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Local Standpoint and Human-Centred Design for Local Health: A Methodological Approach

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Abstract: This paper engages in design research within the Indigenous Dayak community in East Kalimantan, focusing on addressing local health discourse. It focuses on methodological questions to adopt more sensitive and ethical research methods when working with local people. In doing so, this paper encompasses three key aspects: (1) examining transdisciplinary approaches from an Indigenous standpoint and human-centred design, exploring their intersections; (2) contextualizing the research within the local Indonesian community; and (3) proposing a set of methods to examine Indigenous Dayak health within the chosen approaches and context. This paper suggests adapting ethnographic sensibility to blend local and design vocabularies, attempting to create a space for discourse for setting up the design research and practice within this inquiry.

Keywords: Dayak, East Kalimantan, Indigenous standpoint, Health, Human-centred design, design transdisciplinary

1. Introduction

Indigenous communities have long been subjected to research that has exploited, disrespected, and excluded them from the research process (Guillemin et al., 2016). Such research practices have contributed to the marginalization and disempowerment of Indigenous peoples, and have perpetuated a history of colonization, racism, and oppression (Simonds & Christopher, 2013). In response, researchers have been called upon to adopt more sensitive and ethical research methods when working with Indigenous communities (Barcham, 2021; Kwaymullina, 2016; Wilson, 2008). Research methods that engage with Indigenous people - are of paramount importance when working with Indigenous communities, as they help to ensure that research is conducted in a respectful, inclusive, and empowering manner (Barcham, 2022; Smith, 1999; Wilson, 2008).

In this paper, Indigenous approaches and design are discussed, influenced by the insights gained from Linda Tuhiwai Smith's (1999) research in an Indigenous context. Incorporating the understanding of Linda Tuhiwai Smith's Indigenous scholarship, this research aims to apply her insights to work with the local communities in Indonesia. This paper advocates for the appreciation of local knowledge in design work through the application of culturally sensitive methods. While acknowledging that the importance of local knowledge is not a new argument in design studies, the objective here is to explore this value from the perspective of local people, considering the specific context of time and place in design research. The Dayak communities in East Kalimantan face numerous challenges (Bamba, 2017; Haug, 2018; Schiller, 2007), and in this paper, the focus is placed on the health issues they currently confront as a community residing in a coal mining concession area (Siahaya, Hutauruk, Aponno, Hatulesila, & Mardhanie, 2016; Toumbourou, Dressler, & Werner, 2022), compounded by the uncertainties brought about by the ongoing pandemic (Fatmawati & Dewantara, 2022; Niko, 2020). Further details on these matters are elaborated upon later in the paper.

Borrowing *envisioning* work from Linda Tuhiwai Smith (1999, p. 152)'s Indigenous-led research, this work is channelled into a methodological question to account for Dayak views, specifically their dreams, fears, hopes, and vision for imagining the future. While the Indigenous culturally sensitive methods in Australia and New Zealand have *yarning*, where they sit down and share stories, it is imagined that *envisioning* with Dayak people can be done by their communities being able to sit, talk, and share stories through *bajenta* (*ramahtamah*; in English – sharing stories while eating snack, playing music, and other activities), by sitting together (*duduk bersama*) with Dayak people.

Therefore, this paper seeks to address a methodological approach to studying Indigenous communities in design research. By doing so, the research approaches from both an Indigenous standpoint and human-centred design (HCD) are briefly explained. Then, the research context, which is the Indigenous Dayak community in East Kalimantan, Indonesia, is elaborated upon. After that, a set of methods is described to present the methodological approach. Lastly, the proposed methodological approach in this paper is discussed.

2. Navigating approaches

The research areas of Indigenous studies, design, and health have been examined in several fields such as sociology, anthropology, arts, media studies, and public health. Although this extensive literature provides valuable insights to build upon the topic, its vastness limits the depth of understanding achievable within the context of this paper. Therefore, the writing presented in this paper does not be from the perspective of an expert in all of the related fields, but rather as a design researcher who incorporates transdisciplinary aspects from each of these research areas. The purpose of this research is to provide insights for working with local communities to address their health concerns through design, denouncing or informing the direction and development of such efforts.

The central argument in this paper is that when creating designs for the local community, it is crucial to consider how their views and voices influence their own health. To achieve this, design methods and approaches should take into account the local perspectives and voices. This section briefly examines the Indigenous standpoint and HCD as a theoretical framework in this paper.

2.2 Indigenous Standpoint

In this paper, Indigenous standpoint is used as a lens in order to restore Dayak voices. Indigenous standpoint offers a theoretical approach to understand the difficulties of the Indigenous experience and how they navigate their experience within spaces while their epistemology is contested. It emphasises a culturally responsive and respectful research (Iddy, 2021). Martin Nakata (2007), as one of the founders of Indigenous standpoint, argued that utilization of Indigenous standpoint approach comes from diverse marginalized groups across cultures and societies whose voices, views, and unique experiences were rejected and suppressed within an intellectual knowledge production. In many parts of the world, the voices of Indigenous people have been sidelined and suppressed. It is because the methods that uphold Indigenous knowledge, values, and principles have frequently been ignored (Iddy, 2021; Mkabela, 2005; Owusu & Mji, 2013).

Previous researchers have brought Indigenous standpoint to health inquiry. G.R. Cox et al. (2021) note that theorizing and utilizing an Indigenous standpoint in health studies may require ontological and axiological flexibility; it acknowledges Indigenous and non-Indigenous researchers exist at the intersections of multiple overlapping and complex social locations and epistemologies at once. They utilised Indigenous standpoint as a theoretical framework for decolonizing social science in their health research with American Indian communities (G. R. Cox et al., 2021) and promoting cultural well-being for Aboriginal Elders (T. Cox, Hoang, Mond, & Cross, 2021).

G.R Cox et al. (2021) argue that research on health can include both Indigenous and non-Indigenous peoples working in partnership toward the mitigation of complex health disparities as long as certain ethical principles are applied, such as the principles immanent in community-based participatory design research (Wallerstein, Duran, Oetzel, & Minkler, 2017). This presents an opportunity to redirect HCD, which is linked to participatory design (Hargraves, 2018), to bring Indigenous health issues into design research. By amalgamating Indigenous standpoint principles and HCD principles may open the way to put Indigenous people and communities at the centre.

2.2 Human Centred Design Approach in Health Studies

In general, HCD is a design approach, the focus of whose questions, insights, and activities are the people for whom the design outcome is intended rather than the designer's personal creative process or the material substrates of the artefact (Bazzano & Martin, 2017; Bibb, 2020; Bollard & Magee, 2020; Drain, Shekar, & Grigg, 2018). HCD is built on participatory action research (PAR) by moving beyond participants' incorporation and composing solutions to problems rather than solely recording them (Becker, Dickinson, Sullivan, & Cline, 2020; Drain et al., 2018; Hargraves, 2018; Shrier, Burke, Jonestrask, & Katz-Wise, 2020). As a design process, HCD is involves designers establishing and building a deep empathy with the people who are impacted by the design (IDEO, 2015).

HCD activities with people should offer those people possibilities to realise their desires and harmonise their actions toward something meaningful, reflecting a humble acknowledgement of human agency and its culture (Krippendorff, 2004, 2005). HCD practitioners and researchers should not portray themselves as "problem solvers" or "saviors" while working with their project in the community; rather, they should address themselves as active agents: "those who could bring design to fruition" on account of this sensitive role (Krippendorff, 1989, 2005). Buchanan (2001) also echoed this reflection upon human sensitivity:

Human-centered design is fundamentally an affirmation of human dignity. It is an ongoing search for what can be done to support and strengthen the dignity of human beings as they act out their lives in varied social, economic, political, and cultural circumstances. (Buchanan, 2001, p. 37)

Thus, applying a HCD perspective requires acknowledgement of human or people's agency, competence, and participation. This is because HCD vision carries the idea that people are creative, imaginative, accommodating, resourceful, and context sensitive (Krippendorff, 2004, 2005). A key concern of HCD is to create design and include people in the process, rather than excluding them from the conversation.

Putting the notion of people as a fundamental philosophy of the work, therefore, HCD has attracted global researchers across cultural differences. In the context of Kenya, HCD was explicitly used in the study of Catalani et al. (2014) to understand the situation through the collection and analysis of data, develop a new clinical decision support information system, and implement and evaluate the system across 24 clinics. Integrating Tuberculosis and HIV care in Kenya, Catalani et al. (2014) created a clinical decision support health technology system by deploying the HCD process in three phases: hear, create, and deliver. Again in the African context, a team of health educators lead by Stanford University researchers worked on South Africa's health education in creating video-based health education content using a HCD approach (Adam, McMahon, Prober, & Bärnighausen, 2019). Adam et al. (2019) relied on HCD collaboration technique in multimedia video production, such as creating animation assets and other visual elements using a narrative approach for health promotion. This was followed by Isler et al. (2019), who also studied video-based health education in South Africa. Isler's group created an iterative adaptation of a series of maternal nutrition videos, mHealth, by using HCD via a qualitative study (Isler et al., 2019).

After briefly discussing the Indigenous approach from an Indigenous standpoint landscape and the perspective of HCD in design, the interpretation is summarized regarding the potential contradiction, if any, between the conceptual principles of HCD and the Indigenous standpoint principles. Indigenous standpoint stands for culturally safe, responsive, and respectful research, emphasizing Indigenous ways of knowing that are culturally specific (Ntseane, 2011; Stoffer, 2017). Indigenous standpoint acknowledges that people need to be understood within contexts such as their social, political, cultural, and historical contexts (Iddy, 2021; Louis, 2007; Mkabela, 2005; Nakata, 2007; Stoffer, 2017). This core Indigenous standpoint principle enforces seeing Indigenous people holistically within their contexts, which goes well with HCD perspective that puts people and their background first in any design process (Givechi, Groulx, & Woollard, 2006). HCD attempts to pay critical attention to and be sensitive toward people and their culture, who are expected to use, be exposed to, or otherwise absorb the designed products in any setting (Krippendorff, 2005), while always reflecting human sensitivity and dignity (Buchanan, 2001). These two concepts are interchangeable and can inform each other to engage with the Dayak Indigenous context.

3. Context: Indigenous Dayak people in East Kalimantan

East Kalimantan has come into the spotlight in the country's ongoing development since a new capital city (Nusantara City) planned to replace Jakarta, being built in East Kalimantan (Hamdani,

2022). As the location for the new capital city of Indonesia, East Kalimantan shows promise due to its large area with a low population density, on the third-largest island in the world, Borneo. As a province of Indonesia, East Kalimantan comprises the eastern portion of Borneo with a population of about 3.7 million people.

Several ethnic groups live in East Kalimantan. Central Agency of Statistics Indonesia (Badan Pusat Statistik – BPS) reported in 2010 (BPS, 2010) that the majority, about one third, were the Javanese who spread in almost all areas. The second largest ethnic group were the Bugis who mostly occupy the coastal and urban areas. The third largest ethnic group were Banjar people, who are quite dominant and considered as an ethnic group native to South Kalimantan. The fourth largest ethnicity in East Kalimantan were the Dayak, about ten percents of total population, who mostly live in the interior rainforests.

Dayak Indigenous are one of the native ethnic groups in Borneo (Sada, Alas, & Anshari, 2019; Sellato, 2002; Sillander & Alexander, 2016). Dayak people do not speak just one language (Avé, 1972) ; in East Kalimantan, the Dayak people are bilingual, speaking both Indonesian and the Dayak tribal language. An estimated 170 languages and dialects are spoken on Borneo island, and Dayak Indigenous languages belong to the general classification of Malayo-Polynesian languages (Adelaar, 1995).

The Dayak people in East Kalimantan or in Borneo in general have an Indigenous way of reciting their history, mostly as oral history or literature, with some part in wooden records called *Papan Turai*, and some customary practices in their culture (Mawar, 2006). Like most Indigenous people in the world, the Dayak have their mythical oral epics telling of their origin. For example, “Tetek Tahtum” is the mythical oral epic by the Ngaju Dayak, which tells the epic story of their ancestors who fell from the heavens prior to coming from inland to Borneo’s downstream shores (Nahan & Rampai, 2010). Tetek Tahtum is still narrated within Ngaju Dayak communities, who tell this story to their children sometimes in the form of a lullaby accompanied by the Kecapi (lute) musical instrument.

Dayak people also live in the hinterland, where they stay in longhouses named Umaq Daru. One whole extended Dayak family usually lives together in this longhouse, while among some Dayak of the hinterland region an entire Dayak clan inhabits one longhouse (Helliwell, 1992). In front of their longhouse, they place guardian statues to protect them against the evil spirits who they believe bring disease and bad fortune to the family and to their community. In some Dayak villages, they build common houses converting their longhouses into community meeting halls, centers for prayer, or stages for community dance and music performances.

Moreover, it is worth noting that, like most Dayaks in the region, the Dayak people of East Kalimantan are also well-known for their artistry in creating beautiful cloth, ornaments, and patterns visualizing their rich historical and symbolic traditions. They produce their own cloth that is woven from certain plant fibers as part of their rituals, and they create visual ornaments for their traditional houses. In addition, the Dayak people in East Kalimantan are known for their tattoos and their tradition of elongating the earlobes. Tattooing has been customary both for men and women among several groups of Dayak peoples in East Kalimantan (Ariaini, Eghenter, Greenwood, & Greig, 2007). Dayak people employ motifs of snakes, dragons, birds and plants, and sometimes combinations of those patterns, to symbolize meanings such as bravery, patience, and beauty.

The above description provides a brief overview of the richness of Dayak cultures and traditions, serving to illustrate the general context of this research. The specific research context in this paper focuses on the Dayak people residing in Long Lanuk, Berau Regency, East Kalimantan. A detailed description of Long Lanuk is presented in the following section.

3.1 Long Lanuk

As mentioned earlier, East Kalimantan is an Indonesian province located on the eastern portion of Kalimantan Island. Presently, the administration of East Kalimantan is divided into seven regencies (Kabupaten): Paser, Penajam Paser Utara, Kutai Barat, Kutai Kartanegera, Mahakam Ulu, Kutai Timur, and Berau. The focus of this paper is on the context of Berau Regency (Kabupaten Berau), specifically within the Dayak Long Lanuk village under the administration of Berau Regency.

The Dayak community in Long Lanuk faces various challenges concerning health and well-being, which have been exacerbated by the COVID-19 pandemic and environmental changes. Like Indigenous communities worldwide, the Dayak people in Long Lanuk, Berau, have been significantly impacted by the pandemic. This crisis has adversely affected the progress made by Indigenous populations over decades, as it has highlighted their limited access to adequate health services and discrimination. Moreover, the pandemic has had a profound impact on intergenerational dialogues among Indigenous communities, as it has claimed the lives of elders who were custodians and teachers of traditional knowledge, languages, and spirituality.

Adding to the crisis posed by the pandemic, the Dayak in Berau also confront the evolving environmental landscape due to coal mining operations. Dayak villages are situated within mining concession areas, with coal mines operating approximately two miles away from Dayak homes and communities. These mining operations have surrounded Dayak lands for many years, and their closure in the near future further adds to the uncertainty and complexity faced by the Dayak people. This, coupled with the pandemic, raises critical questions within the context of this study of how the Dayak people in Berau navigate and find hope for a better future in terms of health and well-being amidst this moment of uncertainty and hardship and the Dayaks envision their future, particularly when their voices are placed at the center.

4. Methodological Approach

To comprehend the interplay between HCD and local knowledge in the context of health promotion, an interpretative approach is employed, drawing inspiration from the design ethnographic sensibility. It suggests performing qualitative research that encompasses *experiencing* through fieldwork and participant observation, *enquiring* by interviewing and workshopping, and *examining* older and current works and texts revolving around this topic. The approach is piloted by contextualising the language used in design studies, specifically examining the interaction between HCD and local knowledge within this study. The methods are detailed below.

4.1 Experiencing

Bajenta participant observation. One of the core methods employed in this study is participant observation, as described by Van Maanen (1995). Participant observation involves gathering data on interactions and relationships by recording behavior, conversation, and experiences in the actual

setting. While participants in research are typically referred to as informants, in human-centred research, they are often categorised as users, consumers, or citizens. However, in the context of this study involving the Dayak people, they are viewed and written about as *mitra kolaborasi* (collaborators) rather than being placed into predefined categories.

A famous Indonesian proverb says *tak kenal maka tak sayang* – you need to know people, to like them or to be in love with them. This proverb sometimes translates into *ramah tamah/bajenta*. Bajenta – in local Dayak language; Ramahtamah – in Indonesian, is a gathering with friends, families, and relatives to socialise within a community. For local people, this tradition is a way to sit together to drink coffee and tea, smoking cigarettes, and talking about almost *anything*. This tradition is also employed in Dayak culture to develop trust, friendship, and togetherness.

In bajenta participant observation, participating in village activities aims to establish a connection with the collaborators and foster mutual understanding. Through this engagement, local people can be observed to gain insights into their interactions, routines, and narratives. Additionally, observation can be kept open to allow for the inclusion of other species (besides humans/people) – as Tim Ingold (2000) pointed out, we live *in* the world, and many materials, the weather, animals, plants, and machines are part of it – and things as they become involved in this activity. Local traditions and knowledge systems are often associated with a mix of things between other species, humans, and *roh* non-human (*roh* – spirit) as part of the present and the future.

4.2 Enquiring

Bakisahan Interview. Following a period of experiencing, the transition to an enquiry mode may involve organizing interviews and designing group workshops. For *bakisahan* interviews, open discussions can be conducted with the collaborators/*mitra*. As part of the research ethic, they can be made aware of the intention behind the interviews and provided with consent forms. All interviews may be recorded in digital format. The interviews can be conducted in Indonesian (mixed with local dialects). All interviews may be transcribed and translated into both Indonesian and English before being sent to the interviewees for further clarification, if necessary. In addition to Dayak people, non-Dayak individuals who interconnect with Dayak society, such as those from non-profit organizations, alliances, and local government institutions, may be interviewed or engaged in conversations.

Dayak collaborative storytelling workshop. Workshopping with people is a fundamental concept in human centred research. An issue that can arise in collaborative workshops is the limitation of skills and unequal positioning between collaborators and facilitators. In this research, collaborative storytelling may be seen as an emerging sphere of creativity, dialogue, listening, knowing, and learning. Through the workshop, ideas for collaboration and partnership can be collected, sifted, and aggregated. The main focus of the workshop in this research may be to bring together Dayak people and provide a platform for them to share their stories through Indigenous storytelling (Barcham, 2021). These exploratory events can serve as opportunities for envisioning, dreaming, and designing an uncertain future.

Barcham (2021) re-explores Indigenous storytelling from a term that Russell Bishop (1999) has coined: ‘collaborative story-telling’. This Indigenous collaborative storytelling is a way to celebrate the participatory dialogic nature of Indigenous voices on local knowledge traditions to guide the

design process. It is important for this research to respect the local traditions of design that already exist within the community. Through this collaborative workshop, the idea of togetherness is pursued to learn the creation of better design by working with local people in their own context and meeting them in this sphere.

4.3 Examining

Textual analysis. As a qualitative interpretative research method, textual analysis can be utilized to understand and interpret texts. Texts encompass language, symbols, and images/pictures. Textual analysis is often employed to comprehend the meaning of texts, connecting them to the given context (Hawkins, 2017). Through textual analysis, available information concerning Dayak can be gathered and analysed, particularly focusing on how they are represented in artifacts such as artworks in their community hall, tattoos on their bodies, and how Dayak representation is portrayed in contemporary texts produced and published outside Dayak communities or by stakeholders. By employing this method, information can be gathered to facilitate discussions within Dayak communities, and the analysis can serve as a 'baseline' for discussing the perspectives of Dayak people and how their understanding of their lives, practices, dreams, and future complements or diverges from the vision of external communities (non-Dayak world).

5. Discussion: On Methodological Approach

In this paper, the method is discussed based on readings of world-renowned Indigenous scholar Linda Tuhiwai Smith, who has made significant contributions to reorienting Indigenous research by exploring the concept of Indigenous '*envisioning*' for future health and well-being. The method employed in this paper prioritises sensitivity, awareness, and cultural appropriateness. Although the method is described using ethnographic sensibility, it incorporates a local approach and design vocabularies to ensure relevance and contextual understanding.

As described previously, the methodology for this research inquiry may incorporate *experiencing*, *examining*, and *enquiring* (Wolcott, 1999, p. 47) as the chosen approach. This approach can offer a means of observation and attentive listening to capture the voices of the Dayak community, with a central focus on cultural interpretation (Wolcott, 1999). This incorporation allows for an exploration of the intricate interplay between design studies, Indigenous health, and local knowledge, unveiling a rich tapestry of research inquiries.

Dayak language and Indonesian language are rich with meanings that hold significance to this research, hence it may be possible to incorporate such local terms alongside English in the written discourse. This form of expression can provide a platform for the voices of the local community, highlighting and appreciating their cultural wealth. The language used in the methodology, such as *bakenji* participant observation and *bakisahan* interviews, can serve as a means to reconnect with the local people. Previous research has beautifully celebrated local terms by incorporating them in method descriptions and analyses within the context of Java (see Crosby, 2013, p. 14).

In addition, the collaborative workshop is a critical space for this research for collaborating with Dayak people. The Dayak storytelling collaborative workshop is a way to create local value to increase trust, deepen engagement, and offer greater mutual insights in a respectful way. Taking solemnly the realization that design methods in design process are always necessarily political

(Barcham, 2021), at least between the West and the global South, this methodological approach describes the potential remix role that local design methodologies—such as *banjenta* observation participation, *bakisahan* interview, and Dayak collaborative story-telling—may play in guiding new forms of design. This methodological approach/interpretative turn offers a culturally sensitive way to process research on the HCD and indigenous standpoint in Dayak health. It highly emphasizes the cultural context and local value in approaching this topic.

The methodological approach explored in this writing—based on a reflective and respectful engagement with a different body of knowledge that exists in the literature—attempt to create a space for discourse for setting up the design research and practice within this inquiry. While the approaches present in the current work will not necessarily settle the tensions between the different worlds that exist, revolving around this research agenda, it will hopefully build up the possibility of a space where the unheard voices can be heard and will go through for facing the future together.

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