Indigenous Techniques of Knowledge Creation in Qinea Schools of Ethiopian

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Abstract

Communities have been creating and using indigenous knowledge for centuries. Although there have been advances in knowledge creation, traditional practices may lend an additional lens to better understand knowledge creation efforts. This research explores the potentials of indigenous knowledge creation techniques of instantaneously creating knowledge, which has been in use in Ethiopia Church Schools since the 5th Century. Using an interpretive field study, qualitative data was collected through participant observation, document analysis, and unstructured and semi-structured interviews. Analysis of the data indicated that the indigenous techniques have important implications for knowledge creation and creative problem solving. Besides helping to preserve the heritage of accumulated wisdom, this research plays a role in narrowing the divide between tradition and modernity regarding knowledge creation, and is useful to researchers in creative education, communication, natural language, and information retrieval.

Key words: knowledge creation, indigenous techniques, Qinea (poem), creativity.

1. Introduction

The study of knowledge is as old as human history [1]. As a community develops its bonds through a common lived experience with shared traditions [2], the traditions can form societal norms and provide the members with tested solutions to problems. Over time this leads to a shared knowledge base. As such, “knowledge is socially distributed since it is constructed and entrenched in the collective action of different communities” [2, p.357].

Indigenous Knowledge (IK) is one form of knowledge that refers to the traditional knowledge that people in a given community have developed over time based on tested experience and use [3]. IK is characterized as being developed outside the formal educational system or scientific labs, being embedded in culture, and being unique to a given society [3]. All communities have elements of IK [4]. Ignoring indigenous knowledge and even considering it as an obstacle to development has been the tradition of many proponents of modern knowledge [5]. This ignorance has resulted in discrimination of people and institutions with indigenous knowledge [6, 7]. There is a divide between the traditional and modern worlds of knowledge management [6] as the proponents of each view their own knowledge as complete and superior.

There is a fear that modern knowledge management practices may become another management fad that promised much and delivered little [8]. Thus in the knowledge economy, as organizations search for ways to harness their knowledge and create new knowledge, we must recognize that knowledge has been created since the beginning of human life. While advances in technology and the formation of the modern organization have facilitated knowledge creation, looking to the past to try to understand something about the future can add new insights [9]. Traditional knowledge creation practices may lend an additional lens from which we can enhance our modern knowledge creation practices and protect knowledge management from becoming another management fad.

Ethiopia, known for its ancient civilizations, possesses a 1,700-year tradition of elite education linked to the Orthodox Church [10]. Among the different indigenous schools, there is a special category called the Qinea (Poetry) School where students learn to instantly create knowledge [11]. A Qinea poem must have double meanings called wax and gold, where the hidden meaning (i.e., gold) is covered with a layer of explicit meaning (i.e., wax) [12, 13]. It is always new and is composed instantly using different techniques. Individuals acquainted with these indigenous techniques are capable of instantly generating convincing solutions and replies to questions [13].

This research is motivated by the existence of understudied indigenous techniques of knowledge creation used for more than 1500 years. Studying the indigenous techniques is an opportunity for modern knowledge management to gain detailed insights on indigenous knowledge creation.
Our objective is to explore the indigenous techniques of knowledge creation and to transfer these insights to modern knowledge creation. We will present the review of relevant literature, to be followed by the research question. After describing the research approach, we will present our major findings.

2. Literature review

This research is about the potentials of indigenous knowledge creation techniques in the traditional poetry (Qinea) schools of Ethiopia, which involve knowledge, creativity, and poetry. We will start the review of literature related to knowledge and its management, to be followed by knowledge creation and associated processes. We will then discuss the relationships between creativity, knowledge creation, and poetry. Finally, we will describe indigenous techniques of knowledge creation in the Ethiopian poetry schools.

2.1. What knowledge to manage

There are varying views on the term knowledge. Knowledge can be viewed as access to information, repositories of information, sets of rules, and knowing/understanding [14]. Knowledge can also be a state of mind, an object, a process, a condition of having access to information, or a capability [15, 16]. Knowledge is also viewed as the epistemology of possession which treats knowledge as something people have or possess (knowledge being person’s ‘justified true belief’; a possession of the human mind) and the epistemology of practice which treats knowledge as something people do [17, 18]. The widely recognized view of knowledge as having tacit and explicit dimensions is also debatable among scholars. Zack [19] says that knowledge can be declarative, procedural, and causal all of which can be made explicit. Brown and Duguid [20] claim that tacit and explicit knowledge are separate dimensions stating there is no transformation of tacit-explicit or explicit-tacit form. Hislop [21] argues that all knowledge has tacit and explicit components and that explicit knowledge has a tacit element.

Not only are there different views on the term knowledge but there are also differing strategies for its management [15]. Organizations can engage in knowledge management processes with varying steps for instance: knowledge generation, codification, transfer, and realization phases [22]; knowledge creation, validation, presentation, distribution, and application [23]; knowledge creation, storage/retrieval, transfer, and application phases [16].

However, despite these differences, knowledge is recognized as a critical resource for success and there is an increasing interest of organizations to manage their knowledge [24]. As managing knowledge is impossible without first creating it [25], knowledge creation is commonly mentioned as the initial step in knowledge management. Knowledge creation is recognized as a vital element of learning and innovation for organizational success and survival [26].

We have used in this research the definition of Nonaka [27, p.15] as a working definition of knowledge: Knowledge is a justified personal belief that increases an individual’s capacity to take effective action. Knowledge management is also defined in this research as the process of identifying and leveraging the collective knowledge [28]. Knowledge as a justified personal belief is created when an individual justifies the truthfulness of his/her belief about a particular situation [29]. Therefore, knowledge creation is the process of presenting and justifying a personal belief where justification makes the personal belief public.

2.2. Knowledge creation models

The knowledge creation process is composed of knowledge exploration (knowledge invention and knowledge acquisition) and knowledge exploitation (knowledge conversion, knowledge capturing, and knowledge mapping) [30]. According to von Krogh et al. [29], the knowledge creation process has 5 steps:

1. Sharing tacit knowledge: through direct observation, imitation, experimentation and comparison, or/and joint execution (not necessarily through language).
2. Creating concepts: externalizing personal true belief (tacit knowledge) about a situation in a form of a concept (through language).
3. Justifying concepts: evaluating the created concept for consistency, uniqueness, value and benefit, and practicability.
4. Building a prototype: turning the justified belief into a tangible form (prototype) by combining the new concept with existing concepts and products/services.
5. Crossleveling knowledge: leveraging the new knowledge across organizational hierarchies by documenting, disseminating, and reinforcing the new knowledge and its prototype.

Related to this is the SECI model of Nonaka and colleagues, which is considered the standard model in the knowledge management literature. The SECI model has four modes of knowledge creation that transform the knowledge state from tacit to explicit and vice versa [27, 31]:

3376
1. Socialization (tacit to tacit): sharing of tacit knowledge between individuals through joint activities (not in written or verbal instructions).
2. Externalization (tacit to explicit): expression of tacit knowledge and its conversion into comprehensible forms (explicit knowledge).
3. Combination (explicit to explicit): conversion of the new explicit knowledge into more complex sets of explicit knowledge, communication and diffusion being key issues.
4. Internalization (explicit to tacit): conversion of explicit knowledge into the organization’s tacit knowledge.

There are also differing factors involved in the aforementioned knowledge creation models. On the one hand, Nonaka and Konno [31] introduced the concept of four “ba’s” (shared spaces for knowledge creation) that support the four modes of SECI: Originating ‘ba’ (the place for socialization), Interacting ‘ba’ (the place for externalization), Cyber ‘ba’ (the virtual world for combination), and Exercising ‘ba’ (the place for internalization) [31]. Von Krogh et al. [29], on the other hand, identified that the five-step knowledge creation process is facilitated by combinations of five enablers: installing a knowledge vision, managing conversations, mobilizing knowledge activities, creating the right context, and globalizing local knowledge.

Both the 5-steps and the 4-step spiral processes of knowledge creation have relatively similar descriptions, as summarized in the table below.

<table>
<thead>
<tr>
<th>Step</th>
<th>The 4-step (SECI) model</th>
<th>The 5-step model</th>
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<tbody>
<tr>
<td>1</td>
<td>Socialization: sharing of tacit knowledge between individuals.</td>
<td>Sharing of tacit knowledge.</td>
</tr>
<tr>
<td>2</td>
<td>Externalization: expression of tacit knowledge and its conversion into comprehensible forms.</td>
<td>Creating concept: externalizing tacit knowledge.</td>
</tr>
<tr>
<td>3</td>
<td>Combination: conversion of the new explicit knowledge into more complex sets of explicit knowledge.</td>
<td>Justifying concepts: evaluating their consistency, uniqueness, value and benefit, and practicality.</td>
</tr>
<tr>
<td>4</td>
<td>Internalization: conversion of explicit knowledge into the organization’s tacit knowledge.</td>
<td>Building a prototype: by combining the new concept with existing concepts.</td>
</tr>
<tr>
<td>5</td>
<td>Internalization: conversion of explicit knowledge into the organization’s tacit knowledge.</td>
<td>Creole leveling: knowledge leveraging the new knowledge across organizational hierarchies.</td>
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</table>

Internalization of explicit knowledge leads to the creation of tacit knowledge, making the above steps of the knowledge creation process cyclic. However, it is not clear if internalization is the only source of tacit knowledge. Related to creativity, Weisberg [32] claims that using existing knowledge could result in negative transfer to new situations (due to the possibility of being trapped into habitual modes). For a creative thinking (as involved in knowledge creation process) to produce true advances, it has to go beyond the limits of existing explicit knowledge [32].

2.3. Creativity, poetry, and knowledge creation

Creativity is the process of bringing into being something novel and useful [33]. For Weisberg [32], creative thinking goes beyond knowledge however knowledge provides the basic elements (building blocks) for constructing new ideas. He states that extensive domain specific knowledge, although not sufficient, is a prerequisite for creative functioning. However, creative thinking can produce true advances only if it goes beyond the limits of knowledge as using past experience could result in negative transfer to new situations [32]. Organizational creativity is the creation of a new valuable product, service, idea, procedure, or process by individuals working together in a complex social system [34]. Creativity for individuals and organizations implies doing something for the first time or creating new knowledge [34]. Thus, creativity involves the extended use of existing knowledge to generate new knowledge, breaking the limits of existing knowledge and avoiding negative transfer.

Differing views exist regarding the relationship between knowledge and poetry [35]. While one view asserts poetry as an expression of feeling with no contribution to the knowledge, another view asserts that poetry can transmit or produce or embody knowledge uniquely [35]. Poetry holds the potential to capture emotion and express the unsayable with passion, truth and intensity; it can be used to flavor organizational learning [36]. It can facilitate new organizational knowledge particularly for issues requiring a reflective space that taps into emotions and uncovers layers of thoughts and feelings [36].

Poetry can facilitate creative problem solving through its positive affect (making people feel good through humor), increasing their capacity of creative problem solving [37]. Anything that makes us feel good is likely to help us think more broadly and creatively [37]. What makes people in one culture feel good may not have the same effect in another culture.

2.4. Indigenous techniques of knowledge creation in Ethiopia

Indigenous Knowledge (IK) has been orally passed down for generations from person to person and is expressed in language (stories, epics, legends, tales or poetry), music (folk songs or instrumental music), spiritual activity (dance, rituals, or ceremonies), and arts and crafts [38, 39]. Unlike other forms of poems, Qinea poems combine many of these expressions such as stories, folk songs, spiritual dances, and ceremonies.

IK has enabled its holders to survive in harmony with nature [6] even in problematic situations. People
all over the world have been using their own indigenous knowledge for their own situations.

Despite the clear tradition of viewing IK and institutions holding it as obstacles to development [5], IK is increasingly considered to play a key role for sustainable resource use and balanced development [39]. Development efforts fail to achieve desired objectives when they are ignorant of the local technologies, systems of knowledge, and environment [39]. IK is the local knowledge that is unique to a given culture or society and as the information base for a society that facilitates communication and decision making [40]. IK is most often tacit knowledge that resides within its holders [7].

In the Ethiopian context, the Poetry Schools (Qinea Bet) have been teaching students to actively create and share knowledge [11]. Qinea has been the oral tradition of instant knowledge creation and sharing for centuries. It was originally used for religious purposes, but now it is embodied in the culture and is often practiced by traditional singers (called Azmaris).

Qinea is the output, the knowledge in the form of poem that results from a “live” process of knowledge creation. Qinea poems are instantaneously composed to express new personal insights about special events, or ceremonies, or festivals. The person who produces the poem gathers information through observation of events (for forming the deeper meaning), retrieves from his brain relevant previous knowledge (as a cover meaning), matches this knowledge with the actual event, and produces the poem. The length of Qinea (poem) can range from 2 to 11 verses of various sizes and there are 9 different types of Qineas [11]. A composer can compose the different types of Qineas (a total of more than 33 lines) and deliver them orally within few minutes and “off the top of the head”.

Through the poems, the composer becomes the knowledge creator. Combining his previous knowledge and capturing the viewers’ expectations, he expresses new knowledge that best describes the truth about the event in exemplary poems. This could be related to the transformation of tacit knowledge into explicit knowledge or to what von Krogh et al. [29] describes as justifying concepts.

From the knowledge creation perspective, there is no previous research on the practices of knowledge creation in Qinea schools. The few previous research projects on Qinea are from the poetry and linguistic perspectives or from the Church treasury perspective.

3. Research question

Despite the existence of rich indigenous techniques related to knowledge creation, modern Ethiopia faces at least three problems with respect to knowledge creation. First, the country has lost documented knowledge of what enabled its earlier civilization [41]. Second, there has been little effort put forward by modern organizations to foster knowledge management as manifested by the absence of knowledge management strategies or initiatives. Third, the poor quality of modern education [10, 42] hasn’t provided the country with the knowledge that enables it to be competitive in the modern economy.

In order to be successful, best practices must embrace local technologies, local systems of knowledge, and the local environment [39]. Thus, for Ethiopia and other similar countries to advance in the knowledge economy, they must learn to adapt best practices from other parts of the world while ensuring that they incorporate their own traditional knowledge. However, the traditional techniques of knowledge creation are not well studied, making it difficult to harmonize with modern knowledge management.

With the objective of exploring the indigenous techniques of knowledge creation and transferring these insights to modern knowledge creation, the research addresses the following questions.

RQ1: How and why do experts in the indigenous Qinea Schools create knowledge? Besides exploring the indigenous techniques, we will see what factors hinder or facilitate knowledge creation. This question takes our research beyond the source and state of knowledge to consider the conditions that facilitate knowledge creation, as suggested by Alavi & Leidner [16].

RQ2: What can organizations learn from indigenous forms of knowledge creation? In addressing this question, we will identify possible application areas of the indigenous techniques and their implications for organizational knowledge creation.

4. Research Approach

Given our objective to explore how indigenous techniques of knowledge creation are performed within its social context, we elected to anchor our research in an interpretive research paradigm. Accordingly, we recognized a socially constructed view of reality (i.e., ontology wise) and a subjective construction of knowledge (i.e., epistemology wise), requiring us to get ‘inside’ the world of those using the indigenous techniques for knowledge creation. These choices influenced our data collection and analysis methods.

4.1. Data source background

The data sources for this research were Qinea Schools and experts of Qinea (teachers and students).
The Qinea schools are boarding schools; students are expected to live there for extended periods of time. In such schools, three to six students typically live in a small circular hut (with a diameter of less than 3 meters). Students within a given hut are usually at different ranks so that a student at a lower level can be assisted by a higher level student. High level students learn from even senior students or the master teacher.

A beginner needs to spend over four years at a school to become a teacher of Qinea. The time it takes for a student to become a composer is usually less, and is based on personal effort and previous knowledge of religious thoughts of the Ethiopian Orthodox Church and its languages (Geez and Amharic). If one has such previous knowledge, he normally starts to compose Qineas within a few months of study at Qinea schools.

4.2. Data collection methods

Data was collected via interviews, participant observation, and reviewing of secondary documents. Before entering the field, the main author consulted secondary sources, that is, knowledgeable persons, books containing Qineas, and an Amharic documentary film on Qinea schools entitled “Qinea: the philosophical foundation of the ecclesiastical education” by the Mahibere Kidusan of Ethiopian Orthodox Church [43], to establish a basis of knowledge. He was informed that to truly understand Qinea, it is necessary to visit the Chegodea Hanna Qinea School (located in West Gojam, 255 miles northwest of Addis Ababa), and to consider other top Qinea schools like Debre Tabor and Zara Michael (South Gondar), and Shinbit Michael (West Gojam).

The first author was able to visit and collect data from three top level schools (Chegodea Hanna, Shinbit Michael, and Debre Tabor Savior) and two feeder schools (Bahir Dar Giorgis and Kimer Dengay Arbaitu Ensisa). Across these schools, interviews were conducted with five master teachers and six students. During each Qinea school visit, the researcher initially introduced himself and created rapport with the teachers. As the researcher is a church member, he had no difficulty establishing a trusting relationship with the teachers and students. Once trust was established (which usually took a day or two), the researcher started requesting interviews. Separate interview guides were created for Qinea teachers and students.

In addition to formal interviews, informal discussions were conducted with students. In fact, given that the researcher lived in a hut with other students during each school visit, many opportunities for informal discussions arose. Whenever the researcher obtained valuable information through such informal discussions, he requested that the information be repeated and recorded. Overall, the participants were very candid, open, and comfortable through the interview process. In total, we collected 386 minutes of formal and 600 minutes of informal interviews. A summary of the data collection techniques used at each school is provided in Appendix 1.

4.3. Data analysis

Field notes were written by the first author before leaving each of the poetry schools. These field notes helped the researcher stay focused on what had been done, what had been learned, and what needed to be done next. Qinea (poem) verses and tales were also analyzed to provide insight into values, history, practices, and beliefs reflected in them. Therefore, in addition to the recorded interviews, it was necessary to select orally told or documented verses of Qinea to illustrate how experts used the knowledge creation techniques to justify their belief and to solve the problems they face.

After completing all interviews, transcripts of the interviews and the field notes were incorporated in a qualitative data analysis software (i.e., the Coding Analysis Toolkit, at http://cat.ics.usp.edu/) for coding and analysis. A coding scheme inspired from our review of the literature was used for the initial round of coding. However, as we progressed in our coding, we added codes for incidents that we deemed interesting and relevant, but for which the literature had not suggested a code for. We thus revised our coding scheme to a great extent over time (see the final version in Appendix 2). We stopped revising the codes as we reached saturation (classified all major incidents) and as the codes were fully supported by the data.

After we completed coding, we then created categories representing the key themes that emerged from our data sets. To do this, we first extracted all the coded segments for each code, we then summarized what these coded segments were about, and we combined groups of codes that were relevant to one another into themes. As can be seen in Appendix 3, the datasets were categorized with 37 codes. The codes were further grouped into seven aggregate themes and then into four major implications.

5. Findings on the process, barriers and enablers of knowledge creation

One of the major questions in this research was “How and why do experts in the indigenous Qinea Schools create knowledge.” The ‘how’ aspect is related to the process of the indigenous knowledge creation.
The ‘why’ aspect is related to identifying the barriers and enablers (motivating factors).

5.1. Indigenous knowledge creation process

The biographic data of informants show that the composer students and master teachers have studied Qinean for at least four years. Beginner students may take several hours to produce their own poem. They study Geze morphology and the teacher’s poems under the guidance of a tutor. Tutoring students can produce relatively less complex types of poems within shorter periods of time. Corrector students produce almost all types of Qinean poems again with less effort or preparation. Composer students, also called Plunderers, can produce all types of poems instantly “off the top of the head” and can even predict (“plunder”) the poem of others under formation. They are like the master teacher but lack the experience and methodologies/techniques the master teacher possesses.

The master teachers can compose many Qinean poems at once at a speed of a normal conversation. The main researcher witnessed a teacher who continued composing continuously for two hours until two students begged him to stop, holding his hands. The teacher was deeply immersed and he seemed to be awaken by the two students. Asking how long he can keep composing, the students said that he can compose the whole day, but will be completely exhausted for two days after doing such a feat. That is why the students begged him to cut the composition.

As the knowledge is presented in poetic forms, one can wonder if it is like slam poetry or freestyle rap (or ancient practice of flyting). Although they are relatively similar in that they are comprised of not previously composed lyrics, but rather "off the top of the head” creativities, Qinean poems differ in essence (focusing on knowledge creation and problem solving), presentation of layered meanings (wax and gold), and validity measures. There are other cultures in Ethiopia (such as ‘Belha – libelila’ at court and “Fukera” to inspire for war) that are more related to the ancient practice of flyting (modern freestyle rap).

The process of composing Qinean poems is always initiated by a triggering event (ceremonies like religious festivals, wedding, and funeral). At such events, when a person is called to compose, he quickly scans the situation (key participants of the event) for the deeper meaning and relates it to existing knowledge in his brain for the cover meaning. Combining his previous knowledge with the information of the ceremonial events and capturing the viewers’ expectations, he expresses new knowledge that best describes the truth about the event in exemplary poems. The process is depicted in the following figure.

**Figure 1. Processes of knowledge creation in Qinean schools**

The general process of composing Qinean poems resembles the socialization and externalization processes in the SECI model. Socialization in SECI involves the sharing of tacit knowledge between individuals through physical proximity (being together or living in the same environment) [27, 31]. Similarly, Qinean students and teachers live together (have physical proximity) and share, in poetic forms, their personal belief (tacit knowledge) about a situation. The difference is that the knowledge sharing in Qinean is in verbal form, contrary to the socialization of SECI model which doesn’t necessarily involve written or verbal instructions. This articulation of tacit knowledge through dialogue where the composer explains why he said everything in his poem is related to externalization of SECI model. When a person composes a poem, he at the same time creates the concepts in language and the knowledgeable audience evaluates his poem from different perspectives (originality, appropriateness of language, size, and meaning layering in wax and gold). This is related to the first three steps in the 5-step model of von Krogh et al. [29]: sharing tacit knowledge, creating concepts, and justifying concepts.

5.2. Barriers

Economic and academic problems were reported by almost all respondents as the major barriers to studying Qinean. The economic barriers are widespread. As almost all students went far across regions to study Qinean, families do not provide economic assistance. Thus, students usually get food by begging the villagers around the Qinean schools. As most Qinean schools are located in rural areas, the villagers are farmers with their own economic problems and it is difficult for them to give food to the students. Academic barriers included the problem of understanding the subject matter (manifested by inability of creating Qineas as desired) and the shortage of text books that support the study. Compared to the economic barriers, the academic barriers are more harmful and unmanageable.
5.3. Enablers

Qinean students and teachers enjoy devoting their entire life to the study of Qineas, despite their severe economic problems. We have to ask here why they study Qineas under such conditions. Interviewees described the primary motivating factors for studying the Qineas as: the Challenge (of creating new Qineas sharpens the brain), Knowledge (the love for knowledge in Qinean schools), Freedom (of creativity), Satisfaction (derived from composing and listening to good Qineas), and Religion (providing better religious services). Knowledge was mentioned as the dominant motivator to study Qineas. Students claim that Qineas is the source of knowledge that money cannot buy and that such knowledge enables them to predict the future, curve the direction of things to their convenience, lead a preferred lifestyle, understand things easily, make wise judgments, and lead followers to desired destinations. Knowledge is mentioned as a source of other motivating factors for studying Qineas (religious fulfillment, satisfaction, and freedom of creativity).

We can relate the enablers with the four ba’s of Nonaka and colleagues [31]. The Qinean schools have good Originating ‘ba’ allowing students to informally share problems and opinions with one another. The Qinean presentation sessions (allowing a student to present new Qineas and get feedback daily) can be considered as interacting ‘ba’. The difference is that in the interacting ‘ba’, the people selected to engage in dialogue have a relatively balanced mix of knowledge. In Qinean schools, the dialogue is between students and correctors (having unbalanced knowledge and capabilities) and the objective is primarily to develop the knowledge construction capacity of the student while contributing to the new knowledge.

6. Findings on potentials of the indigenous techniques

Knowledge of Qineas has been serving the indigenous community for centuries in every aspect of their life. The interviewees’ reply as to “for what purposes they have been using Qineas techniques” resulted in a list of application areas including: expressing the “unsayable”, instantly creating replies or solutions, solving (personal and social) problems creatively, predicting the future, utilizing Geez documents, creative education, fulfilling religious services, entertainment, tolerance, ethics, and inspiration (for moving the mass). Many of these were also mentioned as motivating factors in one way or another. These areas are practiced among Qinean people, but they remain largely unused in modern Ethiopia. This paper will present only the first two of the application areas, given space limitation.

6.1. Expressing the “unsayable”

Qinean composers have been using their Qineas knowledge for systematically saying the unsayable or touching the untouchable (especially challenging the authorities for their wrong doings which otherwise would be unsayable) in a way that is pleasant to the authorities too. For example, Aleqa Gebre Hanna (1814-1898), an Ethiopian legend for humorous creative replies and criticisms, was one of the honored persons of King Minelik II. While he was faced with an illness, Empress Taitu sent him some oxen meat (which was considered disrespectful). Aleqa expressed his anger at the Empress by saying: “If the generous Empress gives one leg for the nobles, what will be left for the King?” By such a statement, he, at one level, thanked the Empress for her gift, but at another, suggested that the Empress had given her own leg up for extra marital affairs (thus, publicizing the unsayable rumor that the Empress committed adultery).

The challenge is not limited to kings and religious leaders. It is free in Qinea to challenge even God by questioning what seems ‘unquestionable’ as reflected in the following short Qinea of Aleqa Gebre Hanna:

You [God] who says ‘love your enemies’,
Why do you punish sinners in hell?

The composer challenges God that ordering us to love our enemies, why should not He also love His enemies (sinners) and avoid punishing them in Hell.

6.2. Instant creativity

Qinean people compose large poems and provide convincing solutions instantly, at the time the situation demands. Although the creativity is commonly expressed through poems, experts use their creativity in statements. For example, while Aleqa Gebre Hanna (19th C.) was crossing the Nile valley on foot (going from Addis Ababa to Gondar), the travelers with him told him that dangerous thieves were around. As there was no time to think or discuss further, Aleqa thought in terms of what he had: church umbrellas, church clothes, and a wooden plate (for preparing flax). He then quickly covered the plate with the church clothes, put it on his head like a replica of the Arc of the covenant, and ordered the travelers to hold umbrellas over the ‘Arc’. When the burglars reached his group, they asked whose Arc it was, Aleqa instantly replied: “St. Gorge of the Flax Processing.” All churches in Ethiopia have Arcs named after Saints, Angels, and God Himself and it is common to have an adjective of
the Arc (like ‘The Listening Mary’). The instant reply didn’t give time for the thieves to suspect he was not telling the truth; they instead showed the safe way to the travelers respecting the ‘Arc’. What Aleqa did here is to find a solution from what he already possessed. This is against the experience of many who search for a solution to a problem far from what they have/know. Such ‘automaticity’ is the life of Qinea masters.

In relation to this, Weisberg [32] states that creative accomplishment is gained through automaticity of skills, which comes through years of immersion for practicing the skills. A person with such automaticity of skills does not need to think about how to express his ideas, but produces novelty as the ideas become available [32]. Deep immersion is important to perfect a skill and to develop heuristics [32].

7. Findings on implications of indigenous knowledge techniques

Although there are different techniques of Qinea, the predominant one is expressing new ideas covering familiar ones in a form of wax and gold. The wax and gold tradition takes Qinea far beyond poetic expressions. It is like defining something new in terms of familiar concepts, as shown in the following short poem of a student:

To liberate Adam/student from illiteracy/Hell;
Savior true God/Qinea of Yaread was born in Ephrata.

This poem associates students with Adam, illiteracy with sin/hell, Qinea of the master teacher (Yaread) with Christ, and the Qinea School with Ephrata where Christ was born. This way, a Qinea composer approaches a new situation through familiar situations. Thus, when he wants to share his experience and personal belief, he presents it as gold covering familiar concepts (wax). This makes it easy for listeners to understand the composer’s new concepts.

This tradition implies that instead of thinking directly about creating new knowledge (or solution to a problem), it is better to start with what we know and try to associate it with existing knowledge or solutions. This is related to the analogy (metaphor) creativity technique. Couger et al. [44] state that analogies help to find new insight and approaches to the nature and solutions to IS problems. Metaphors are powerful tools of creativity which facilitate the description of new situations through reference to familiar ones, thereby allowing conceptual leaps [45]. Lewis [45] states that analogical thinking is a special type of metaphor which involves “mapping of knowledge from a base domain to target a domain.” He stressed the importance of analogical thinking in supporting design reasoning in technology education as students can readily see the similarity between airplanes and birds.

The thinking required to understand the deeper meaning (gold) out of its covered one does not come easily. The interpretation and understanding of Qinea takes more time than the time for their composition. True understanding of the meanings requires extracting the hidden meaning (gold) out of its covered meaning (wax). This can also be related to the knowledge discovery where we extract hidden knowledge from data. Besides, such experience of poetry is useful to uncover layers of thoughts and feelings within organizational contexts, as suggested by Grisoni [36].

There are methodological requirements associated with Qinea poems. The various types of Qinea poems are evaluated using sizes of verses, rhythm (for hymen), layering strength (wax and gold formation), Geez grammar, and selection of wordings (great meaning with few words). The strict validity measure does not hamper the students from producing new poems because of the students’ intrinsic motivation (i.e., commitment and love of the field). This is contrary to the modern knowledge creation practices which are hampered by such barriers as formal procedures and legitimate language [28, 29]. The following observations make the Qinea school practice different from the modern practice:

1. Unlimited personal commitment and affiliation for the knowledge, as it is a life time purpose for teachers and students, rather than a salaried job.
2. Strict and multilayered validation rules but with a clear formula,
3. Strong culture of constructive criticism and a reward system (although not monetary).

Despite these unique attributes, the Qinea techniques have been studied by students coming from diversified cultural and linguistic backgrounds. Although Qinea is mostly composed in the Geez language, there are Qineas in other languages as well, such as Amharic, Oromifa, and English. This suggests a possibility for transferring these knowledge creation techniques to other communities.

8. Conclusion

The objective of this research was to explore the indigenous techniques of knowledge creation and to transfer these insights to modern knowledge creation. We have raised two questions: How and why do experts in the indigenous Qinea Schools create knowledge, and what can organizations learn from indigenous forms of knowledge creation.

In addressing the how and why, we have seen that the general process of composing Qinea poems
resembles the socialization and externalization processes in the SECI model with minor differences. However, once the tacit knowledge is externalized in poetic forms, we do not see the combination step of SECI and the knowledge is not often converted to tangible forms (products or services). The indigenous techniques are more focused on tacit knowledge creation. Composing Qinea poems is a unique method for creating and evaluating tacit knowledge. The existence of multilayered formal procedures of validation does not hamper the justification process. The Qinea techniques have been used for several purposes by the community, but have not been leveraged in modern Ethiopia.

Couger et al. [44] explain creativity as a dynamic phenomenon encompassing four highly interactive components: motivated persons, facilitating processes, product (resulting from creative works), and press (positively influencing environment). This description matches with the features of the Qinea schools. The students’ dedication for the study of Qinea, even considering dire economic problems, is only possible because of their intrinsic motivation. The Qinea school environment and the educational processes facilitate students to produce new poems (products) daily.

As knowledge creation is primarily for problem solving, we have seen how individuals use the indigenous techniques for instantly creating solutions to unstructured problems. As its application is limited to personal and social issues, further studies need to focus on how to convert the knowledge to tangible products and services.

Further work is recommended to model the indigenous techniques, test it with simulated problems, and compare the results with SECI and other models of knowledge creation to see their effectiveness in creating knowledge for solving a given problem. Further work is also required to exploit the potentials of the indigenous techniques and to shape their applicability in focused domain areas.

This study was conducted on a specific indigenous community and its findings cannot be generalized to other indigenous communities. The way people create knowledge may differ from culture to culture, which makes it difficult to generalize across cultures. Similarly, it would be difficult to conclude that the indigenous techniques of knowledge creation in Qinea schools would be best practices if used in other communities. However, given the diversity of students in Qinea schools (in language and culture), the transferability of the techniques (which can be acquired through years of practice), and the experience of composers in using knowledge to create solutions for diversified problems, it could be that we may be able to mimic these techniques. In this respect, further study is recommended to extend the methods and formulas used in Qinea schools to other environments in the modern world.

9. Reference


10. Appendixes

Appendix 1. Visit of the qinea schools and data collection techniques

<table>
<thead>
<tr>
<th>Qinea School</th>
<th>Distance from Addis Ababa</th>
<th>Duration (month/year)</th>
<th>Data collection techniques</th>
<th>Data capturing means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debre Tabor Savior School</td>
<td>NW 653km</td>
<td>15 days* (2 days in 7/10 &amp; 13 days in 2/11)</td>
<td>Observation, informal interviews, and two formal interviews (the master teacher &amp; a student)</td>
<td>Video, audio, photos, &amp; field notes</td>
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<tr>
<td>Arbatu Enissa (Feeder School)**</td>
<td>NW 685km</td>
<td>5 days* (2 days in 7/10 &amp; 3 days in 2/11)</td>
<td>One formal interview (the master teacher)</td>
<td>Audio &amp; field notes</td>
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<tr>
<td>Zara Michael School</td>
<td>NW 580km</td>
<td>4 days (in 3/11)</td>
<td>Observation and informal interview (unsuccessful in getting permission to formally interview)</td>
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</tr>
<tr>
<td>Bahar Dar Shinbit Michael**</td>
<td>NW 550km</td>
<td>3 days (in 3/11)</td>
<td>Observation and three formal interviews (the master teacher and two students)</td>
<td>Audio, photos, &amp; field notes</td>
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<tr>
<td>Chegodea Hamm School</td>
<td>NW 410km</td>
<td>10 days (in 3/11)</td>
<td>Observation, informal interviews, &amp; four formal interviews (the master teacher and three students)</td>
<td>Video, audio, photos, &amp; field notes</td>
</tr>
<tr>
<td>Bahar Dar Giorgis (Feeder School)**</td>
<td>NW 550km</td>
<td>3 days (in 3/11)</td>
<td>Observation and one formal interview (a nun teacher)</td>
<td>Video, audio, photos, &amp; field notes</td>
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</table>

* Includes preliminary visits ahead of data collection to establish relationship.  ** These field visits cover only the day times.

Appendix 2. Description of codes and emerging themes

<table>
<thead>
<tr>
<th>Code Description</th>
<th>Theme</th>
<th>Implications</th>
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<tr>
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<tr>
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3385