

## **Nannagogy: Social movement learning for older women's activism in the gas fields of Australia**

Lorraine Larri  
Hilary Whitehouse

James Cook University

---

*In this paper, we explore the concept of Nannagogy, an innovative pedagogy of informal adult learning enacted by the activist 'disorganisation', the Knitting Nannas Against Gas and Greed (KNAGs). The 'Nannas' are predominantly older women who undertake non-violent direct action using fibre craft, knit-ins, lock-ons, and occasional street theatre to draw public attention to the negative environmental impacts of unconventional coal seam gas extraction ('fracking') and of fossil fuel mining. We identify the characteristics of Nannagogy as a hybrid system of lifelong / later-in-life learning and a complex pedagogy of informal learning that can be understood through social movement learning theory (SML) drawing on Paolo Freire's (1970) original concept of 'conscientisation'. Nannagogy is an act of radical adult education that has its antecedents in feminist collective learning strategies such as consciousness raising as well as the formal education strategies of action learning and communities of practice. Nannagogy is highly effective adult learning practice at the intersection of adult learning theory and social movement theory. Data presented in this paper were collected with active KNAG*

members in Australia as part of a PhD study using surveys, interviews, document analysis of social media (Facebook posts, digital videos, e-news bulletins) and researcher autoethnography. Framing activist adult learning as social movement learning locates environmental and climate justice struggles within lifelong learning practices and enables researchers to better understand the complex processes of informal, situated and often spontaneous adult learning for creating and sustaining movements for social, environmental and political change.

**Keywords:** Knitting Nannas Against Gas, social movement learning, Nannagogy, activism, lifelong learning, informal learning, active ageing.

---

## Introducing the Knitting Nannas Against Gas and Greed

*We came we sang, we sashed [for International Women's Day]  
... and after weeks of hard work and [then] hours of sitting on  
the hard, hard concrete we needed to get out of the hot sun and  
get something to eat and drink and a Nanna nap! Nothing is too  
hard for Nannas ... and we never give up.*

(Comment posted by Rosie Lee, Lismore Loop, 10 March, 2019 Facebook)



'United to Protect our Water' – 101 Knitting Nannas use their 'No Water No Life' sashes for soft lock-on to the bars of NSW Parliament House, International Women's Day, 2019. Photo: Dominique Jacobs (Gloucester KNAG Loop) reproduced with permission.



*'United to Protect our Water' –The Knitting Nannas rally on International Women's Day, 2019 (Martin Place, Sydney, Australia)*

*Photo: Dominique Jacobs (Gloucester KNAG Loop) reproduced with permission.*

Most of our learning as adults comes from daily experiences – socialising with friends; learning how to do new tasks; performing Internet searches; and getting together as craftivists to challenge the expansion of carbon polluting industries in Australia. The Knitting Nannas Against Gas and Greed (popular acronym KNAGs, and referred to in this paper as the Nannas) are an Australian movement of older women activists initially brought together by the threat of coal seam gas (CSG) mining in the north coast New South Wales town of Lismore in 2012. A few concerned women joined an existing environmental group in support of anti-CSG movement 'Lock The Gate', where they learned strategies for non-violent direct action (NVDA). However, these women became frustrated by the inherent and unacknowledged sexist and ageist attitudes expressed by male activists. According to founding member, Clare Twomey, they were expected to make the teas and take minutes. In her acceptance speech for the Ngara Institute Activist of the Year Award, on behalf of the Nannas, Clare Twomey describes how the Nannas self-devised their alternative activism as a form of 'guerrilla surveillance'. Small groups of women went out into the countryside, parked by roadsides with their knitting, folding chairs, and thermoses to 'scope out the works'; that is, watch and record mining company, Metgasgo, truck movements (Ngara Institute, 2018). Initially knitting was a way of productively passing the time but it soon

became a way of expressing a form of environmental activism that older women could engage in. As Liz Stops (2014, p.10) comments, ‘The name ... was purposefully devised. “Knitting” and “Nannas” are words that immediately conjure a nostalgic image of older women exuding trust and love.’ Their “Nanna-ness” is a form of strategic or tactical essentialism that communicates their identity and purpose with great clarity. Collectively, they refer to themselves as a determination of Nannas.

Nannas can be found all over Australia in groups known as loops. They are not a formal organisation, rather they position themselves as a ‘disorganisation’, indicating their internal learning processes take the place of any formal organisational structure. In consciously avoiding incorporation as a legal entity, they claim greater freedom to be “cheeky” as explained in a July 3, 2018 post on their Facebook page, Knitting Nannas Against Gas:

*Facebook wants our ABN. ABN? A bothersome Nanna? Awful bottom noises? A bloody nuisance? Assuming bankers notice? Abysmal boring names? Auntie's being naughty? Authoritarian bastards naked? Send us your ABNs. We'll send the best to Facebook and the ATO. NB. The Nannas are a disorganisation. We are not incorporated. It gives us the freedom to be cheeky, and we are only answerable to ourselves.*

Every Nanna who joins a loop brings skills that are acknowledged collectively. The Nannas express an ethos of drawing on individual strengths and capabilities and of supporting one another emotionally, socially and physically, including explicit recognition of themselves as ageing women facing growing frailty. Nannagogy honours a firm, if not always visible, tradition of older women’s knowing and being in inventive ways, drawing on creativity to perform effective, collective, connected and very public, social action.

From 2012 to 2018, the Nannas grew from one loop, to over thirty identified loops, most along the east coast of Australia with some in Western Australia, Victoria, South Australia and the Northern Territory. (The Northern Territory is also home to the anti-fracking women’s group, the Growling Grannies.) Figure 1 shows a map of loop locations compared with a map of unconventional coal seam gas resources presented by the mining corporation Santos at the 2013 CERAWeek Conference in Houston, USA (Baulderstone, 2013). It is no surprise that

Nanna loops are closely associated with the location of gas fields and fracking sites.

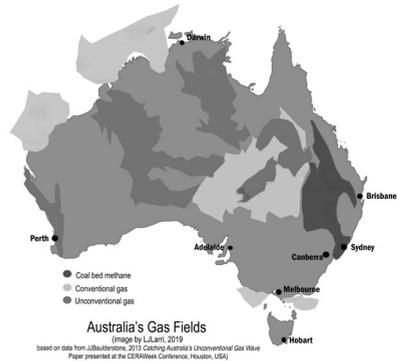
**Figure 1: Map of loop locations compared with map of unconventional coal seam gas resources**

*KNAG loops in Australia, 2017*

*Catching Australia's unconventional gas wave*



*(Map produced by LJ Larri using BatchGeo)*



*(J. Baulderstone, Santos, CERAWEEK Conference Houston, USA 2013)*

All Nannas are both witnesses to and protestors of the environmental destruction of regional and rural landscapes due to mining. They are not affiliated with any political party. Their purpose, explained in the 'Nannafesto' is 'to annoy all politicians equally' (see <https://knitting-nannas.com/philosophy.php>). Their sitting, knitting, and plotting causes considerable concern outside the offices of politicians and corporations associated with the fracking industry. To be fair, they do warn 'frackers to beware [of] women with a sparkle in their eyes and very sharp pointy sticks in their hands' (Knitting Nannas Against Gas Facebook post, May 25, 2018).

Nannas stick firmly to the principles of non-violence and they deliberately represent the 'many who cannot make it out to protests – the elderly, the ill, the infirm, people with young children and workers'. This is explained in their 'Nannafesto', which is a clear, ethical philosophy that underpins their Nannalution (*What are you knitting? A revolution!*). Keeping their fingers busy they hold knit-ins and every year get together at a Nannual Conference. They offer Nanna Hugs and comforting cups of tea in the Nanna-tent; make Nanna-Vision Videos (e.g. a Nanna Wrap/Rap and parody-performances of songs including 'Sadies the Cleaning Ladies – Cleaning up the political pigsty'); and

spread Nanna News through social media. Nanna Eve Sinton publishes a free weekly e-news, the *Fossil Fool Bulletin* that monitors fossil fuel industry activities in Australia. Their online sites include crochet and knitting patterns. They are totally committed to learning as a foundation for activism declaring, 'It's never too late to teach an old dog new tricks. Nannas ears and eyes [are] wide open'.

Nannas are doing what American Philosopher Donna Haraway (2016) calls 'staying with the trouble', and 'making kin'. Nannas are highly creative – as well as crafty – and have embraced their own language to communicate their actions and intent, riffing humorously on terms associated with knitting and with stereotyped images of ageing women. Haraway (2016) says that it matters what language we use to think ideas and move these ideas into the public realm. The Nannas have been remarkably successful in creating a new language to explain themselves to their communities, and have done this without a formal hierarchy or incorporation.

### **Understanding Nannagogy**

The Knitting Nannas Against Gas and Greed are a new phenomenon in Australian activism. They are ageing women who work collectively across the nation without a formal organisational structure (by contrast with the Country Women's Association, which equally concerns itself with quality of life issues in rural landscapes). Activism offers ageing women the opportunity to be active and engaged informal learners. In this paper, we argue that the learning and educational work of Nannas can be understood through contemporary research work on craftivism (craft + activism) and through the application of social movement learning (SML) theory. New directions for adult learning research and analysis include inquiries into gender, identity and community-based action and activism in a time of rapidly changing environmental conditions in Australia.

Adult learning for social action and activism has been a consistent topic for exploration in this Journal. Branagan and Boughton (2003) use Newman's three categories of learning (instrumental, communicative and emancipatory) to argue for more studies in social movement learning. They signal that active social movements are key features of a learning society critical to the major challenge of the twenty-first century; that is, 'helping society overcome a fallacious and un-interrogated acceptance of the benefits of economic growth'.

Ollis' (2008) analysis of individual adult learning through activism identifies differences between circumstantial and lifelong activists. She extends previous analysis by adding a spiritual or embodied dimension stressing the importance of mind–body emotional connection (i.e. passion, anger, frustration) in adult activist learning that fuel 'a desire to change the world, drive motivation and action'. In 2011, Ollis integrates theories of situated learning, communities of practice and habitus (drawing from Lave & Wenger; and Bourdieu) to argue the importance of such insights for building capabilities for effective activism towards the critical work of sustaining life on Earth. Taking this further, Ollis and Hamel-Green (2015) consider the specific activist learning occurring in the contested site of CSG mining. They find that most CSG protesters are circumstantial activists having been drawn in by necessity in order to save their rural lands and communities. Our research partially supports this finding with 55% (36) of survey respondents reporting they had never done anything like this before.

Lear's (2013) exploration of older rural women's learning processes in becoming community activists sheds light on issues relevant to our research for this demographic; that is, gender, identity and place. There is much informal and experiential learning for these women 'emerging from relative obscurity of the backrooms, kitchens and traditional supportive roles as farmer's wives and mothers to become community activists, leaders and change agents'. The difference is their processes are very much individual and not attached to a social movement.

Moving from the individual to the collective, Walter (2012) adds the dimension of frames or cultural codes as powerful creative mechanisms for provoking transformative social change. He highlights the power of satirical humour used by environmental groups, in particular the Raging Grannies, Canadian older women's activist movement established in 1987 (Roy, 2007). As you will see, this resonates with the Nannas (note that the Nannas were not aware of the Raging Grannies when they began).

We see Nannagogy as a highly creative, collective learning system, similar to a systematised curriculum except that this pedagogy exists wholly within the realm of informal learning. Nannas have deliberately taken a group approach drawing on individual member strengths to craft a social movement that became active across the nation within a few years (2012–2019). Nannagogy gives status to gender and infirmity

and to women's creativity. What does it mean to craft something? Metaphorically craft can represent traditionally, women-centred forms of connection and collaboration, that of drawing threads together in which home-based activity becomes visible in the public sphere as deliberative actions, and gives voice both physically and visually to women's place in the environment of contestation.

Our methodology for understanding is to take a comprehensive, bird's eye view of Nanna learning as a whole. We too, do a bit of knitting, in this paper looking at Nannagogy first as a clever form of craftivism and secondly a sophisticated form of social movement learning. The purpose of social movement learning theory is to better understand linkages between levels of individual, group and movement learning. Social movement learning theory works through the lenses of the micro, meso and macro, lending itself to the argument that learning is greater than the sum of the parts.

A mixed method descriptive case study approach of a 'multisite bounded system' is used to understand the learning processes of the women in the network (Merriam, 2014, p. 49). The data presented in this paper are drawn from information collected with active Nannas in Australia including written (online) survey data, one-on-one interviews, and document analysis of social media in the public domain (Facebook posts, digital videos, e-news bulletins). Researcher autoethnography is also included in this paper to enable readers of the *Australian Journal of Adult Learning (AJAL)* to glimpse the details of environmental destruction that are the ultimate focus of all Nannagogy. Both authors have been offered the title of Honorary Nanna – recognition of the relational ethics in using autoethnography. We have both been close to the action, affected by it but maintain a purposeful distance in order 'to produce analytical, accessible texts that change us and the world we live in for the better' (Ellis et al, 2011). The research has been approved by the Human Research Ethics Committee, James Cook University.

The key question for this PhD study has been to determine what motivates and engages older women to be Knitting Nannas so that they become environmental champions in actively contributing to the transition to low-carbon economies. Relevant sub-questions are:

1. Who are the Knitting Nannas and what are their characteristics?

2. What is it that women learn about through being a Knitting Nanna?
3. What are the implications of the Knitting Nannas' experiences for later in life environmental adult education?

Data collection is currently ongoing. To date, an online survey completed in 2017 yielded 69 responses from Nannas across 23 of the existing 37 loops. Most (41%, 15) were from NSW loops; 14% (5) from Queensland and one each from WA, ACT, and NT. There were none from the two Victorian loops. Women spent an average of 30 minutes completing surveys. The survey attracted respondents who have been in the movement since inception in 2012 (6 years) with a representative spread across 3 to 6 years involvement (86%, 59). Nannas range in age from 45 to 84, with a majority being 50 to 74 (88%, 61). The data indicated that respondents represented both originators of loops (25%, 15) and those who joined an existing loop (75%, 44). Some 25 women offered to participate in follow-up interviews. Some of these have been conducted (7) either face-to-face or online using Ewear video capture with Skype. Additional qualitative data from social media sources allows for triangulation of findings.

### **Nannagogy as a form of craftivism**

The Nannas see knitting as an umbrella for all forms of craft and have realised they are part of a worldwide movement drawing on traditional female arts for undertaking social and environmental protest. The practice has the name craftivism (see Greer 2014; Fitzpatrick, 2018; Press, 2018) and is generally understood as a means for making connections between people who wish to live in a more just and safe world. Both craft and activism take energy and commitment, and as neither activity precludes the other, 'activists can be crafters, and crafters can be activists' (Greer, 2014). The Nannas trace a link to the French Revolution *Les Tricoteuses* who would knit at the base of the guillotine in silent protest at their enforced exclusion from political participation (Stops, 2014 p. 8). Close (2018, p. 870) comments that the connection of craft and politics by women occurred 'long before and long after the Arts and Crafts Movement famously theorised this association at the turn of the 20th century'. There is a thread to be drawn from the Suffragette's banners and sashes through to sewn and knitted banners or flags at the Greenham Common Women's Peace Camp (Berkshire,

England, 1982–2000). Australian women at the Pine Gap Women’s Peace Camp (near Alice Springs, 1983) made similar visual protests (Clarke, 2016, p. 301). More recently, the Nannas yellow, black and red sashes and t-shirts proclaiming ‘No Water, No Life’ (International Women’s Day, Sydney, 2019).

Fitzpatrick (2018, p. 3) considers that craftivism today is more specific and developed. She writes,

‘Craftivism is both a strategy for non-violent activism and a mode of DIY citizenship that looks to influence positive social and political change. This uniquely 21st Century practice involves the combination of craft techniques with elements of social and/or digital engagement as part of a proactive effort to bring attention to, or pragmatically address, issues of social, political and environmental justice. Craftivism can take the form of acts of donation, beautification, notification or be deployed for its individual capacity building and therapeutic benefits, or for its ability to strengthen social connections and enhance community resilience.’

The Nannas use their craftivism in all the different forms mentioned by Fitzpatrick (2018). Examples include Knot the Gate; that is, the Nanna-version of Lock the Gate leaving yellow threaded triangles across fracking well sites; staging knit-ins outside local politician’s offices; soft handcuffs for symbolically linking Nannas at protests; knitted tube-shaped covers for chains so protestors can lock-on in greater comfort; berets, banners, sunflower badges and scarves in yellow and black as part of the Nanna uniform; character costumes like Brynhildr who wears a knitted horned Viking helmet and carries shield and sword; playful yellow and black character finger puppets; and Chooks Against Gas, which are crafted soft toys representing chickens that are given away to children of families affected by toxic fugitive gases produced from fracking.

Nanna loops create viable opportunities for older women – a group not usually visible or vocal due to both age and gender stereotyping – to engage in eco-activism and active ageing around Australia. Nannas take the traditional knitting circle from the private realm quite literally out into the open. Knitting enables peaceful activism that is sympathetic to older women’s physical capacities and engagement interests (Stops, 2014; Ngara Institute, 2018). Knitting groups support women who wish to exercise their democratic rights to be heard and challenge a system they feel is the antithesis of sustainable life now and for future

generations. Knitting groups are sites for situated learning and the development of a community of practice.

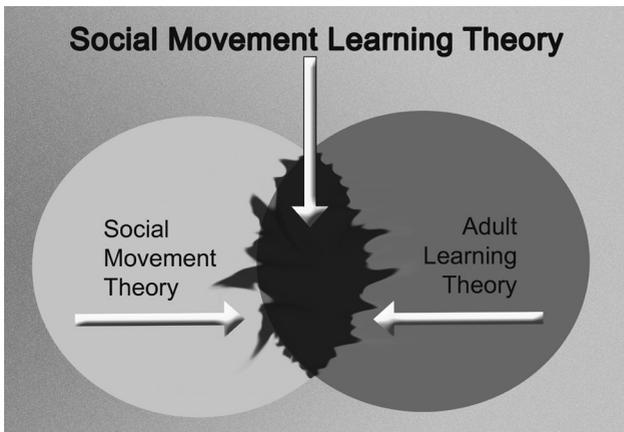
The Nannas know that sitting and knitting by a roadside, in a field, at a blockade, or outside a local politician's office, enables them to have many productive learning conversations, to share knowledge of coal seam mining (unconventional gas mining) and environmental impacts, gain a deeper understanding of their communities, and strategise and reflect on what they were learning. These processes are further supported by online networking as an expression of what Siemens (2008) and Downes (2012) call Connectivism – learning in and through a digitised world of active participants in conversation. The epitome of self-directed adult learning accessible anywhere, anytime literally in the palm of one's hand! This active connectivism is also crafty, and the media are catching onto the craft language of the Nannas evidenced by the excerpt from an Illawarra Channel Nine TV News report covering of Illawarra KNAG (IKNAG) knit-in outside local State MP, Gareth Ward's office, March 18, 2019. Reporter Brittany Hughes said in her report:

*Protestors have spun a yarn in the hope of unearthing the effects of underground mining. A group of Knitting Nannas gathered outside MP Gareth Ward's office in Kiama today – calling to protect the region's water supply. It may look like a peaceful protest but these women mean business ... The group says residents are being stitched up [video of KNAGS holding up their very long yellow and black knitting] concerned [that] long-wall mining is affecting Sydney's drinking water catchment which supplies water to 5 million people in towns such as Kiama [video of Warragamba Dam].*

## **Nannagogy as a form of social movement learning**

Environmental activism is acknowledged as providing opportunities for purposeful and transformative learning. Social movement learning (SML) theory is emerging as a useful framework for understanding the connection between adult learning theory and social movement theory. Informal adult learning is critical to the impact and success of all community activist groups but particularly to the Nannas, who deliberately eschew any formalised organisation. Social movement learning theory sits at the intersection of adult learning theory and social movement theory, as illustrated in Figure 2.

**Figure 2: Social movement learning theory**



Social movement learning (SML) is a relatively new area for educational investigation. In their State of the Field report, Canadian researchers Hall, Turray, Chow, Parks and Dragne (2006, p. 5) wrote that ‘a deeper understanding of the educational dimensions of social movements will be of use to social movement organizations and activists’ and also, as it turns out, to adult education researchers. Social movements are ‘pedagogical spaces for adults to learn and transform their lives and structures around them’ (Hall, 2004, p. 190 in Kluttz, & Walter, 2018, p. 96); they are engines of social and structural change.

In the case of the Nannas, their express, collective purpose is to ‘peacefully and productively protest against the destruction of our land, air, and water by corporations and/or individuals who seek profit and personal gain from the short-sighted and greedy plunder of our natural resources’. The Nannas form of action is to ‘sit, knit, plot, have a yarn and a cuppa, and bear witness to the war against those who try to rape our land and divide our communities’ (quoted directly from the Knit the Dream Nannafesto at <https://knitting-nannas.com/philosophy.php>). Nannas achieve their purpose by engaging in a mix of informal learning processes that can be analysed through social movement learning theory.

For Kluttz and Walter (2018, p. 96), ‘we understand social movements in part as identity movements through which both individuals and the collective engage in cognitive praxis to learn new identities, create new knowledge and take action for social change’. Social movement learning

processes are complex, dynamic, and messy; constantly shifting from the individual to the collective and back again. They are dependent on specific social, cultural and historical contexts. Our research has identified the adult learning strategies that Nannas employ, in dis/organising themselves, form a hybrid system of lifelong / later-in-life learning that draws from social learning movement theory and its forerunners including Paolo Freire's (1970) concept of 'conscientisation'; radical adult education, feminist collective learning strategies (in particular, 'consciousness raising groups'); as well as strategies applied in human resource management for organisational learning (such as action learning and communities of practice). Gender and identity are foremost; hence the term we use is 'Nannagogy'".

Kluttz and Walter (2018, p. 98) have expanded on Scandrett, Crowther, Hemmi, Mukherjee, Shah and Sen's work (2010) to conceptualise learning in the climate justice movement – a similar context to the work of the Nannas. Three levels of learning are delineated. These are: Micro (individual, interactive); Meso (frame, minimum thematic universe); and Macro (culture–ideology, hegemony). Applying this framework as an analytical tool to the Nannas has proved useful. Additional overlays of adult learning theories explain the dynamics in greater detail. We draw specifically on communities of practice and situated learning (Wenger, 2011); action learning (Revans in Zuber-Skerritt, 2001; McGill, & Beatty, 1995); and Connectivism (Siemens, 2008; Downes, 2012).

In terms of furthering our understanding of the relationship between learning and effective activism Scandrett et al. (2010, p. 125) argue that investigating the intersection between adult learning theory and social movement theory 'can lead to a synthesis which accounts for both learning and social commitment'. Historically, adult learning theory concentrated on understanding individual experiences of learning. However, social movements are collectives of individuals who share the same or similar ethical outlooks (e.g. they are concerned about environmental, social and/or cultural justice). For Eyerman and Jamison (1991), social movements can be described by their cognitive praxis, as learning communities of individuals engaged in the purposeful generation and distribution of knowledge. Social movements, because they are formed from groups of like-minded people, create cognitive (and by dint of location, physical) spaces for social learning.

Theories of social movements have always had a strong interest in the nature of collectives since collective movements first attracted research attention the 1970s, della Porta and Diani (1999) found that the common characteristics of social movements were that they were composed of informal, interactive networks of people who shared similar beliefs; acted in solidarity with each other; focussed their actions on a source of conflict (e.g. the devastation of regional landscapes by fracking) and were willing to use forms of protest to effect social, political and economic change. Social movement learning refers to (a) learning by persons who are part of a social movement; and (b) learning by persons outside of a social movement as a result of the actions taken or becoming aware of the existence of a social movement, such as the Knitting Nannas Against Gas and Greed (Hall, & Clover, 2005; Hall et al., 2006). Learning is often informal, and incidental or planned, but in the case of the Nannas, this informal learning is highly directional and purposeful, in that Nannas are learning with a firm political aim in their (collective) mind. For example, in order to become social media savvy Nannas have invited guest experts to their meetings and share their knowledge in upskilling one another.

The recent ‘cultural turn’ in social movement theorising that focusses on ‘the cognitive, cultural, symbolic, networking and “framing” activities of movements’ (Scandrett et al., 2010, p. 126) has opened analytical spaces where adult learning and social movement theorising can intersect. Meaning the context of environmental activism is fertile ground for further investigating adult learning, especially as ‘education always takes place within a changing socio-economic reality driven by systemic tensions and this reality both constrains and creates opportunities for learning’ (Scandrett et al. 2010, p. 216)

In undertaking our analysis of older women’s environmental learning, we were immediately struck with how much the learning processes of the Knitting Nannas Against Gas and Greed align with the concept of lifelong learning. It was Ettore Gelpi, one of the foremost theorists of lifelong learning, who said that adult learning is best understood within the conflicts and contradictions of any wider context, and ‘in every society there is some degree of autonomy for educational action, some possibility of political confrontation, and at the same time an interrelation between the two’ (Gelpi, 1979, p. 11, quoted by Scandrett et. al., 2010, p. 128). In Australia, we understand that lifelong learning is

part of maintaining our robust democracy, and the Nannas demonstrate this in their multitude of threads and stitches!

Applying Kluttz and Walter's (2018, p. 98) levels of analysis in social movement learning, data collected from survey results indicate Nannas are learning individually and interactively at the micro level of classification. This is characterised by acquiring new knowledge through participatory activities and actions:

*[I learnt] more about the impact of mining on human health, particularly the health of children. [I know] more about biodiversity, how it works and what sustains it. [I learnt] more details of how invasive and poisonous CSG drilling and extraction is [and have] more interaction with local Aboriginal women about how it affects them.*

Nannas variously reported learning new social media skills, how to play the ukulele and learning about mining production, financing and international connections, local geology, water systems and the workings of local, state and national government bureaucracies.

*[Before Nannahood] I never knew about CSG or how much damage was being done to our air, water and land. I always thought of myself as a conservationist and environmentalist, but this opened a whole new world.*

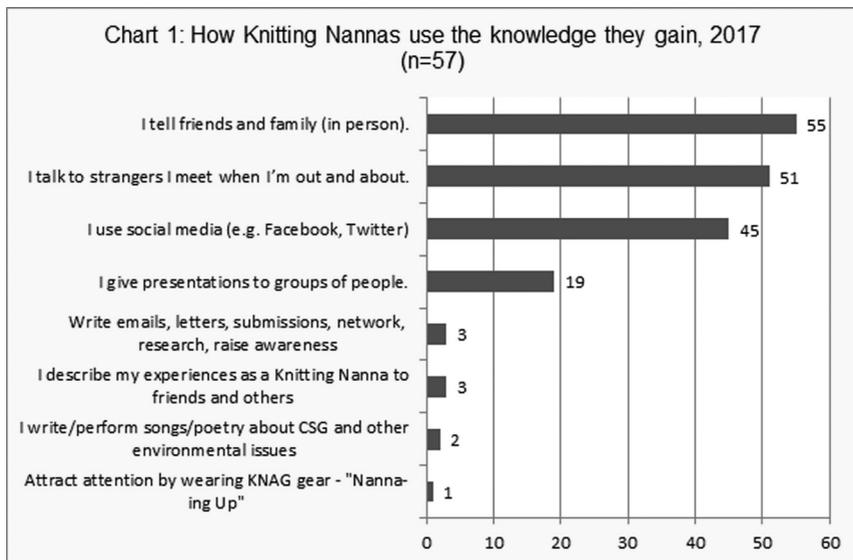
As the Nannas talk together to inform each other:

*My knowledge is fed every time someone stops and fills us in on what is happening elsewhere. General exposure to the issues, constant conversations, keeps me informed much more than I would be otherwise. I have learnt so much about CSG and how it is extracted, and the threat it poses to the environment. Once your eyes have been opened, they cannot be closed! I have become far more environmentally aware since becoming a Nanna, much more politically aware, and I've learnt to crochet!*

Learning at the meso level includes transformative learning, identity change, identity construction, reframing and reorientation of one's world view. Acting in congruence with their 'Nannafesto', Nannas together sit, knit, plot, and bear witness with the intention of annoying all politicians equally. They also explicitly wish to represent the many

who can't be there to actively protest, and to express their individual and collective agency in participating in active citizenship. Nannas who participated in the survey indicate that 'fighting Big Gas need not be stressful. It can be quirky and fun. I've learned that groups of committed and persistent ladies can achieve much'. In learning activism skills, 'I have so much respect and empathy with so many women, and have learnt how to communicate on so many new levels'.

Data collected on macro level learning is presented in Chart 1. Knitting Nannas use the knowledge they have gained to raise awareness primarily by talking to friends and family (96%, n=55) and talking to strangers when they are out and about (89%, n=51). They are active users of social media (79%, n=45) and a third have become public speakers giving presentations to groups of people (33%, n=19). Although only one respondent mentioned drawing attention by wearing the KNAG gear, all KNAGs do this and refer to it as 'Nanna-ing Up'. They dress in individualistic versions of yellow and black – the colours of the 'Lock the Gate' movement. Some Nannas have added red in solidarity with Indigenous communities fight to prevent mining on Country.



Nannas hold annual conferences getting together with invited speakers and these 'Nannuals' are very productive sources of individual and collective learning.

**Figure 3: 'Viva La Nannalution' – 2016 Nanna – national conference program cover**

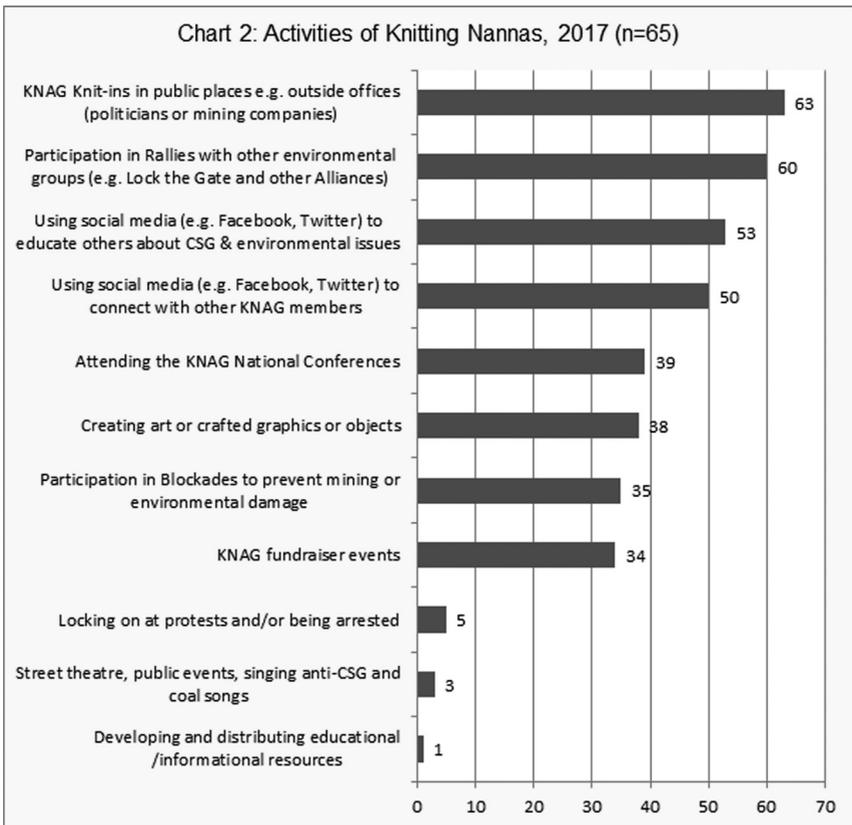


*(Artwork: Rosie Lee, Clare Twomey and Angela Dalu. Reproduced with permission)*

At macro level learning, Nannas analyse their collective experiences reframing meso level learning to more greatly understand the hegemonic social and cultural forces playing inside and outside their movement; to consider matters of Australian politics, gender, race, and class consciousness. Nannas research and learn about powers outside the movement through information gathering and experience, and in their Nanna way, form informal agreements and undertake actions with allies, and create networks with like-minded groups.



Facebook and Twitter to educate others about coal seam gas, fracking and environmental issues (82%, n=53); and have used social media to connect with other KNAG members (77%, n=50). Over half the women surveyed attended KNAG annual conferences (60%, n=39); created art or crafted graphics or objects (58%, n= 38); participated in blockades to prevent mining or environmental damage (54%, n=35); and contributed to KNAG fundraiser events (52%, n=34). Five women (8%) reported 'locking-on' to gates or machinery to prevent removal at protests and being arrested.



In our analysis, the range of capabilities developed by women through engagement with the Nannas include (and it is a long list): active citizenship, justice advocacy (social, environmental, climate), confidence

in public speaking, craftivism, critical reflection, knowing legal rights and negotiating with authorities, NVDA, social media and networking skills, and use of essentialist strategic and tactical planning. It is important to note that compassion and action are features of how the Nannas implement their 'Nannafesto'. They offer a supportive and calming influence to other protesters encouraging them in non-violent actions; they send water and give comfort to rural families affected by exposure to toxic gases and whose rivers and groundwater have been contaminated by fracking (see <https://knitting-nannas.com/philosophy.php>).

### **A morning in the Pilliga with the Nannas**

In conclusion, and to illuminate Nannagogy in action, we present an autoethnographic account written by Lorraine in August 2017, when she was attending the third Nannal conference in the town of Narrabri, New South Wales. As an Honorary Nanna, Lorraine was invited to visit the endangered Pilliga State Forest in the company of thirty Nannas.

About thirty of us are being guided by two younger environmental activists, Dan Lanzini and Jo Holden. I'd say they're in their mid-thirties and their knowledge, commitment and passion is impressive. They've made it their mission to spend as much time as possible in the Pilliga bearing witness to CSG mining company Santos fracking operations hidden deep in the forest. Nannas tell me this is not easy. Jo is a mother of young children. Her husband and family support her as much as they can. Dan often camps for days in the Pilliga but has to leave for contract work so that he can keep coming back. He seems very independent and alone.

We begin our tour, stopping at CSG extraction well sites, vents and flares. Forest clearings bounded by high mesh fences; industrial metal structures; eerie silences punctuated by intermittent buzzing, clicking, hissing; the occasional CCTV; faint chemical smells (not the fresh forest air you'd expect). Getting too close makes you feel sick and headachy. The Nannas have come prepared and put on their face masks. I've got mine. A local Gomeroi man who's come along on the tour tells us he remembers exploring and camping in the forest as a child. That was thirty years ago and that's how long it's been since the first wells and flares were put in by Eastern Star (bought out by Santos). The day before we heard from Gomeroi women about how sacred the Pilliga is to them. They described it as their heartland, their responsibility to protect

and care for. A highly significant Dreaming site, it's said to contain an underground gigantic crocodile – safe as long as it stays where it is, but with catastrophic consequences if set free. How prophetic! I'm struck by the reality of dispossession, stolen lands, loss of life purpose.

'What are they doing with the CSG from this well?' asks a Nanna. 'Nothing' says Dan, 'It's just for show when they bring investors in. Been like this for years.'

At each stop, the Nannas make a point of photographing their presence – documenting the scenes so they can show others. They gather in various formations holding their knitted banners, fists raised or arms crossed in defiance. As they leave I see yellow and black woollen knotted threads across gates. Soft barriers reclaiming spaces, symbolic memorials of their anger and fulfilling their 'Nannafesto' to 'bear witness'.

Back in the cars we're heading for the dead zones. Created sixteen years ago when contaminated water from exploratory wells spilled from evaporation ponds onto huge sections of forest. Twenty-two sites in all, we only see two. I'm walking through a grey and black denuded landscape, eerily more silent than a graveyard. It feels immediately desolate. At my feet, an expanse of dead wood, grey mulch, and patches of muddy sludge criss-crossed by irrigation pipes and the odd dying bush or leafless bare tree. In the far distance a fence and thick forest beyond. The demarcation line is dramatic.

'Look down', says Dan, 'tell me if you can see any ants or other insect life or any signs of animal activity'. 'He's right' we murmur to one another, 'there's nothing alive here'. We see signs saying 'Keep out, rehabilitation area'. Despite regular attempts with water, dispersant chemicals, and bush regeneration nothing has worked, it's still a dead zone. I'm shocked at how my emotions of disbelief then sadness affect me. I've never been here before, it wasn't mine to lose and yet I feel grief and a growing sense of anger at the carelessness and irresponsibility of people who would let this happen.

Next stop Bohena Creek. Can't see an actual creek with water, just sand, but Dan explains, 'Dig down no more than an elbow length and you'll hit water'. The creek drains from the Pilliga onto nearby Namoi Valley – rich agricultural country, a major food bowl for Australia. Dan tells us the miners have been known to dump their contaminants into the sandy

beds conveniently leaving a non-descript wet patch. The concern is the downstream impact when approval is finally given for the proposed 850 wells, that's one every 700 metres. The rains don't come often, but when they do Bohena Creek is big and floods into the farmlands. They rely on this and artesian water. The Pilliga is known to be a recharge site for this edge of the Great Artesian Basin. I already know that fracking uses megalitres of water and relies on government approvals to tap into natural sources. Dan tells us that each well will create 150 million litres of contaminated 'produced water'. The facts are swirling around my head, I can't understand why we're not learning from experience – preserving and protecting. With these sorts of track records, how can you trust mining companies with government approval not to contaminate precious water resources?

We talk about the many flares that would keep firing 24/7, lighting up the dark night sky. What would this do to nearby Coonabarabran Siding Springs Observatory and their international work in astronomy? What happens when there's a bushfire? The local volunteer Rural Fire Service has said it won't send crews in, too dangerous.

A grey silence descends on us all. By now all we can do is shake our heads in disbelief but Dan can't stop telling us what he knows. It spills out and we listen to all he's seen and researched. Finally, he ends and says, 'That's it! Now you know. What I can't understand is why people aren't listening and fighting this. Thank you for taking the time to see it and for listening.'

It's time to leave but before we get into our cars, the Nannas thank Dan and give him some money collected during the morning. He didn't expect it and shyly accepts. It will help pay the bills. He's a tall, lanky bloke and towers above the Nannas gathered around him. He looks down at them saying thank you. Spontaneously the Nannas close in with a huge, group hug. It's like Dan is briefly wrapped in their tender warmth and caring. He closes his eyes and I notice some tears.

The moment passes and the Nannas promise to share the knowledge and pain. Someone listened.

## **Conclusion**

We set out on this journey fascinated to learn how an eco-activist movement of older women had grown from one small group to over

thirty in only six years. Being educators we suspected it had much to do with learning. What we found were women who had been marginalised due to age and gender, who were determined to be productive and creative social change agents taking action for a low-carbon future. Our data show many of these women had never done anything like this before. Drawing on one another's strengths, learning from one another, taking time to critically reflect as they 'sit, knit and plot', these women have built an identifiable learning system consistent with domains of learning in previous literature and Social Movement Learning Theory frameworks to date. Nannagogy extends the field giving us new insights through the intersectionality of gender, identity and eco-activism. We know that gender blindness continues to be an issue in environmental education (Gough, Russell, & Whitehouse, 2017; Larri, & Newlands, 2017). Through Nannagogy we challenge social movement learning theorists and those working in social movements to be vigilant and inclusive. In the words of the Nannas (<https://knitting-nannas.com/>),

'There seems to be a public misconception that political activists and protesters are young, unwashed and unemployed or unemployable. Not true. Anyone can be an activist and contribute to change. Any type of action can be strong. If we get together and use our strengths, we can make change ... You don't have to be a Nanna; you don't have to knit to save the land, air and water for the future generations!'

## **Acknowledgements**

The authors gratefully acknowledge the advice and constructive feedback of expert reviewers and AJAL Editor, Dr Tracey Ollis. We thank the Knitting Nannas Against Gas and Greed, James Cook University and the Australian Government Research Training Scholarship for enabling this research.

## **References**

- Baulderstone, J. (2013). *Catching Australia's Unconventional Gas Wave*. Retrieved from: [https://www.santos.com/media/2133/130305\\_catching\\_australias\\_unconventional\\_gas\\_wave.pdf](https://www.santos.com/media/2133/130305_catching_australias_unconventional_gas_wave.pdf)
- Branagan, M., & Boughton, B. (2003). How do you learn how to change the world?: Learning and teaching in Australian protest movements. *Australian Journal of Adult Learning*, 43(3), 346. Melbourne, Australia: Adult Learning Australia.

- Clarke, K. (2016). Willful knitting? Contemporary Australian craftivism and feminist histories. *Continuum, 30*(3), 298-306. doi:10.1080/10304312.2016.1166557
- Close, S. (2018). Knitting activism, knitting gender, knitting race. *International Journal of Communication, 12, 23*. Los Angeles, USA: USC Annenberg School for Communication and Journalism.
- della Porta, D., & Diani, M. (1999). *Forms, repertoires and cycles of protest. Social movements: An introduction, 165–192*. UK: Blackwell Publishing.
- Downes, S. (2012). *Connectivism and connective knowledge: Essays on meaning and learning networks*. Retrieved from: [http://www.downes.ca/files/books/Connective\\_Knowledge-19May2012.pdf](http://www.downes.ca/files/books/Connective_Knowledge-19May2012.pdf)
- Ellis, C., Adams, T. E., & Bochner, A. P. (2011). Autoethnography: an overview. *Historical Social Research/Historische Sozialforschung, 273–290*. Germany: Quantum and Zentrum fur Historische Sozialforschung.
- Eyerman, R., & Jamison, A. (1991). *Social movements: A cognitive approach*. USA: Penn State University Press.
- Fitzpatrick, T. (2018). *Craftivism: A manifesto / methodology*. 2nd. Retrieved from <https://www.dropbox.com/s/k42i51ng1ebiibm/Craftivism-Tal-Fitzpatrick.pdf?dl=0>
- Freire, P. (1970). *Pedagogy of the oppressed*. New York, USA: Herder & Herder.
- Gough, A., Russell, C., & Whitehouse, H. (2017). *Moving gender from margin to center in environmental education*. Taylor & Francis.
- Greer, B. (2014). *Craftivism: The art of craft and activism*. Vancouver, Canada: Arsenal Pulp Press.
- Hall, B., Turay, T., Chow, W., Dragne, C., & Parks, E. (2006). A review of the state of the field of adult learning: Social movement learning [Electronic version]. *University of British Columbia*. Retrieved from: <http://en.copian.ca/library/research/sotfr/socialmv/socialmv.pdf>
- Hall, B. L., & Clover, D. (2005). *Social Movement Learning*. Oxford, UK: Pergamon.
- Haraway, D. J. (2016). *Staying with the trouble: Making kin in the Chthulucene*. USA: Duke University Press.
- Kluttz, J., & Walter, P. (2018). Conceptualizing Learning in the Climate Justice Movement. *Adult Education Quarterly, 68*(2), 91-107. doi:10.1177/0741713617751043
- Larri, L. J., & Newlands, M. (2017). Knitting Nannas and Frackman: A gender analysis of Australian anti-coal seam gas documentaries (CSG) and implications for environmental adult education. *The Journal of Environmental Education, 48*(1), 35-45. doi:10.1080/00958964.2016.1249325
- Lear, G. (2013). Ready for action and civic engagement: Resilient third age women learners in rural Melbourne, Australia. *Australian Journal of Adult Learning, 53*(3), 375-394. Australia: Adult Learning Australia.

- McGill, I., & Beatty, L. (1995). *Action Learning in Practice*. London: Kogan Page.
- Merriam, S. B. (2014). *Qualitative Research: A Guide to Design and Implementation* (Vol. 3rd). Hoboken: Wiley.
- Ngara-Institute. (2018). *Ngara Institute's 2018 Annual Lecture and Australian Activist of the Year Award*. Retrieved from <https://www.ngarainstitute.org.au/videos/>
- Ollis, T. (2008). The "Accidental Activist": Learning, Embodiment and Action. *Australian Journal of Adult Learning*, 48(2), 316–335. Melbourne, Australia: Adult Learning Australia.
- Ollis, T. (2011). Learning in social action: The informal and social learning dimensions of circumstantial and lifelong activists. *Australian Journal of Adult Learning*, 51(2), 248–268. Australia: Adult Learning Australia.
- Ollis, T., & Hamel-Green, M. (2015). Adult education and radical habitus in an environmental campaign: Learning in the coal seam gas protests in Australia. *Australian Journal of Adult Learning*, 55(2), 204–221. Melbourne, Australia: Adult Learning Australia.
- Press, C. (2018). *RISE & RESIST: How to Change the World*. Melbourne: Melbourne University Press.
- Roy, C. (2007). When Wisdom Speaks Sparks Fly: Raging Grannies Perform Humor as Protest. *Women's Studies Quarterly*, 35(3/4), 150–164. New York, USA: The Feminist Press.
- Scandrett, E., Crowther, J., Hemmi, A., Mukherjee, S., Shah, D., & Sen, T. (2010). Theorising education and learning in social movements: environmental justice campaigns in Scotland and India. *Studies in the Education of Adults*, 42(2), 124–140. doi:10.1080/02660830.2010.11661593
- Siemens, G. (2008). New structures and spaces of learning: The systemic impact of connective knowledge, connectivism, and networked learning. Retrieved from: <https://robertoigarza.files.wordpress.com/2009/04/art-the-systemic-impact-of-connective-knowledge-connectivism-and-networked-learning-siemens-2008.pdf> Retrieved on May, 25, 2013.
- Stops, L. *Les Tricoteuses: The plain and purl of solidarity and protest. Craft design enquiry*, 6, 7. Canberra, Australia: ANU Press.
- Walter, P. (2012). Cultural codes as catalysts for collective conscientisation in environmental adult education: Mr. Floatie, tree squatting and Save-our-Surfers. *Australian Journal of Adult Learning*, 52(1), 114–134. Melbourne, Australia: Adult Learning Australia.
- Wenger, E. (2011). *Communities of practice: A brief introduction*. Retrieved from <https://scholarsbank.uoregon.edu/xmlui/handle/1794/11736>

Zuber-Skerritt, O. (2001). Action learning and action research: paradigm, praxis and programs. In Sankara, S., Dick, B. and Passfield, R. (Eds.) *Effective change management through action research and action learning: Concepts, perspectives, processes and applications*, (pp. 1–20). Lismore, Australia: Southern Cross University Press.

## **About the authors**

**Lorraine J Larri** is a researcher and program evaluation expert specialising in environmental adult education and environmental citizenship. She has been in the forefront of evaluating innovative sustainability and climate change programs in Australia since the year 2000. Lorraine is now undertaking a PhD (Education) with James Cook University and researching the informal transformational learning achieved through environmental activism.

**Hilary Whitehouse** is an educator with a strong commitment to researching, learning and teaching science education, environmental education, education for sustainability, and research education. Her current research interests are in climate change education, and exploring the illuminations of new ecofeminism and feminist new materialism.

## **Contact details**

*Lorraine J. Larri*  
*Candidate PhD (Education),*  
*College of Arts, Society and Education,*  
*Division of Tropical Environments and Societies,*  
*James Cook University*  
*1 James Cook Drive*  
*Douglas, Townsville, QLD Australia 4811*

*Email: [lorraine.larri@my.jcu.edu.au](mailto:lorraine.larri@my.jcu.edu.au)*