Journey of Realization and Adaptation through Auto/Ethnography: A Shift to Transformative Educational Research

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Abstract
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Keywords
reflective, auto/ethnography, realization and adaptation, transformative research, research journey, mathematics teacher, transformative educational research

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Journey of Realization and Adaptation through Auto/Ethnography: A Shift to Transformative Educational Research

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This reflective paper explores Tara's doctoral research journey of realization and adaptation in auto/ethnography as a transformative research methodology. While reflecting on Tara’s journey, the auto/ethnographic paper emphasizes cultural perspectives, interpreting one's own experiences, thoughts, actions, and behaviors relating to society and culture. Likewise, auto/ethnography investigates and associates an individual's confrontation within specific educational, societal, and cultural contexts. With this ethos, the paper demonstrates how Tara, a mathematics teacher and doctoral student, encountered and observed auto/ethnography and discovered it as a path to transformation as a paradigm shift in transformative educational research by connecting lives and research (Dahal et al., 2022) considering the basis of ethics in auto/ethnography (Dahal & Luitel, 2022). Next, in this scenario of residing in cultural and societal context dealing with Tara’s emotions and settings of an education system, we have explored the journey of realization and adaption on how auto/ethnography blends analytic, evocative, and performative realms. Overall, we also realized that auto/ethnography guided us to delve through the past, present, and possible future experiences and unlatch Tara’s eyes to visualize a new era of research for upcoming generations in teaching and learning mathematics that reaches out to society and the nation whilst shifting to transformative educational research.

Keywords: reflective, auto/ethnography, realization and adaptation, transformative research, research journey, mathematics teacher, transformative educational research

Introduction: Pathways of Auto/Ethnography

Auto/ethnography entails researcher(s) writing about a topic with personal significance (e.g., family, personal and professional well-being, and other life secrets) and situating their experiences within the social context. “Auto/ethnography is a qualitative, transformative research method because it changes time, requires vulnerability, fosters empathy, embodies creativity and innovation, eliminates boundaries, honors subjectivity, and provides therapeutic benefits.” (Custer, 2014, p. 1). Thus, autoethnography necessitates in-depth consideration of both one's singular experiences and the universal within oneself (Hayler, 2010). In spectrum, auto/ethnography is a popular research method in educational research. Ellis (2004) shared that it is hard to define autoethnography because it is a broad term for a mix of method, research, and writing that fits with ethics, knowing, and being (Dahal & Luitel, 2022). Even though the focus of auto/ethnography can be different, there is one thing that all autoethnographers agree
their goal is to make sense of their lived experiences in relation to the culture(s) in which they are living, being, doing, and knowing (Keleş, 2022)

Auto/ethnography is a form of research that aligns with a researcher’s or researchers’ emotional dimension which emphasizes self, others, and culture. When it comes to educational research, through critical and transformative approaches, autoethnography serves as and for transformative professional development by fostering empathy, creativity, and innovation, eliminating boundaries, honoring subjectivity, and providing therapeutic benefits (Custer, 2014; Taylor et al., 2012). It is the insider’s methodology where the researcher’s personal and professional experiences become the foundation of the inquiry (Luitel, 2009) and “it could be a key to open their inner worlds imbued with personal beliefs, thoughts, and emotions. For others, writing an auto/ethnography would be a process of transformation, healing, and illumination” (Keleş, 2022, p. 2032). So, auto embraces the personal experiences; ethno refers to the description that embeds the cultural beliefs, practices, and interpretation; and graphy seeks to analyze systematically and builds up as auto/ethnography (Ellis et al., 2011), which is concerned with self, culture dialectics, and social context.

Scholars who are interested in autoethnography agree that it lets them explore their own stories and make important connections between their lives and their research (Dahal et al., 2022). In addition, autoethnography can be seen as a kind of self-narration (Dahal & Luitel, 2022) which gives researchers the freedom to incorporate multiple literary genres (see Dahal & Luitel, 2022). Likewise, most of these views stated that the goal of autoethnography is to better understand how cultural discourses shape and are shaped by individuals who live in, negotiate with, accept, and resist their immediate social groups (Hughes & Pennington, 2017; Keleş, 2022). Next, Cooper and Lilyea (2022) commented that "Autoethnography fills a gap in traditional research where the researcher’s own voice typically is not overtly included as part of the research” (p. 198).

There have been a lot of dissertations, books, articles, and conference presentations that have used auto/ethnography to do research in education. This has led to its growing popularity in education and has proven that auto/ethnography is a valid qualitative research method in educational research to foster empathy, creativity, and innovation and provides therapeutic benefits of healing power. Keleş (2022) has discussed forms of autoethnographies that have been flourishing.

These forms include Many different forms of autoethnographies have recently flourished (Cooper & Lilyea, 2022), such as “analytic” (e.g., Anderson, 2006), “art-based” (e.g., Guyotte et al., 2018), “critical” (e.g., Adams, 2017; Boylorn & Orbe, 2014; Holman Jones et al., 2013; Madison, 2012; Reed-Danahay, 1997), “critical socialization” (e.g., Keleş, 2020), “community” (Pensoneau-Conway et al., 2014; Toyosaki et al., 2009), “evocative” (e.g., Bochner, 1997; Bochner & Ellis, 2016; Ellis, 2004), “impressionistic” (Skinner, 2003), “indigenous” (Whitinui, 2014), “interpretive” (Denzin, 2014), “metaautoethnography” (Ellis, 2020), “poetic” (e.g., Faulkner, 2017; Furman, 2006; Speedy, 2015), “performance” autoethnography (Denzin, 2018), “performative” (e.g., Hamera, 2011; Holman Jones et al., 2013; Spry, 2011), “phenomenological” (Aguirre & Duncan, 2013), “poetic” (Keleş, 2022), and “psychoanalytic” autoethnography (Garratt, 2015). Also, along with single authored autoethnographies, many multi-authored works have been published under different names including “collaborative autoethnographies” (e.g., Chang et al., 2013), “joint autoethnographies” (e.g., Adamson & Mueller, 2018; Ellison & Langhout, 2016), “coautoethnographies” (Speciale et al., 2015), and “duoethnographies” (e.g., Hayler & Williams, 2020; Norris et al., 2012). Apparently, autoethnographic writing will maintain its popularity in educational research as scholars continue to frame teaching and learning as situated, social, multi-layered socio-political acts (p. 2028).
Moreover, auto/ethnography is a creative and change-seeking research mechanism, and Nepali scholars such as Dahal (2013), Luitel (2009), Pant (2015), and Shrestha (2018), among others, have found it to be an appropriate methodology in mathematics education. With the aforementioned ethos in mind and a discussion of how Tara came across auto/ethnography as transformative research, transformative learning, and transformative pedagogy, this paper reflects on the philosophical orientation of auto/ethnography and how it is established as a transformative research methodology, highlighting its reflection on transformation for mathematics teachers and students. Likewise, Tara has used writing as a method of inquiry to make sense of her experiences and explore the use of auto/ethnography as a transformative research methodology, guided by the questions, “how do various auto/ethnographic forms demonstrate the analytical, evocative, and performance aspects of auto/ethnography as research operationalizes for transformation?” and “how did Tara come to realize and adapt in her auto/ethnography, which prompted her to engage in transformative educational research?” and based on the different form of autoethnographies (Keleş, 2022) such as “analytic” (e.g., Anderson, 2006), “evocative” (e.g., Bochner, 1997; Bochner & Ellis, 2016), and “performance” autoethnography (e.g., Denzin, 2018). In this line, the paper begins with the following vignette of Tara’s schooling journey of learning mathematics:

My math teacher would make me memorize mathematical formulas by heart and put our various algorithmic problems through rigorous practice. However, I was unable to solve basic mathematical problems by rote memorization. My teacher, however, paid no attention to my difficulty in learning mathematics. I stopped asking questions after that. I realized that my experience as a mathematics student has been marred by setbacks. Fortunately, my math teacher was replaced one day after the previous one left the school. The new teacher appeared enthusiastic, which I initially sensed. She made an effort to connect mathematics teaching and learning by incorporating my cultural values and regular activities. I was shocked when I saw this, which gave me the feeling and enjoyment I needed to learn mathematics in accordance with my cultural practice. The following day, she arrived in the classroom carrying Cubiod and other teaching aids. In order to alter the pedagogy in actual mathematics classrooms, she used to implement her approaches, which included a student-centered, collaborative, participatory, child-friendly, and democratic classroom environment.

The vignette above gave us a chance to consider Tara's methods for learning math during her time in school. The vignette showed how the roles of the mathematics teachers varied, demonstrating how they varied from teacher to teacher. This reflective paper explores Tara's doctoral research journey of realization and adaptation in auto/ethnography as a transformative research methodology. By connecting lives and research (Dahal et al., 2022) and taking into account the foundation of ethics in auto/ethnography (Dahal & Luitel, 2022), the paper illustrates how Tara, a mathematics teacher and doctoral student, encountered and observed auto/ethnography and discovered it as a path to transformation as a paradigm shift in transformative educational research. In terms of the authors' roles, Tara's research from her doctoral research journey served as the foundation for this paper. Bal is the supervisor of Tara; likewise, Bal's role as a thesis advisor is to critique, suggest, and provide input to assist Tara in refining her feelings, emotions, thoughts, and perspectives in order to guide her down the right path. Tara's "critical friend," Niroj, provided constructive criticism whilst conducting fieldwork, writing, and publishing the paper. Tara, as a primary author, valued the assistance of co-authors in framing and re-framing this reflective paper. The paper also discusses Tara's
goal, which is to show how an author like Tara can conduct transformative auto/ethnographic research in the field of mathematics education. We have asked ourselves, “how does the different form of autoethnography blend of "analytic," "evocative," and "performative" autoethnographic dimensions operationalize for transformation?” and “what realizations and adaptations did Tara make during her autoethnographic process, and how did they influence her decision to engage in transformative educational research and practice?” In response to questions raised, Tara, Bal, and Niroj have explored the methodology, explained the residing research method referencing Tara’s story as a mathematics teacher and teacher educator, and described how auto/ethnographic research writing and thinking shift one’s consciousness as the avenue of healing to transform educational practices, culture and change even in societal level. This paper was developed from Tara’s point of view, highlighting her feelings, emotions, thoughts, and experiences. Next, the role of other authors (Bal and Niroj) is to nurture Tara in this field by questioning her narratives of engagement with researchers, educators, and teachers and encapsulating auto/ethnography as a transformative research methodology to research the education domain. This goal contributes to embracing a critical reflective posture, a hallmark of transformative research in education, the teaching-learning process to modify prevalent methods.

**Plethora of Memories and Stories in Auto/Ethnography: Lenses to View the World**

Life is not merely a competition; it is a journey. My life journey is going on as a mathematics teacher and teacher educator, where I am seeking to learn more and inspire others to learn. When I begin to remember, it was around 1996, on the first day of my teaching career I entered the classroom along with the students to teach mathematics in bachelor level. I was little excited and a bit nervous. So, my heart was pounding very hard. None of the students believed me to be teaching mathematics so it was quite an embarrassing situation, but I started teaching with confidence. During this new journey of teaching, I found the students lacked discipline, respect, and enthusiasm in the class. There was not any girl student in the class. There was a trend of the students going in and out of the classroom without teacher’s consent. Lack of discipline was an instinct that made the students not to pay their attention to the lecture in the class. Another day I went to the class; then started teaching and found the same situation which I face the day before. I found myself to be dominated by male students in my class. As a result, it made me upset to conduct the class. The students used to dominate me asking unnecessary off-track questions from other books, throwing a piece of chalk onto my head, giggling, and laughing were commons. It was happened time and again. This situation made me think enough is enough and I took action to transform myself to a strict teacher. I acted stubborn for bringing discipline in the class with rules and regulations for them to follow in my class. Then, I made effort to make my class interesting. I provided students with group work, divided the students into different groups, assigned the group work, and opportunity to think about mathematical ideas. As a result, I could see some changes in the classroom from the level of discipline as well as pedagogy of teaching and learning. (Personal Diary, May 2022)

Among the experiences of Tara, the above teaching learning process has guided her to many levels of struggle, hurdles, tests, and lessons making a plethora of memories and stories. As she delves deeper into her teaching experience, Tara began to see a strange story field with mystery. As a result, she has started seeing her teaching life as a story. Weaving many stories...
sometimes makes us unfold ourselves and the world around us. This is Tara’s attempt to establish small bits of experience with stories as a tool of transformation. These circumstances made Tara choose auto/ethnography as a research methodology where her experience might be a tool for developing new findings, change, and inspiring mathematics teachers. It is true that the stories of struggle focus on self, community, and experience from which any individual gets a path to walk for the change they are seeking. In this line, Stinson (2009) says that when people read our stories, they can make connections to their own lives and have a transformative moment. As each person tries to balance excellence in inquiry with ongoing learning and change, their struggles and conclusions show how the community works as a whole (Wall, 2006).

Tara places a high value on her emotional and cultural identity as an evocative being as she delves into her teaching methodology. To accomplish this, she employs analytical auto/ethnography methods, which regard her as the principal participant whose personal narratives and insights are the subjects of investigation within the analytical auto/ethnography framework (Anderson, 2006). In this type of auto/ethnography, personal accounts and insights are linked to sociological issues and theory in a wider domain. Anderson (2006) further props up that analytic auto/ethnography is used to acknowledge the theories associated with deep cultural and social phenomena to address the traditional rigor. Luitel and Dahal (2021) commented that “an analytic autoethnography bridges the ethnographic and narrative traditions; evocative autoethnography is considered equally important in connecting the emotional self with the socio-political agenda” (p. 5). It includes researchers' vulnerable aspects of themselves, about emotions, bodies, and spirits. These portions are rather evocative and include intimate detail examining how human experiences are furnished with the meaning of moral and ethical considerations, which encourage compassion and empathy with the idea of knowing how to live and cope up. More so, Méndez (2013) adds that "analytic auto/ethnography is governed towards an objective analysis of a particular group, whereas evocative auto/ethnography aims for introspection of the reader to connect to the researchers' feelings, experiences and emotions" (p. 281). Aligned with the Méndez (2013), we express Tara’s personal experience with society, culture, individual self, and emotional self. The paper attempts to visualize Tara’s auto/ethnographic reflections from lenses to check whether its road leads to answering question: how can I improve what I am doing? (Whitehead, 1989). We argued that analytical and evocative aspects are complementary; thus, one without the other might not be possible. If we follow Yin-Yang philosophy (Fang, 2012), the opposing categories that are evocative and analytical may appear opposites, but they create a holistic reality in combination. From this perspective, the following sections deal with auto/ethnography, viewing it as a journey of transformation as well as transformative research learning.

Auto/Ethnographic Lenses: A Contextual Reflection

Tara has been working as a university mathematics teacher for 25 years. There are lived experiences of professional life that include her pedagogy, teaching, and learning, which are hidden inside her experiential world. The utilization of auto/ethnography as a means of examining Tara's experiences in university-level teaching is centered on emphasizing her cultural perspective. Culture, as defined by Schech and Haggis (2000), is a collection of human activities that generate meaning. Here our notion of slash (/) is to represent the dialectical relation between the self and others embedded in the construct of autoethnographic methodology. Custer (2014) elaborates that "auto/ethnography is an expression of autobiographical writing and a qualitative research method that helps to explore and analyze an individual's unique life experiences concerning different social and cultural institutions" (p. 1). This approach challenges the authorized ways of dispatching researchable activities and
representing people who treat the research approaches as political, socially just, and socially conscious (Ellis et al., 2010). Similarly, auto/ethnography is an extension of storytelling within the research traditions. It is a principle that allows us to explore the inner self and write it as their life story (Smith, 2017). Our inner self discovers what we really are from inside, including our thoughts, emotions, personality, vision, goals, and motivation. This is investigated by oneself rather than other individuals and is also a quest for self-understanding through one’s experience. A person’s experience is warranted by intersecting it with prevalent society. Here, self-understanding creates self-knowledge that emerges by studying people’s personal lives, identities, and feelings (Hunt, 2016). All these aspects of living, identity, emotions, and feelings constitute the socio-cultural context. Hence, it might be said that the analytical and evocative portions in auto/ethnography are two forms, among others. These seemingly opposing aspects of auto/ethnographic research practices are intertwined with the dual lens of evocative and analytic auto/ethnography (Van den Broucke, 2019). One gives rise to the other as a series of understandings created from personal emotions, society, and normative systems. A researcher utilizes different forms of autobiography and ethnography to manifest an auto/ethnography (Adams, 2005; Keleş, 2022). Similarly, this auto/ethnography consolidates our attributes as researchers of autobiography and ethnography. It attempts to combine ethnographic and autobiographical outlooks to direct the researcher’s heartfelt scrutiny into the historical roots of their cultural situation (Taylor, 2013). When we write an autobiography, we retroactively and selectively formulate our past experiences. While doing ethnography, Tara studies a culture’s relational practices, shared values and beliefs, and shared experiences with the sole purpose of helping cultural members and cultural strangers better understand cultural values (Gautam, 2016).

As a mathematics teacher and researcher, Tara has experienced the conventional method of teaching, learning, and desire/processing for transformation. Excavating her autobiography about past education scenarios and in the sense of ethnography, Tara is strolling around her teaching and learning experience, unfolding them from the view of culture and society. Tara used her methodological tools to make the facets of different cultural experiences or assumptions pleasant, familiarizing specialties of culture for cultural insiders and outsiders via making meaning of her experience. Additionally, auto/ethnography as a process allowed us to work through feelings, emotions, and thoughts toward a research topic. The finished auto/ethnography or narrative text is the product of analysis shaped by details of private life and emotional experiences (Grist, 2013). From auto/ethnography, Tara searched for her inner voice about past, present, envisage future, and make meaning of those experiences with multiple logics and genres. This process causes her private life and emotional experiences to be reflected in her autoethnographic research. Thus, considering it as a method, auto/ethnography is both the process and product (Dahal, 2013; Luitel, 2009; Pant, 2015; Shrestha, 2018).

While reflecting other forms of research, there are many critical qualitative methods, going beyond the obvious, traditional experimental methods done in a controlled environment, and toward playing with the available data to figure out an outcome akin to the positivistic approach (Taylor & Medina, 2013). Likewise, the traditional qualitative method focuses on observation, focus group discussion, and in-depth interviews for analysis. However, the analysis focuses on apparent phenomena; that is to say, it just focuses on reality seen, heard, or observed rather than going critically beyond these aspects. The conventional methods seek to acknowledge any research problem through perspective of the research participant(s) involve (Mack, 2005). This type of research does not efficiently lead towards transformation.

On the other hand, auto/ethnography embraces criticalism and postmodernism, wherein critical paradigm enables Tara to develop critical self/other awareness, understanding, and meaning-making of world based on mathematics teaching-learning experiences (Luitel, 2019). This process of self-awareness for meaning making is a part of auto/ethnographic making of a
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critical research project. Hsu (2014) asserts that defiance of something, or skepticism towards any proposition, rather than itself an idea, can decently be understood as postmodernism. In this sense, auto/ethnography anticipates that researchers understand their embedded self through critical reflection and then progress in understanding one’s "self" from their own experiences, may appreciably enhance an individual’s engagement with the processes of teaching, learning, and researching. When Tara started scratching the past events, it compelled her to search for herself first. It then made her fond of researching more, which has pushed her to pursue auto/ethnographic research seeking professional transformation.

Regarding further experiences on auto/ethnography, Tara participated in an international conference, Transformative Education Research and Sustainable Development (TERSD Conference, 2016), where Tara took part in a poster presentation which was an achievement for her to be the part of the international conference. Tara witnessed many research presentations which were qualitative and quantitative, including storytelling, narrative inquiry, auto/ethnography, among others. Among all the presentations, the research studies adhering to auto/ethnography struck Tara’s mind as she was planning to start her research. In this process, she critically started analyzing her past questioning practice and showing interest towards it. However, auto/ethnographic writing gives the researchers the right to ask about internal and external factors. Internal factors include feelings and emotions, whereas external factors include the environment and the worldly dimensions that describe past, present and shape future (Clandinin & Connelly, 2000). After that, Tara began the journey of her research. She employed auto/ethnography as to her research methodology. She also planned to include fellow females who had similar stories to her own. In the process, their past revealed lots of struggles and secrets dragged her to the inquiry. The exploration of the past path showed their present condition, and their stories envisioned a transformative future. In a similar vein, Tara also started questioning, observing, and analyzing herself, and her feelings and emotions related to her past, present, and future. This event was a turning point for Tara to embrace auto/ethnography as a transformative educational research methodology. It has the potential for writing about self as an emotional and rational person whose emotions are evocative, and rationalities are analytic.

Auto/Ethnographic Journey: Future Directions

Ellis writes in the Handbook of Autoethnography about this powerful qualitative method:

… autoethnography is not simply a way of knowing about the world; it has become a way of being in the world, one that requires living consciously, emotionally, reflexively. It asks that we not only examine our lives but also consider how and why we think, act, and feel as we do. Autoethnography requires that we observe ourselves observing, that we interrogate what we think and believe, and that we challenge our own assumptions, asking over and over if we have penetrated as many layers of our own defenses, fears, and insecurities as our project requires. It asks that we rethink and revise our lives, making conscious decisions about who and how we want to be. And in the process, it seeks a story that is hopeful, where authors ultimately write themselves as survivors of the story they are living. (Holman Jones et al., 2013, p. 10)

For human life to continue for a lifetime, transformation is a fundamental replacement. It is a scenario when we reach a stage from where we start to observe the world around us differently in contrast with what we first thought or perceived (Dyson, 2007). A butterfly commences its
life with an egg, turns into a larva that eats voraciously, becomes a pupa with no food or movement, and then finally transforms into a beautiful butterfly with colorful wings flying all over. This life story of a butterfly shows the transformation. In the same way, an individual transformation, which can be compared to a butterfly, gets started from the inner level. Inside an individual, a cocoon of transformation is produced, then it grows into a larva which collects sources of transformation. Then pupa stage of being isolated from the world starts which results in the transformation into a successful butterfly with magical wings. Like this, this phase continues through a person's lifetime which gives light of change in the thinking, feeling and behavior of a person. Similarly, a person's life is filled with struggle and hardships bringing about transformation, and these scenarios, events, and happenings can be explored through the methodology of auto/ethnography. All the past stories popped up with some hardships, including the struggle for existence and lessons leading to transform a person. The present scenario of where the persons are, what they have learned, and their striving enlightens their future path. The pillar of experiences and learning transform oneself; their environment can be explained with individuals and groups gain knowledge, develop skills, and acquire new values as a result of their life journey. Resulting that auto/ethnography shows a way towards unleashing a transformative road.

**Tara’s Reflections of Professional Lives: Evocative and Emotional Journey**

I marched towards my professional journey from the same year after completing my master’s degree in mathematics education from Tribhuvan University, Nepal. When I started my teaching career, traditional teacher-centric pedagogical practices were prevalent. Likewise, I pursued the same method. As said by Freire (1970), I used to deposit lectures in students' minds. I solved the mathematical problems on the blackboard with white chalk. Students started copying my writing in their notebooks, and they used the rote memorization method to get through the examination. As said in Vedic tradition, I promoted a "rita-like" teaching culture that flows on the grounds of command or order. Gradually, I took the position of an authoritarian teacher. When a teacher acts as an authoritative source of knowledge transmission, students become passive receivers of the knowledge shared by the teacher. In this situation, Uibu and Kikas (2014) support that an authoritarian teacher is dominant and restricts students' behavioral and psychological activities. After few years of teaching, I shifted from the rural area to the capital city where my professional journey continued. I could sense the same trend of teaching and learning in the capital city. There was a similar type of teaching pedagogy; that is to say, teacher-centric. The traditional teaching pedagogy is mostly centered and directed towards the teacher, where students were taught how to sit and listen. However, this pedagogy may not provide students with valuable skills (Tularam, 2018). The teacher forced the students to learn through memorization, thereby not developing or working on their critical thinking, problem-solving ability, or decision-making skills. Here, the teacher became the primary controller of the classroom, and the students were solely the listeners and remained passive throughout the discussion.

After many years, my professional life gradually became monotonous as I adhered to the same pedagogy and lived with the same routine. I did not get further opportunities to develop a professional career. I started feeling that I wanted to create a new journey with new ideas and a new vision in mathematics education. I came to realize that it was time for me to enhance my teaching and develop myself professionally. I started searching for alternative ways of bringing a change in my routine and my academic career. Then I decided to join MPhil study in Mathematics Education at Kathmandu University, School of Education. The system of teaching-learning at the university was quite engaging. As it is said in every difficulty, there lies an opportunity. New and demanding coursework at the university shaped my knowledge
level and enhanced my creativity. The university environment, professors, colleagues, activities, and assignments were eye-openers and an educational catharsis for me in many ways. One of the home assignment tasks was to describe my journey as a student, teacher and teacher educator, and my professional life experience. In the process of writing, I explored my experience and came to know about my identity and my cultural scenario. Then I was more interested in searching for my own identity of my life journey. In this episode of searching and writing, I completed my dissertation in the identity domain. That was not the end of my research journey; it was just the beginning to search for many things. I kept researching my identity, my history, and the transformation. Now, I am pursuing my PhD to unfold my personal, professional, and cultural experience.

From all those assigned tasks, I learned a huge lesson which included refining my teaching pedagogy. After that, as a mathematics teacher, I have come to realize where I was and where I am supposed to be. The passage of time was instrumental in taking a gradual shift in my professional life. I figured out that my pedagogical practice was teacher-centric, making it playful, and student-centric, that is to say, "lila-like" practice. Then I started listening to students’ views and opinions, analyzing students’ level of understanding, and encouraging them to work collaboratively. I began to link mathematics to their socio-cultural practices and real-world problems. For example, I took the students to temples, handicraft studios, and their local kitchen. There they learnt about mathematical shapes and theories which had been used for construction of religious artifacts, handicraft material, kitchen items. Let’s say the pagoda style of Hindu Temple represents triangle shape; the wood workers use the rectangular shaped wood to develop a handicraft; and in their kitchen, the quantity of water, food, and spices denote the taste of the food they cook. As the classroom is the mediator of culture and society, the entire mathematics classroom environment represents a micro-community where learning occurs (Chaviaris & Kafoussi, 2010). From this type of teaching-learning process, students are motivated and encouraged. Hence, this was a journey from an order-oriented "rita-like" to a vibrant "lila-like" teaching pedagogy together with recognition of the blend of both rita-like and lila-like teaching learning methods.

In my professional life, I felt the same way as expressed by Taylor and Medina (2019):

I was not satisfied with my teaching pedagogy, I constantly wondered for better ways to engage students in the modes of transformative learning, cultural self-knowing, relational knowing, critical knowing, visionary and ethical knowing, and knowing in action that is associated with contemporary qualitative research paradigms. (p. 40)

The transformative research approach and auto/ethnography engage educational practitioners in research to transform their professional practices and thus the lives of future generations (Luitel & Taylor, 2019). Gently, this kind of research process can stir our thinking and actions. These shifts in thinking are likely to be exhibited in our day-to-day actions. Similarly, I began monitoring my daily activities and thought deeply about how to groom myself in terms of presenting myself, delivering lectures, conducting classroom activities, responding to students, and impacting the students for an evolutionary education. This potentially empowering process started with me, and then gradually my teaching pedagogy has directly influenced the students to some extent.

**Philosophical Orientation of Auto/Ethnography**

Some philosophical assumptions and standpoints in auto/ethnography (but not limited) consistently lead any research with three dimensions: ontology, epistemology, and axiology
Similarly, we found a new ontological, epistemological, and axiological ground in Tara’s research process. In the context of transformative research that subscribes to auto/ethnography and ontology, the nature of reality undergoes a transformation from a state of being to becoming through the incorporation of multiple lenses of worldviews. People experience subjective realities, and they hold its submerged beliefs. Transformative research has manifold nature of reality as it promotes viewing one reality from multiple windows with the centrality of the ontology of change. Gabriel (2012) explains that the nature of reality in any study is subjective, socially constructed, internally and externally experienced, value-laden, and meaningful. If one thing is right for one person, the same thing may not be right for another person. For me, reality is multiple and depends upon time and context. So, ontological stance is embedded in the subjective meanings within inner self to explore lived experiences of self and others.

The case of epistemology favors Tara’s active knowing as being that generates knowledge. The sources of knowledge are the stories and experiences of the ethnographers from which they view their surroundings. Likewise, the knowledge generated from the sources is emerged from the coordination with analytical, that is to say, societal domain and evocative that incorporates personal and emotional domain of auto/ethnography thereby embraces critical constructivism focusing on personal and political power in the knowledge generation process. The epistemological assumption of transformative research within auto/ethnography focuses on the meaning of knowledge defined from a prism of personal experience and cultural and societal lenses (Mertens, 2010). As Tara brought her stories based on her professional experiences, it has disclosed that knowledge is what we seek while researching something. Thus, the epistemological stance is her and the participants’ lived experiences of how we know and what we know about the past. So, epistemology generates knowledge through meaning-making and sense-making of events and associated emotions. With this ethos, auto/ethnographers are laden with experiences, stories, events, and happenings, creating a daunting task of analysis. Analyzing a situation either makes us confused or gives us new knowledge. When it comes to auto/ethnographers, all of these stories confuse them, make them critical, and give them information to explain and enlighten. Epistemology is the branch of philosophy that studies how knowledge is made and how it can be justified (Hofer & Pintrich, 1997).

Likewise, axiology assists in understanding reality through the value of research (Viega, 2016). Axiologically, auto/ethnography broadens the horizon of knowing oneself embedded with the values of solidarity for equity and empowerment. To accompany the value-laden nature of information gathered from the research field, I make my values known through the study and report those values and biases. Auto/ethnographic axiology touches on the role of egalitarian values and ethics that reside within the research process (Saunders et al., 2015). In auto/ethnographic research methodology, Tara expresses her lived experiences from her perspectives rooted in sociocultural, educational, and professional values seeking to reconstruct her pedagogical worldviews. Her participants also have their values which comprise their personal stories. Thus, the axiology of auto/ethnography research is value-laden, enabling us to take change-seeking behavior in the inquiry. In essence, the onto-episteme-axiological standpoint of auto/ethnography lies in the interplay of critical social theoretical foundations.

**Auto/Ethnography Fosters Transformative Learning**

From the experiences of Tara, we found that the learners' processes get activated when evaluating their experiences, making meaning out of them, acquiring new information, understanding, and shifting their worldviews through understanding. They obtain further knowledge and gain insight through critical self-reflection, thereby lead to transformative
learning (Mezirow, 1991). Mezirow (1991) further adds that transformation through meaning perspective, frame of reference, and habits of mind changes the learner's assumptions and expectations. It dives into the path from which learners develop their understanding level through critical self-reflection, searching for meaning in their lives, going beyond the manner of knowledge acquisition as much, akin to the blend of analytical and evocative epistemologies. This way of learning welcomes new insights, information, knowledge, and experiences, thereby facilitating perceptual change. Tara begins to question every matter of which she knows, including inspection issues, in a novel way. This process of questioning and critiquing progresses through this phase of time, which has taken Tara to new ventures. In general, transformative learning particularly focuses on developing capacities, changing old habits of mind, values, and belief systems for piloting reform at various levels of growth.

Moreover, in conceptualizing transformative learning, transformative learning is a multidimensional approach in education (Luitel & Wagley, 2017). It has three dimensions: psychological, convictional, and behavioral (Nino et al., 2011). The psychological dimension deals with transforming the mindset of any learner. There is a change in understanding oneself through this dimension where learners know who they are and their aims in life. The next one is the convictional dimension associated with the prevalent belief system in our society. Through this portion, there is a revision of the belief systems so that learners can transform the flaws in the existing system. The final one is the behavioral dimension linked to lifestyle. All the learners reside in some kind of lifestyle inherited by the family, society, and community. Through this dimension of transformative learning, learners bring about personal and behavioral changes that change their lifestyles as they come to learn about a transformative lifestyle for a transformative future.

Likewise, auto/ethnography flows beyond reality, giving flavors of reflection and change aligned to critical perspectives. It is an aspect of critical research that questions reality. Critical research tends to swirl around reality to culminate ideology critique (Taylor et al., 2012). Sometimes we all wonder what is there beyond the reality which we face. When we already knew that we had to change our values, beliefs, and assumptions in education, the school where we were involved in teaching did not support that change. Even if the conventional method was prevalent, Tara adhered to a constructivist approach to make her classroom engagement more interesting. Critical perspectives enable her to develop critical self-awareness, understanding, and meaning-making of her world, designed with mathematics teaching-learning experiences (Luitel, 2019). No doubt, research is considered the heart of the entire educational endeavor, which challenges the current understandings and initiates pathways to transformative frontiers (Luitel & Wagley, 2017).

Next, transformative learning is used to promote collaboration, participation, empowerment, confidentiality, acknowledgment of obligations to the concerned subject, transparency of goals, methods, motives, benefits to the issue, and opportunity for researchers to express themselves in their voice (Deal, 2006). On the one hand from the side of students to lay the foundations for long-established learning, they go through the process of collaborative inquiry that includes self-assessment and self-reflection (Billett et al., 2019). On the other hand, for grooming the students' sense of self-worth, the teacher has to fabricate an atmosphere in the classroom to increase their self-confidence. Likewise, they motivate them to do their level best and affirm their constant efforts towards improving themselves from which students succeed.

Moreover, to make the students feel it worth discussing and testing their ideas and questioning (Dahal et al., 2019) freely without any fear, the teacher has to create a space for them. From such a supportive atmosphere, students develop reflective thinking towards any problems. Thereby, the teacher can proliferate innovative, critical thinking and express different forms of viewpoints and approaches. The reflective thinking that promotes the writing process leads to critical reflexivity. The teachers’ supporting transformation might make their
students reflect and express themselves through the writing of their experiences. Telling a story creates more vivid, powerful, and memorable images in any student’s mind greater than any other means of delivering the same material (Pant, 2015). Similarly, writing brings a critical notion culminating feelings, thoughts, and emotions in the students, that is to say, an evocative dimension. In this scenario they write about their vulnerable personal experiences about their own presence and their roles. They start through making their work of writing personally important, revering difference and responsibilities making open grounds to otherness by revealing their inner faces. Students focus on the matter: "Who am I and what work am I doing here?" (Bochner & Ellis, 2016) through their evocative entry. This instinct arises their inner self.

Tara even participated in an international conference in India about women in mathematics. While in the conference, there was a panel discussion. During that time, a question emerged in my mind about why women have not been able to move forward in mathematics education in Nepal. This question constantly struck her mind. After the conference, while Tara was writing a travel journal relating to feelings, a sudden rush swept through mind that made flow in past. Tara started writing about past experiences, from which she got a clear picture of answers. From those experiences, she learned a method in which any researcher reflects critically upon their situatedness, such as writing as a mode of inquiry (Luitel & Taylor, 2007). The writing becomes a process of knowledge discovery where the writer learns to articulate their willingness to evoke their emotions and express themselves and others in transforming journey.

We recalled and analyzed Tara’s writing through the society, struggles, and the emotions in her story. In the field of education, she started with teacher-centric teaching learning. Then, through different experiences, she was inspired to unpack herself, then pedagogy, and finally teaching method, which was strength for transformative learning that revealed her past experiences. Mezirow (1997) argues that transformation in education comes from an understanding system of insightful knowledge, where is a need to develop a critical focus of learning and developing critical reflective identity of teachers to assist students in developing similar qualities. Learning is a way to construct knowledge via own's personal experiences. Transformation in learning is brought about by becoming critically aware of how and why our assumptions come to constrain the way we perceive, understand, and feel about ourselves, students, teaching, and learning world, changing structures of our expectations, and finally, making choices or acting upon the newness in understandings of education (Enkhtur & Yamamoto, 2017). Mezirow's framing of transformative learning emphasizes the importance and centrality of experience, assumption, and convention of mind. The teachers and students undergo phases of changing agent, which flowed enunciate transformation through their evocative writing.

**Auto/Ethnography as Transformative Educational Research**

Auto/ethnography is a qualitative, transformative research method because it changes time, requires being vulnerable, builds empathy, encourages creativity and innovation, removes boundaries, respects subjectivity, and has therapeutic benefits (Custer, 2014). Many years of teaching-learning experiences have led Tara to new knowledge, new questions, and new experiences. As auto/ethnography is the research through which we evolve from our experiences, it acts as a driving force to change our consciousness. We get to the stage of teaching and learning, and from there we start to see things differently. Dyson (2007) further adds that the foundation of transformation begins when reaching a stage different from our perceived origin, where anyone could start to observe things in a new way. This is attributed to a shift in consciousness, perspective, and worldview. Thus, transforming our perspective
leads to a change in consciousness. An auto/ethnographic research methodology reveals the inner voice of each participant. From their journey of a lifetime, auto/ethnographers find out new knowledge about worldview that relate the absence of the past with the need for the present for a transformative future. However, the process of auto/ethnography can reveal various emotions within the author. It can be happy, sad, revealing, thrilling, and sometimes painful (Custer, 2014).

Auto/ethnography is a hidden treasure that wraps mysteries from the past and understands the present to bring about a transformative future. By doing this, auto/ethnographers swoop into the whole process of research for a continuum of self and beyond within a certain cultural domain (Qutoshi, 2015). It goes deep into a person and beyond, then it leads to a more significant change in how teachers are trained. This process traverses through a past that may be a mixture of tormenting and enlightening experiences and making a supreme effort in the present, hoping for a transformative future. Custer (2014) explains that redefining a newness in education can be promoted in alliance with a critical awareness of revisiting past experiences. It is a mixture of interpretation and construction, that is to say, an innovative path that supports re-reading, reviewing, and critically reflecting on self and others. When Tara started carelessly or hurriedly produced writing or artwork auto/ethnography, many thoughts outflowed and made Tara go deeper and swim in happy and bitter experiences. We gained insights into knowledge through those experiences. Thus, auto/ethnography offers a powerful desire of consciousness to travel across a deeper level of consciousness.

Auto/ethnographic research method does not have a fixed path as it outsources different dimensions. Auto/ethnographic research demands creativity. It is filled with creativity as auto/ethnographers express themselves with dialogic logic, subjective logic, poetic logic, metaphorical logic, and non-linguistic logic (Dahal & Luitel, 2022; Luitel, 2009; Qutoshi, 2015). It touches different dimensions with multiple levels of consciousness. In this process, experience, findings, and path can divert into different dimensions. Qutoshi (2015) further adds that it is a transformative auto/ethnography with multiple logics. Dialectical logic displays the positive and the negative side of any event with multiple layers of consciousness. Metaphorical logic expresses multiple meanings with a pathway to think about challenging existing realities. Subjective nature is more elaborative and illuminating. Other logics include poetic, which flows towards poetic dimension, and non-linguistic expression through symbols, actions, and emotions. These all logics enrich the meaning-making process to transform a researcher.

Auto/ethnography made it possible to explore one's own stories while considering every aspect of experience. Experience can be linked to a personal level, society, culture, and environment around any person as experience is shaped by all the factors. One could argue that the experiences revealed through auto/ethnography also reflect society in general and the individual in particular. Considering auto/ethnography as an authentic research methodology (Wall, 2006) opines that auto/ethnography research methodology is more authentic than traditional research approaches. In the case of auto/ethnography, because the voices of the insider are more genuine than those of the outsider, researchers utilize self-experience. It emphasizes subjective interpretation of human experience regarding their expressions and treats them as unique individuals. Each mathematics teacher and student have their plethora of stories, experience and learning which cannot be altered like other sums or calculations. Another possibility of auto/ethnography is to distribute the lives of others by providing a reflective path through the life story presented. By evaluating any social or cultural account of accumulated experience, researchers become aware of realities they had never considered or witnessed, making auto/ethnography a valuable research method.

An auto/ethnographer must comprehend their own and other people's points of view, and auto/ethnography can aid in this process by examining experiences and establishing identity. It has a strong tendency toward the subjectivity, emotionality, and influence of
researchers in the research. It refutes the assumption that those things are absent that are crucial to understanding what auto/ethnography actually means (Adams et al., 2017). According to Adams et al. (2017), it is also a transformative research methodology that acknowledges the embeddedness of the self. Through a concrete form, it enables the researcher to comprehend and increase awareness of their part in generating and forming analytical knowledge (Kaur-Bring, 2020). Because of these traits, this methodology allows me to include aspects of myself as a mathematics teacher educator while also being a reality in the genre of mathematics research.

In the fundamental assumption of thinking, feelings, emotions, and actions, transformative learning comprises exploring through an intense systematic shift. In the case of a teacher, to excavate one's experience and to reframe any educators' thinking, feeling and subsequent actions in the classroom, the auto/ethnography methodology can be a relevant tool (Starr, 2010), so that teachers can analyze and question the vision of our teaching. The outcome of self-analysis can have ambitious implications for preparing any teacher. It explores and develops the vision of teaching. Accordingly, auto/ethnography is a method with its unique characteristics having a great impact on reflecting the past, present, and possible future experiences in teacher education research. Auto/ethnographers express a personal and cultural experience critically when writing about their self-vulnerability, i.e., the vulnerable aspect of personal as well as teaching experience.

Being a critically reflective writer, one might develop the potential to transform into something greater than a person who is only focused on one thing. Critical researchers seek to clarify the current ritual for implementing innovation by going beyond an elaborative understanding (Taylor et al., 2012). According to a review of the autoethnographic literature, the analytical approach can complement the field's apparent dominance of the evocative autoethnographic approach (Montagud Mayor, 2016). Shrestha (2018) asserts that the combination of evocative narratives and analytic meaning-making increases civic awareness for transformation. The process of autoethnographic reflection produces a personal understanding that sows the seeds of transformation. Teaching is not merely the distribution of information; rather, it is a process of reshaping both the teacher and the student to foster critical thinking, goal setting, and reflection. Instead of being traditional, the teaching approach needs to be logical and useful. This approach is crucial because it aids in my learning process. The journey began in the past, arrived in the present, and identified auto/ethnography as a new era of educational research that will lead to transformative education.

Final Remarks

This article is grounded on the "journey of realization and adaptation" in auto/ethnography. Based on Tara's research journey, we would like to conclude that auto/ethnography is not separate from who we are, how we interact with the world, and how we reflect on our lives; however, auto/ethnography is evolving into transformative educational research. In the gradual process of exploring Tara’s research journey, we explored her experiences and research work while picking up the reflexive writing style of auto/ethnography in a naturalistic manner to fulfill the sole purpose of research and transformation. We attempted to deduce from Tara's critical engagements that auto/ethnography as a research method combines evocative and analytic dimensions. We have started with how Tara encountered auto/ethnography, followed by observing it through situated lenses, then a journey towards transformative research considering research as transformative learning, and how auto/ethnography is established and popular as transformative research for developing transformative pedagogy. Furthermore, we have realized that auto/ethnography has awakened Tara to envisage the future in learning and teaching mathematics by guiding her to
acknowledge her past and present. While Tara was relating her past experiences to the present, her consciousness engulfed us, and we saw a path for the future that was metamorphic or related to or characterized by a change in form, or metamorphosis. Furthermore, Tara was delightfully encouraged to improve her pedagogical practices and envision co-actions of transformative pedagogy in her professional journey. We hope that the discussion we have presented about auto/ethnography and transformation inspires future autoethnographers to share their experiences and take this method to move towards a new era in educational research and practices as transformative research.

Next, auto/ethnography is a multidimensional, critical, and transformative research methodology that explores an individual's journey of pain, pleasure, healing, and struggle towards knowing oneself, and transforming self, society, community, and an entire nation at large by challenging the grand narratives. The spirit of the lived experiences of oneself and others and its in-depth analysis sprouts the transformative value of auto/ethnography. Likewise, the readers make their own connections with the narrative presented through personal reflections of the authors’ lived experiences. Auto/ethnography can help any person become more responsive over time and change the way we live in the world. The next step is a process that pushes anyone toward change through the practice and teaching of emancipation at their level, as it wants to go through a deeper level of consciousness. The changing scenario leads to a place where people can teach and learn, which is good for society, community, and country. Therefore, we heartily welcome auto/ethnographers for bringing about transformation to the rest of our life as a spectrum of a never-ending journey of self-exploration and discovery. Lastly, we invite you to embark on this voyage of self- and cultural discovery.

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