Sona Farid-Arbab, a professor in education who has studied the conceptual framework of FUNDAEC and the application of its programmes for consecutive years. In her literary work on moral empowerment, she addresses the problematic

dichotomies created when the 'popular wisdom' or local knowledge like it is titled in this thesis, are seen as the antithesis and replacement of the contemporary scientific knowledge. She states that in such a dichotomy and the "exaggerated romanticism" of local wisdom, albeit an important component of any educational endeavor, there is a danger of a different kind of a paternalism to seek in that would "do justice to the oppressed". (Farid-Arbab, 2016, p. 282) It does not allow the local people to take charge of their own development for which the insights accumulated by contemporary science in fields of medicine, chemistry and biology – to state a few – would be an essential addition to the knowledge they already possess.

Pluralistic conception of knowledge holds the chance of bringing with it the ideology of relativism, in which each person is regarded as a creator of his or her own knowledge and all these knowledges as equally right or wrong. In such a setting, Farid-Arbab mentions, the role of the teacher is simply that of a poser of questions and a facilitator of a conversation – a role with which Freire himself did not agree with. (Farid-Arbab, 2016) Additionally, the role of the individual remains on the level of constructor of knowledge. However, as Farid-Arbab describes, knowledge is not only constructed, it is also put into practise and shared with others – a process that does not only belong to an individual, but to communities and to the whole of humanity. (Farid-Arbab, 2016)

On a different note altogether, what became apparent from this research, albeit brief and with a limited data sample, is that those who had been interacting with the programme the longest had a different look on knowledge from those who just started their first units of study. The 'veteran' participants were the ones who brought up ideas of different bodies of knowledge, knowledge being something that evolves and is generated through various means, and that is harmed by fragmentation and lack of connection between the old and new knowledge and that of theory and practise. The participants in the beginning of their study had a tendency to list different courses and ways in which knowledge could be summarized, whereas those exposed to the programme for a longer time or serving in the role of an facilitator spend time in elaborating on it with different examples, looking at the phenomenon from different perspectives and withheld from giving short and simple answers. All in all, this correlates with the ideas of Marton, who states that we become increasingly aware of a phenomenon the more we see variations in it or the more we are subjected to thinking about it. (Åkerlind, 2017)

What this could suggest is that it would be worthwhile to look more into the Preparation for Social Action programme to see if it and its materials are, indeed, what create such a heightened awareness. That being said, what is evident is that to create more epistemic justice and awareness

of all the "rich bodies of knowledge" that exist out there, as stated by one of the participants, an educational programme needs to be in place that does not only concern itself in imparting knowledge, as essential as it is, but also forces the participants to reflect on how the knowledge they learn has been generated, applied and diffused. And, additionally, how they can add to that process from the knowledge they and the sources around them possess. (FUNDAEC, n.d.; Fricker, 2013)

10 ETHICS AND RELIABILITY

To analyze the ethical issues or dimensions of my thesis and research, I rely on the insights offered by Linda Tuhiwai Smith that help me verbalize the inner conflict I faced while working on this thesis. I looked into the power relations western modern education has promoted and maintains, but I did this within that same context and with the methods promoted by the same exact system. As Linda Tuhiwai Smith mentions, the word research itself carries connotations to imperialism and colonialism so much so that in various indigenous contexts it causes distrust, raises bad memories – it is, as Smith puts it, "one of the dirtiest words in the indigenous world's vocabulary" (Smith, 1999, p. 1)

According to her, several academics and researchers justify their work as means for contributing to the betterment of humanity, "serving a specific emancipatory goal for an oppressed community" (Smith, 1999, p. 2). While such an aim might be praiseworthy, going through the following questions designed by Smith help analyze more realistically what kind of an impact a research might end up having: i) "who defined the research problem?" ii) "what knowledge will the community gain from this study? And the researcher?", iii) "what are some of the likely positive/negative outcomes?", iv) "how can the negative outcomes be eliminated?" and v)"to whom is the researcher accountable?" (1999, p. 173).

In the case of my research, it was me who defined the research problem. It is a question that emerged from reading articles on the use of indigenous knowledge and approaches to science in science education, one I felt and still feel is justifiable to raise in order to be more aware of our underlying assumptions and how those affect how we educate.

Relating to the question of what kind of knowledge this research will offer the community, it is helpful think which communities will be the recipients of this thesis. Firstly it is the community of my own university and its faculty of education, but secondly it is the community that was participated in the research itself. I am hoping that the knowledge generated through this research helps the community in the university to gain more insights into knowledge can and is perceived – I feel that especially the coherence in some of the perspectives on knowledge will be useful for the recipients of this thesis in the university. In regards to the people in Uganda and the individuals working in the NGO that offer the PSA programme in Jinja, my sincere wish is that this research is something that helps them to see how the programme might be affecting the participants and their assumptions on knowledge. To the participants of the research, I hope this thesis provides a mirror in which they can see their own descriptions in relation to those of others, but also in relation to how their understanding of knowledge must have already reshaped.

For me this research showed a wider spectrum of perceptions that I imagined. It is teaching me the difficulty in analyzing the ideas of other human beings and made me acutely aware of the amount of possible misinterpretations that went to the process of data analysis. This is making me more disillusioned when reading the research findings of other studies of this nature, but also to appreciate the effort which any individuals carrying out a phenomenographical research have to put in their work.

Concerning the possible outcomes of the research, one has to look into how the research affected the community in question during the process and after. When I was taking part in the PSA programme and carried out the interview, I had to make a conscious effort daily to see myself as just one of the participants of the study and keep my participation at minimum to allow for the locals to take charge of the group discussion. When it was time to carry out field visits as part of the study, I chose to stay back as advised by some of the facilitators, since my presence as a white Western woman might inadvertently have compromised the efforts the participants were trying to make, which is to show all how they, as the members indigenous to the community, are promoting the wellbeing of their own locality.

After the visit to Uganda and in finishing this thesis, I have tried to make sure that none of the perspectives that are offered in the Findings are to be seen as representing the views of the organization nor the PSA programme itself. Additionally, I do not aim to provide any generalizations of the people on Jinja, or Uganda. Such generalizations would not just be unjustifiable, but also not relevant to this research.

Although my research is directly accountable to my own university, I feel an ethical accountability to the people I carried out the research with. It is out of respect to them that I do not want this research to cause any harm to them, the NGO or the people working with it. I also feel accountable to myself and the ethical principles that govern my life, which place an emphasis on moral integrity.

For this research to be ethically grounded and manifest that moral integrity, I referred to a list of ethical principles gathered by Marilyn Lichtman (2013) that helped me in planning and carrying out the actual interviews I made. According to Lichtman, ethical research should 1. Do no harm, it will take into consideration 2. Privacy and anonymity of the participants by maintaining 3. Confidentiality, it will be based on 4. Informed consent and forming a 5. Rapport and friendship with the participants. Additionally, the researcher will abstain from 6. Intrusiveness and 7. Inappropriate behavior. When it comes to 8. Data interpretation, it needs to done in avoidance of the pitfalls of over- and misinterpretation and with transparency that allows others to assess the reliability of the analysis. Lastly, if there are any financial or other gains from the research, the

principle of 9. Data ownership and rewards suggests that the researcher would consider sharing them with the people that were involved in the research. (Lichtman, 2013, p. 61)

In the light of these points, I chose to keep the names of the interviewed graduate students anonymous and not giving details to where they currently live or work. In carrying out the interviews, I made sure to mention that whatever is said, is presented anonymously and used only in this thesis. To make sure of this and not to cause harm to the people offering the PSA programme, I decided to leave the name of the organization in Jinja out from this thesis.

During my interaction with the participants, it was challenging to maintain a relationship with them that was not a friendship. We participated in the same study group for a month, lived in the same facilities provided by the training centre and got to know each other quite well in the process. While this might affect how critically I interpret the data gathered during the interviews, it also allowed me to get to know more of the beliefs and assumptions the participants hold of the world around them – a knowledge of which was crucial in analyzing the expressions they made. In addition to this, my own views on knowledge together with my understanding of the aims of the PSA programme must have affected the way in which I grouped the categories and worded them. I tried to minimize this by going back to the original expressions as much as possible, striving for less and less bias in forming the findings.

11 REFERENCES

Aikenhead, G. (2010). Towards Decolonizing the Pan-Canadian Science Framework. *Canadian Journal of Science, Mathematics and Technology Education*, 387-399.

Aikenhead, G., & Elliott, D. (2010). An Emerging Decolonizing Science Education in Canada. *Canadian Journal of Science, Mathematics and Technology Education*, 321-338.

Arbab, F. (1984). *Rural University: Learning about Education and Development.* Retrieved from International Development Research Centre: https://idl-bncidrc.dspacedirect.org/bitstream/handle/10625/7716/IDL-7716.pdf?sequence=1

Arbab, F. (2000). Promoting a Discourse on Science, Religion and Development. In S. M. Harper, *The Lab, the Temple and the Market: Reflections at the Intersection of Science, Religion and Development* (pp. 149-238). Ottawa, Canada: International Development Research Centre.

Arbab, F., & Stifel, L. (1982). University for Rural Development: An Alternative Approach in Colombia. *Journal of Developing Areas*, 511-522.

Baharuddin, A. (2000). Rediscovering the Resources of Religion. In S. M. Harper, *The Lab, the Temple and the Market: Reflections at the Intersection of Science, Religion and Development* (pp. 105-148). Ottawa: International Development Research Centre.

BBC News. (2018) Uganda Country Profile. Retrieved from https://www.bbc.com/news/world-africa-14107906.

Burke, P. (2016). *What is the History of Knowledge?* Cambridge: Polity Press.

Corsiglia, J., & Snively, G. (2000). Discovering Indigenous Science: Implications for Science Education. *Science Education*, 6-34.

Farid-Arbab, S. (2016). Moral Empowerment: in Quest of a Pedagogy. Wilmette, IL: Bahá'í Publishing.

Freire, P. (1970). *Pedagogy of the Oppressed.* New York: The Continuum International Publishing Group.

Freire, P. (1972). *Pedagogy of the Oppressed.* Harmondworth: Penguin Books LTd.

Freire, P., Freire, A. M. A., & Oliveira, W. F. de. (2014*). Pedagogy of Solidarity.* Walnut Creek: Routledge.

Freire, P., & Shor, I. (1987). *A Pedagogy for Liberation.* London: Macmillan.

Fricker, M. Synthese (2013). 190: 1317. https://doi.org/10.1007/s11229-012-0227-3

FUNDAEC. (2003). *Intellectual Preparation for Social Action: Volume 1.* Royal Palm Beach: Development Learning Press.

FUNDAEC. (n.d.). *Guiding Principles.* Retrieved from FUNDAEC: Fundación para la Aplicación y Enseñanza de las Ciencias: http://www.fundaec.org/en/guidingprinciples/index.htm

Hall, B. & Tandon, R. (2017). 'Decolonization of knowledge, epistemicide, participatory research and higher education'. *Research for All*, 1 (1), 6–19. DOI 10.18546/RFA.01.1.02.

Huusko, M. & Paloniemi, S. (2006). Fenomenografia laadullisena tutkimussuuntauksena kasvatustieteissä. *Kasvatus* 37 (2), 162–173.

Häkkinen, K. (1996). *Fenomenografisen tutkimuksen juuria etsimässä. Teoreettinen Katsaus Fenomenografisen Tutkimuksen Lähtökohtiin.* Jyväskylän yliopisto: opettajankoulutuslaitos. Opetuksen perusteita ja käytänteitä 21. Jyväskylä: Jyväskylän yliopisto.

IFAD. (2013*). Enabling Poor Rural People to Overcome Poverty in Uganda.* Retrieved from the International Fund for Agricultural Development website https://web.archive.org/web/20150924033202/http://www.ifad.org/operations/projects/regions/Pf/factsheets/uganda.pdf

Juma, C., & Yee-Cheong, L. (2005). *Science, Technology and Innovation.* Retrieved from UN Millennium Project.

Järvinen, A. & Järvinen, P. (1996). *Tutkimustyön metodeista.* Tampere: Opinpaja Oy.

Järvinen, I. (2017) *Revisiting Knowledges in Education: Whose Knowledge Are We Acquiring and Imparting and How Does That Affect Local Community Development?* (Bachelor's thesis) University of Oulu: Oulu, Finland. Retrieved from http://urn.fi/URN:NBN:fi:oulu-201708302772.

Kakkori, L., & Huttunen, R. (2014). Fenomenologia, hermeneutiikka ja fenomenografinen tutkimus. In Saari, A., Jokisaari, O-J., & Värri, V-M. *Ajan kasvatus. Kasvatusfilosofia aikalaiskritiikkinä* (pp. 367-400). Tampere: University Press.

Kapur, P. (2000). The Principle of Fundamental Oneness. In S. M. Harper, *The lab, the temple and the market: reflections at the intersection of science, religion and development* (pp. 7-60). Ottawa: International Development Research Centre.

Lang, J. (2011). Epistemologies of Situated Knowledge: "Troubling" Knowledge in Philosophy of Education. *Educational Theory*, 75-96.

Lichtman, M. (2013). *Qualitative Research in Education: A User's Guide* (3rd ed.). Thousand Oaks, California: SAGE Publications, Inc.

Lindstedt, J. (2002). Perusteos kielellisistä ihmisoikeuksista. *Virittäjä* 3, 464-469.

Marton, F. (1981). Phenomenography – Describing Conceptions of the World around Us. *Instructional Science* 10(2), 177–200.

Marton, F. (1988). Phenomenography. A Research Approach to Investigating Different Understandings of Reality. In R. Sherman & R. Webb, *Qualitative research in education. Focus and methods* (pp. 141–161). Lontoo: Falmer.

Marton, F. & Booth, S. (1997*). Learning and Awareness.* New Jersey: Lawrence Erlbaum Associates.

Morrow, R., & Brown, D. (1994). *Critical Theory and Methodology.* Thousand Oaks: SAGE Publications, Inc.

Muller, J., & Young, M. (2016). *Curriculum and the Specialization of Knowledge: studies in the sociology of education.* New York: Routledge.

Niikko, A. (2003) *Fenomenografia kasvatustieteellisessä tutkimuksessa.* Kasvatustieteiden tiedekunnan tutkimuksia. Joensuu: Joensuun yliopisto

Ogawa, N. (1989). Beyond the Tacit Framework of "Science" and "Science Education" among Science Educators. *International Journal of Science Education*, 247-250.

R4D. (2015). *Preparation for Social Action.* Retrieved from Centre for Educational Innovations: http://www.educationinnovations.org/program/preparation-socialaction-psa

Roberts, P. (2000). *Education, Literacy and Humanization: Exploring the Work of Paulo Freire.* Westport, Conn: Greenwood Publishing Group.

Santos, B. d. (2007). *Cognitive Justice in a Global World: prudent knowledges for a decent life.* (B. d. Santos, Ed.) Plymouth: Lexington Books.

Skinner et al. (2016). *Education, Learning and the Transformation of Development.* New York: Routledge.

Smith, L. T. (1999). *Decolonizing Methodologies: Research and Indigenous Peoples.* London: Zed Books Ltd.

Syrjälä, L., Ahonen, S., Syrjäläinen, E. & Saari, S. (1994). *Laadullisen tutkimuksen työtapoja.* Helsinki: Kirjayhtymä Oy.

Uganda High Commission. (n.d.) General Facts about Uganda. Retrieved from https://ottawa.mofa.go.ug/data-smenu-9-General-Facts.html.

Uljens, M. (1996). On the Philosophical Foundations of Phenomenography. In Gloria Dall'Alba & Björn Hasselgren, *Reflections of phenomenography* (pp. 103–128). *Toward a methodology.* Göteborg: Acta univeritatis Gothoburgensis.

Uljens, M. (1989). *Fenomenografi – Forskning om Uppfattningar.* Lund: Studentlitteratur.

Åkerlind, G. (2017). What Future for Phenomenographic Research? On Continuity and Development in the Phenomenography and Variation Theory Research Tradition. *Scandinavian Journal of Educational Research*, 949-958.