

# Deadly Koolinga Chefs Program Evaluation



*The photos on the front cover page showcase the student's artwork from the Narrative Arts Exhibition held on 5 June 2024.  
Permission to include these images and the photo of the student has been obtained*

# **Deadly Koolinga Chef Program Evaluation Briefing**

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## 1. Deadly Koolinga Chef Program Background

The Deadly Koolinga Chef Program (DKCP) translation research pilot project was conducted between 2021 and 2023 with partner schools in Mandurah and Pinjarra, WA, in collaborative partnership with Aboriginal community members and health organisations. Using an Aboriginal Participatory Action Research approach (Dudgeon et al., 2020) to underpin the planning, design, delivery, and evaluation, the DKCP included factors required by the *Health Promoting School Framework* (Charlton et al., 2020). These include nutrition education and its importance to life-long health, food preparation and cooking skills development as a life skill, healthy food and healthy recipe selection, and, where possible, the inclusion of parental involvement (Charlton et al., 2020; Stephens et al., 2015).

Funding for the pilot was provided by the Australian Department of Health and Aged Care - \$183,500.00 and Ian Potter Foundation- \$200,000.00. Analysis of the DKCP research data has demonstrated impactful outcomes, aligning with the goals and priorities of the WA and national strategies and frameworks for Aboriginal peoples' health and well-being.

The Deadly Koolinga Chef Program (DKCP) is a collaborative cooking and nutrition project between Coolamon Research and Advocacy Centre, Ngangk Yira Institute for Change, and the School of Nursing, Murdoch University. DKCP is aimed at improving health outcomes for Aboriginal children and young people by developing food literacy knowledge and skills and encouraging healthy food choices, necessary to prevent and manage diet-related diseases. The development of food literacy is a life skill for health and wellbeing through the life-course. The DKCP classes focus on kitchen safety, meal planning and budgeting, cooking, and food storage, and include Traditional Bush Foods.

Since commencing in 2021 the DCKP has resulted in improved school attendance, which is a key priority goal of the Close the Gap Campaign 2024 and addresses the following National Close the Gap Targets:

*Target 5:* Students achieve their full learning potential;

*Target 6:* Students reach their full potential through further education pathways;

*Target 7:* Youth are engaged in employment or education.

The program is linked to strong student engagement and reduced school absenteeism, particularly among Aboriginal young people. DKCP participants demonstrate heightened pride and confidence in their cooking and nutrition skills development, and competence in contributing to healthy family food awareness. While the DKCP is primarily aimed at supporting Aboriginal student participation, since its inception, it has catered for both Aboriginal and non-Aboriginal children through some of the primary school partnerships.

Over the last two years, approximately 3500 participants have attended the classes. The nutrition and cooking classes are held during the school terms from week 2 to week 9 at each of the participating schools in the Peel region for children aged 6 to 12, and young people aged 13 to 17. One DKCP class caters to 10 participants and incorporates STEM skills into the program. Each participant takes home a family-size meal for 4-6 people after each class. To

involve the whole family in the DKCP, parents/carers are encouraged to assist their children in the classes.

With thoroughly researched recipes from the WA Health Department *Live Lighter Campaign*, the children are provided with recipes that encourage ongoing healthy family eating at home. Feedback from families has been extremely positive regarding their children's developing abilities and nutrition knowledge. Moreover, School Principals from the partner schools, Natasha Upcott, Mandurah Primary School, and Shannon Wright, Greenfields Primary School, have reported extremely positive benefits through the delivery of the program.

### Workforce Capacity Building

In addition to the focus on nutrition the program is focused on workforce capacity building. The DKCP employs an Aboriginal Cooking Class Facilitator who has a Certificate III in Nutrition and Dietetics. In addition, a proportion of funding was allocated to support Aboriginal workforce employment and upskilling. Aboriginal Education Officers from partner schools and Aboriginal Health Workers for the Peel region Aboriginal Health Service have been offered training and upskilling opportunities in Cert IV Nutrition courses. In total 70% (14/20) available courses have been filled to date.

### Positive Outcomes of the DKCP

- Improved attendance at school.
- Positive evidence aligned to ten experiential drivers for nutritional behaviour change (Fredericks et al., 2020).
- Knowledge retention of three key nutrition learning topics:
  1. Health problems and sugary drinks
  2. Health problems and high fat, sugar and salt foods and
  3. Reading food labels
- Improved consumption of fruit and vegetables
- Decreased consumption of sugary drinks
- Improved confidence and self-efficacy in food preparation and cooking skills
- Improved sense of wellbeing and enjoyment through engagement in experiential life-skills learning
- Positive evaluation of the DKCP development processes, and the program structure delivery by participating students.

## 2. Evaluation of DKCP

The DKCP facilitated the development of food literacy in 1,379 children and young people during the pilot (2022-2023). Food literacy is a crucial life skill because it empowers individuals to make informed decisions about food choices, plan and manage their diets, and understand the nutritional benefits and drawbacks of various foods to maintain a healthy lifestyle and prevent chronic diseases (Love et al., 2020). See Table 3, which lists partner schools through the DKCP pilot project 2021-2023 and participant numbers through the DKCP pilot project 2021 – 2023.

### Research Methods

The DCKP adopted an Aboriginal Participatory Action Research approach to conduct the pilot evaluation with a commitment to community engagement and community partnership. To align with the National Action Plan for the Health of Children and Young People 2020-2030, children and young people were kept at the centre of all actions and activities. The DKCP pilot has been respectful of the developing capacity of young people to be involved in decisions about participation in the research and evaluation of the program.

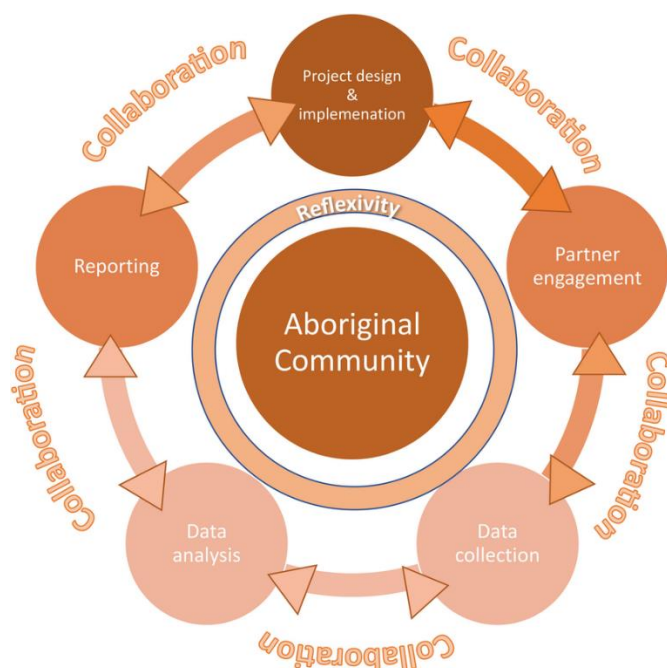


Figure 1: Aboriginal Participatory Action Research

### Community Engagement and Collaboration

A community partnership approach was used to plan, design, and develop and evaluate the Deadly Koolinga Chef Program (DKCP). The [Making Two Worlds Work Aboriginal Health Promotion Framework](#) (MTWW) was used to ensure that the four principles that underpin ethical Australian Indigenous research were upheld. These are: Indigenous self-determination, Indigenous leadership, impact and value, sustainability, and accountability.

In addition, the DKCP Aboriginal Advisory groups were asked to rate the whole-program's APAR approach, design, and delivery against the MTWW checklist which comprises 10 core elements essential for effective health promotion in Aboriginal contexts:

- 1) Identifying guiding values and principles for Aboriginal health promotion.
- 2) Identifying theoretical underpinnings.
- 3) Analysing health promotion practice environments.
- 4) Evidence gathering and needs analysis.
- 5) Identifying sectors and settings for health promotion.
- 6) Determining and implementing health promotion strategies and approaches.
- 7) Evaluation design and delivery.
- 8) Partnerships, leadership and management.
- 9) Workforce capacity building for the Aboriginal community and generalist (non-Aboriginal) health and community sector.
- 10) Infrastructure and resources for sustainability.

The DKCP Aboriginal Advisory groups rated the whole-program's APAR approach, design, and delivery against the 18/20, which is an exemplary score. See Table 2: Checklist scored by the DKCP Aboriginal Advisory Group members.

### Policy Alignment

The preliminary results of the evaluation show that DKCP is achieving significant impact outcomes in the development of child and young people's critical food literacy competencies that align with the following state and national goals and strategies including: [WA Government's Closing the Gap Implementation Plan](#); the [WA Health Promoting Schools Framework \(2023\)](#); the [WA Aboriginal Health and Wellbeing Framework 2015-2030](#); the [WA Health Promotion Strategic Framework 2022-2026](#), and the [National Preventative Health Strategy 2021 – 2030](#). See also Table 1 which contains a full list of state and national policies and frameworks and goals that DCKP is aligned with.

## Policy Alignment

**Table 1: DKCP aligns with the Goals/Principles WA and National Strategic Plans and Frameworks**

Strategy	Goals
<a href="#">WA Aboriginal Health and Wellbeing Framework 2015–2030</a>	5.1 Priority area: addressing risk factors: obesity and nutrition 5.5 Priority area: Aboriginal workforce development
<a href="#">WA Closing the Gap Implementation Plan 2023 - 2025</a>	<b>Part Two: Closing the Gap Socioeconomic Outcomes:</b> 1. First Nations people enjoy long healthy lives. 2. First Nations children are engaged in high quality, culturally appropriate early childhood education in their early years 3. First Nations children thrive in their early years 4. First Nations students achieve their full learning potential
<a href="#">The WA Health Promotion Strategic Framework</a>	<b>Healthy eating and active living to halt the rise of obesity:</b> 1. Promote environments that support healthy eating and active living 2. Increase the knowledge and skills necessary to choose healthy food & drinks 3. Prevent and reverse childhood obesity. 4. Targeted interventions: <ul style="list-style-type: none"> <li>• Invest in early intervention initiatives for children identified as above a healthy weight and their families to support adoption of healthy lifestyle behaviours</li> <li>• Support programs that increase the food and nutrition knowledge and skills of parents, children and other Australians most at risk of poor nutrition.</li> </ul>
<a href="#">WA Child and Young people Health Service Strategic Plan 2023-2025</a>	1. Listen to Aboriginal children, young people, and their families and use their expertise to deliver culturally sensitive and accessible care. 2. Partner with the Aboriginal community to adapt our practices to reflect their needs and strive to close the gap in health outcomes for Aboriginal children and young people. 3. Advocate for and support health promotion and prevention initiatives to identify and address health risks early to improve the future health and wellbeing outcomes of our children and young people.
<a href="#">WA At Risk Youth Strategy 2022–2027</a>	1. Contribute to other government agencies and sector initiatives, informed responses for at-risk YP, including targeted initiatives to address health, mental health, and education needs, and training and employment pathways. 2. Support Aboriginal young people, ACCOs, Elders, and communities to identify responses to improve outcomes for at-risk young people and to lead the co-design of local supports and services.
<a href="#">WA State Public Health Plan 2024-2029</a>	<b>Promote: Foster strong communities and healthier environments:</b> <ul style="list-style-type: none"> <li>• Optimise mental health and wellbeing</li> </ul> <b>Prevent: Reduce the burden of chronic disease:</b> <ul style="list-style-type: none"> <li>• Promote healthy eating</li> </ul> <b>Enable:</b> bolster public health systems and workforce, leverage partnerships to support health and wellbeing.
<a href="#">WA Government Response to the Education and Health Standing Committee Report No. 6: The Food Fix</a>	<b>3.1 Providing Health Protection for the Community</b> 3.2 Supporting Effective Management 8 3.3 Investing in Data Collection to Inform and Drive High Value Health Care 10 3.4 Workforce Capability and Capacity
<a href="#">National Aboriginal and Torres Strait Islander Health Plan 2021-2031</a>	1. Genuine shared decision making and partnerships 2. Health promotion: Nutrition and physical activity
<a href="#">National Strategy for Food Security in Remote Aboriginal and Torres Strait Islander Communities 2025 -2030</a>	2.1 First Nations people in remote communities are supported by a culturally responsive nutrition, dietetic and food security health workforce, which includes local community members. 2.3 Preventative approaches are designed by, and with, remote communities to develop the knowledge and skills required to access, prepare, and consume nutritious, and culturally appropriate foods. 2.4 Remote health services have the resources to engage with community services, such as stores and schools, to improve nutrition outcomes

## DKCP Aboriginal Advisory Groups - MTWW Evaluation Checklist

Eighteen Elders and leaders participated in rating the DKCP program’s Aboriginal Participatory Action Research (APAR) approach, design, and delivery. The table below shows the APAR processes of the DKCP mapped against the MTWW checklist.

**Table 2: Checklist scored by the DKCP Aboriginal Advisory Group members**

<sup>1</sup> MTWW Concepts	The application of the planning and development processes used within the DKCP to align with the Concepts of the MTWW Framework for Health Promotion with an Aboriginal Lens.	MTWW Checklist Score
1	An APAR approach was identified as suitable to plan develop and facilitate the DKCP pilot project as it aligns with Aboriginal research frameworks that consider social justice, empowerment, decolonisation and self-determination.	2
2	The APAR approach to the DKCP research initiative enabled active involvement and participation of community members to set their own health promotion and research agenda and ensured that the research methods were protective to the rights of the people. The APAR approach was underpinned by strength-based principles and identified community co-design of the DKCP pilot project a democratic and ethical right.	2
3	The environment in the Aboriginal paradigm relates to the people; social, political, and economic systems and structures; and psychological and physical conditions. The DKCP pilot project research processes were participatory which ensured that all the components of research considered the historical, social, and cultural context of the community.	2
4	Understanding the Aboriginal holistic views of health which considers the environment (point 3), and acknowledging the 3C’s framework (community driven, community developed and community implemented), the DKCP pilot project research aims and objectives, the benefits of the research to the participants, community and researchers, and the research questions were identified in collaboration with the Aboriginal Advisory Groups (Ngangk Yira Institute for Change, MDAA and Winjan).	2
5	The APAR approach considered the community and defined cultural boundaries to ensure cultural safety. An Aboriginal cooking class facilitator, AEOs and AHWs were appointed as part of the research team. They had a dual responsibility as advocates for the participants and sponsors for the DKCP.	2
6	The APAR approach aligns with the principles of empowerment, action, and flexibility, and these elements also define effective Aboriginal health promotion and strength-based principles. Adherence to these principles was maintained and monitored by the Aboriginal Advisory Groups. Importantly, the DKCP was given the “Proof of Concept” by the MDAA and Winjan Aboriginal organisations.	2
7	Two major factors in the Aboriginal research paradigm were upheld: the community held the power; and community and individual autonomy was enhanced. Any changes to the DKCP pilot project were approved by the MDAA and Winjan Aboriginal Advisory Groups and reports were submitted annually to the Western Australian Aboriginal Health Council.	2
8	The DKCP pilot project applied a multisectoral approach to the planning development and delivery of the DKCP. Roles taken by members from multisectoral partners enhanced their leadership and management skills. Upskilling and training of community and health workforce members improved opportunity and sustainability.	1
9	Through the DKCP pilot project participatory engagement, community members developed research skills and knowledge (research planning, implementation, data protection, analysis, dissemination). Non-Aboriginal research members developed knowledge and skills on the importance of relatedness in the Aboriginal paradigm, which is an essential element of cultural safety.	2
10	The DKCP pilot project multisectoral partnership approach ensured that the resources were sustainable for the duration of the activity timeframe. Discussions with appropriate organisations and officials ensured the funded continuation of the DKCP in the Peel region.	2
<b>Total</b>		<b>19/20</b>

<sup>1</sup> MTWW concepts defined:

1. Identifying guiding values and principles for Aboriginal health promotion. 2. Identifying theoretical underpinnings. 3. Analysing health promotion practice environments. 4. Evidence gathering and needs analysis. 5. Identifying sectors and settings for health promotion. 6. Determining and implementing health promotion strategies and approaches. 7. Evaluation design and delivery. 8. Partnerships, leadership and management. 9. Workforce capacity building for the Aboriginal community and generalist (non-Aboriginal) health and community sector. 10. Infrastructure and resources for sustainability.

## Yarning Groups – Teachers and Aboriginal Education Officers

6 teachers and 4 Aboriginal Education Officers (AEOs) participated in a yarning group. Audio recordings were transcribed verbatim and underwent thematic analysis through the template analysis technique using the NVivo software.

### **The findings from the yarn analysis were as follows:**

The teachers/AEOs acknowledged the importance of food and nutrition education, and some noted that it was as important as the other subjects. However, the barriers were: scarcity of funds and having to make an application for funds, competition for time allocation with other compulsory subjects, and a lack of professional development.

Teachers/AEOs felt that if there was a stand-alone Food and Nutrition Education program/subject that was introduced in all schools, “like the DKCP” that used health promotion officers from collaborating organisations/departments “like the DKCP”, it would be impactful, and it would fit into the busy curriculum.

The experiential nature and nutrition education focus of the DKCP led teachers/AEOs to agree that it was an excellent program for food literacy development:

*“It has encouraged socialisation and allowed students to show new life skills and strengths”.*

*“It supports students to learn about skills for independence and self-sufficiency”.*

*“Children have made a meal for their family! That is huge!”*

*“The education around food and cooking is important because some don’t get exposed to it at home”.*

Teachers/AEOs stated that the children/young people were highly motivated to come to school on the day of cooking, because they had a chance to be selected to participate. Teachers/AEOs said:

*“Students are looking forward to coming to school to learn more”.*

*“The program ignites student engagement”.*

*“When students are selected, they speak about being proud to cook for their family . . . they seem to thrive on the responsibility”.*

*“The students are very vocal about their enjoyment of the cooking and always want to come to school on the day”.*

### 3. DKCP Survey Results

#### Improved school attendance

During the delivery of the DKCP pilot project (2022-2023), school attendance has been demonstrated to improve in some schools. Improvements are evident in the reported amount of absenteeism among Year 4 – Year 6 classes at Mandurah Primary School on Wednesdays before and during the DKCP implementation. Prior to DKCP commencing in 2022, the average absences on a Wednesday were 38 students; in 2023, the absences decreased to 32 students. In 2024, DKCP continued, and attendance improved again with an average of 29 students absent on a Wednesday.

**Absences on a Wednesday 2022-2024**

2022	2023	2024
38	32	29

Comments by Mandurah Primary School students confirm their enjoyment of the program and how it has motivated them to attend school:

*“I have really enjoyed the Deadly Koolinga Chef Program because it gives us a reason to come to school because you are more likely to be chosen to cook”. Boy, Year 5*

*“The cooking program has motivated me to come to school, so my attendance has improved”. Girl, Year 5*

#### DKCP Child User Experience Selection List Survey

Eighty-seven children and thirty-three young people participated in the DKCP User Experience Selection List Survey (UESL), designed to determine knowledge retention of three key nutrition learning topics delivered at the commencement or completion of each DKCP cooking and nutrition class. There were: (1) health problems and sugary drinks, (2) health problems and high-fat, sugar, and salt foods, and (3) reading food labels. The fourth question was related to enjoyment reactions. The influence and impact of learning enjoyment on motivation, enthusiasm, and overall learning experiences are significant in the evaluation of experiential programs (Hernik & Jaworska, 2018). See results Table 5

## Participation and Attendance

DKCP partner schools kept a record of DKCP participants' attendance at school and at the cooking classes.

**Table 3: DKCP pilot project partner schools and participant numbers and attendance**

Partner Schools and Organisations	Years	Number of Cooking Classes	Number of Students	1-3 Class Attendances/Year	3-5 Class Attendances/Year
A. Mandurah Primary School	2022-2023	64	333	300 (90%)	33 (10%)
	2024-2025	48	252	212 (84%)	40 (16%)
A. Mandurah Primary School – Special Events	2022-2023	14	323	323	-
B. Greenfields Primary School	2022-2023	64	336	310 (92%)	26 (8%)
	2024-2025	48	257	217 (85%)	40 (15%)
B. Greenfields Primary School – Special Events	2023	4	40	40	-
Dudley Park Primary School	2022-2023	45	180	80% (45%)	100 (55%)
				<b>1-20 Class Attendances/Year</b>	<b>11-20 Class Attendances/Year</b>
Coodanup College	2022-2023	20	36	13 (36%)	23 (64%)
				<b>1-5 Class Attendances/Year</b>	<b>6-10 Class Attendances/Year</b>
Pinjarra Senior High School	2023	10	34	16 (47%)	18 (53%)
				<b>1-20 Class Attendances</b>	<b>21-48 Class Attendances</b>
	2024-2025	48	32	17 (53%)	15 (47%)
				<b>1-5 Class Attendances/Year</b>	<b>6-10 Class Attendances/Year</b>
City of Mandurah – Young Yorgas Program	2022	10	18	12 (67%)	6 (33%)
	2024	10	23	9 (39%)	14 (61%)
				<b>1-6 Class Attendances/Year</b>	<b>7-14 Class Attendances/Year</b>
Pinjarra Primary School	2023	14	15	2 (13%)	23 (64%)
				<b>1-20 Class Attendances/Year</b>	<b>21-48 Class Attendances/Year</b>
	2024 - 2025	48	25	9 (36%)	16 (64%)
				<b>1-32 Class Attendances/Year</b>	<b>33-64 Class Attendances/Year</b>
Murray Districts Aboriginal Association	2022-2023	64	59	30 (51%)	29 (49%)
<b>TOTALS 2022-2023</b>		<b>309</b>	<b>1379</b>		
<b>TOTALS 2024-2025</b>		<b>202</b>	<b>584</b>		

## DKCP Cooking and Nutrition Class Evaluation

Twenty-nine young people participated in completing the MTWW Checklist providing positive scores.

**Table 4 MTWW Checklist scores for the five objectives of the cooking and nutrition classes**

Objectives of the Cooking and Nutrition Classes	Activities and Education of the Cooking and Nutrition Classes / Workshops	MTWW Checklist Score
1. Develop new skills and knowledge in food preparation and cooking to support family food work.	<p><b>Personnel:</b> DKCP facilitators supported by Aboriginal Education Officers (AEOs) and Aboriginal Health Workers (AHWs).</p> <p><b>Evidence Resources:</b> WA Health Department LiveLighter® Campaign and Australian Dietary Guidelines.</p> <p><b>Skills:</b> Instruction of food preparation and cooking with participant discussion and Q and A.</p> <p><b>Nutrition Education:</b> Reducing sugar, reducing salt, dietary fibre requirements, spreads, oils, discretionary food choices, mixed foods, dietary patterns for self and family</p>	17/20
2. Use the intake recommendations of different food groups to maintain good health for self and family	<p><b>Personnel:</b> DKCP facilitators supported by AEOs and AHWs.</p> <p><b>Evidence Resources:</b> WA Health Department LiveLighter® Campaign and Australian Dietary Guidelines.</p> <p><b>Skills:</b> Instruction of food and recipe selection and cooking with participant discussion and Q and A.</p> <p><b>Nutrition Education:</b> food groups, serving sizes, portion sizes, nutrient characteristics and requirements, energy requirements, nutrition information panel and food label reading</p>	16/20
3. Develop skills in planning for and purchasing healthy food on a budget including reading food labels.	<p><b>Personnel:</b> DKCP facilitators supported by AEOs and AHWs</p> <p><b>Evidence Resources:</b> WA Health Department LiveLighter® Campaign and Australian Dietary Guidelines.</p> <p><b>Skills:</b> Instruction and activities on food budget, recipe selection, participant discussion and Q and A.</p> <p><b>Nutrition Education:</b> nutrition information panel and food label reading, menu and meal planning, activities on price per kilo, shopping trolley activity.</p>	16/20
4. Develop skills for the safe delivery of family foods through safe food handling and storage.	<p><b>Personnel:</b> DKCP facilitators supported by AEOs and AHWs</p> <p><b>Evidence Resources:</b> Safe Food Australia and WorkSafe Australia</p> <p><b>Skills:</b> Instruction of safe food preparation (use of utensils and consideration of uncooked foods), cooking and storage with participant discussion and Q and A.</p> <p><b>Nutrition Education:</b> Hand, utensil and equipment hygiene, equipment safety, covering and refrigeration, storage.</p>	18/20
5. Improve awareness of the importance of nutrition and healthy eating in the prevention and management of chronic diseases	<p><b>Personnel:</b> DKCP facilitators supported by AEOs and AHWs</p> <p><b>Evidence Resources:</b> Australian Institute of Health and Welfare and Department of health and Aged Care.</p> <p><b>Skills:</b> Instruction on nutritional causation of chronic diseases, participant discussion and Q and A.</p> <p><b>Nutrition Education:</b> Food literacy, awareness of food modelling and management of chronic diseases.</p>	16/20

<sup>2</sup> MTWW concepts defined:

1. Identifying guiding values and principles for Aboriginal health promotion. 2. Identifying theoretical underpinnings. 3. Analysing health promotion practice environments. 4. Evidence gathering and needs analysis. 5. Identifying sectors and settings for health promotion. 6. Determining and implementing health promotion strategies and approaches. 7. Evaluation design and delivery. 8. Partnerships, leadership and management. 9. Workforce capacity building for the Aboriginal community and generalist (non-Aboriginal) health and community sector. 10. Infrastructure and resources for sustainability.

## DKCP User Experience Survey

Experiential learning cooking and nutrition classes are associated with the largest effects across reduced food consumption or energy intake; increased fruit and vegetable consumption or preference; and increased nutritional knowledge outcomes (Vaughan et al., 2024). One hundred twenty children and young people participated in the DKCP user experience selection list survey (*UESL*) to determine knowledge retention of three key nutrition learning topics delivered at the commencement or completion of each DKCP cooking and nutrition class. Regarding sugary drink consumption, 26.7% (32) of participants reported that they “don’t drink so many now”, and 50.8% (61) reported that they “only drink them on special occasions”. Importantly, 89.2% (107) of participants surveyed reported enjoying making a whole meal to take home to the family, 74.2% (89) enjoyed learning safe food handling and safe use of cooking equipment, 81 (67.5%) enjoyed trying vegetables and healthy foods they did not usually eat, 75.8% (91) enjoyed preparing all the vegetables and meats for the meal, and 72.5% (87) enjoyed learning about the foods that are healthy.

**Table 5: DKCP user experience selection list survey results - 120 child and young people**

Q1	Thinking about the health problems that sugary drinks can cause, tick the box that is right for you	Number	Total	%
a	I have thought about it, but I still drink as many as I always have	27	120	22.5%
b	I have thought about it and don't drink so many now	32	120	26.7%
c	I have thought about it and only drink them for special occasions	61	120	50.8%
Q2	Thinking about the health problems that high fat, sugar and salt foods can cause, tick the box that is right for you	Number	Total	%
a	I have thought about it, but I still eat as many as I always have	26	120	21.7%
b	I have thought about it and don't eat so many now	62	120	51.7%
c	I have thought about it and only eat them for special occasions	32	120	26.7%
Q3	Thinking about what you have learned about reading food labels, tick the box that is right for you	Number	Total	%
a	When I go shopping by myself or with a parent, I don't look at the food labels	44	120	36.7%
b	When I go shopping by myself or with a parent, I look at the food labels, but I can't remember what is good, or only for eating sometimes or what is bad	36	120	30.0%
c	When I go shopping by myself or with a parent, I look at the food labels, and I know what is good or only for eating sometimes or what is bad	40	120	33.3%
Q4	Thinking about the cooking and nutrition classes what did you enjoy about them. Tick the boxes that are right for you	Number	Total	%
a	I enjoyed being with my friends to do the cooking and nutrition classes	93	120	77.5%
b	I enjoyed making a whole meal to take home to my family	107	120	89.2%
c	I enjoyed learning to use the cooktop and the equipment safely	89	120	74.2%
d	I enjoyed trying vegetables and other foods I don't usually eat	81	120	67.5%
e	I enjoyed preparing all the vegetables and meats for the meal	91	120	75.8%
f	I enjoyed learning about the foods that are healthy and the foods that are not healthy for me	87	120	72.5%

## Nutrition Knowledge Questionnaire

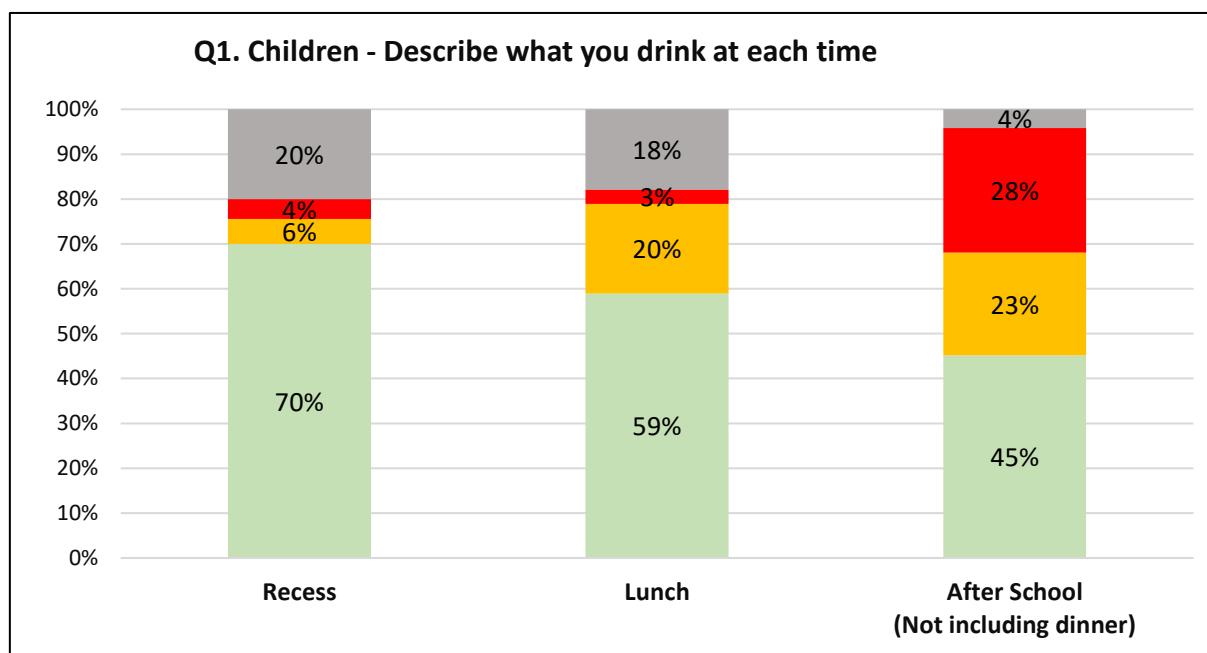
One hundred and twenty-three participants aged 6-17 years including 95 children and 28 young people completed the DKCP 14-item Child and Young People Nutrition Knowledge Questionnaire (adapted from Wilson et al., 2008) at the end of the DKCP pilot in October to November 2023. Participants were asked:

Q.1 - Describe what you drink at recess, lunch, and school?

Q.9 - How many serves of vegetables do you usually eat each day?

Q.10 - How many serves of fruit do you usually eat each day?

**Table 6 14-Item Child and Young people Nutrition Knowledge Questionnaire**



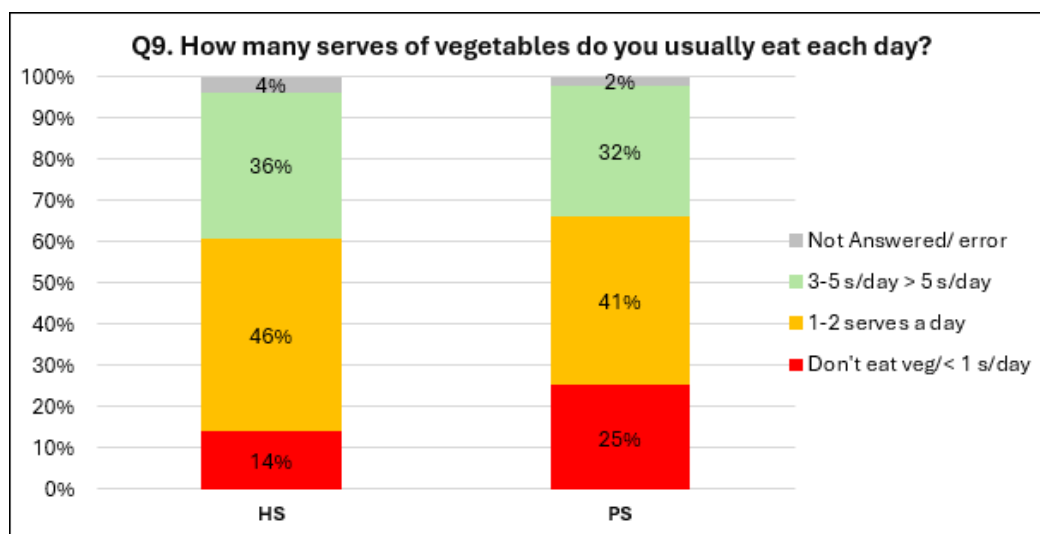
- **Water:** Recess: 59% of young people and 70% of children. Lunch: 68% of young people and 59% of children. After school: 32% of young people and 45% of children.
- **Fruit Juice and milk drinks:** Recess: 22% of young people and 6% of children. Lunch: 13% of young people and 20% of children. After school: 32% of young people and 23% of children.
- **Cordial, Soft Drink, Sports Drink, Energy Drink:** Recess: 13% of young people and 4% of children. Lunch: 10% of young people and 3% of children. After school: 29% of young people and 28% of children.

### Key

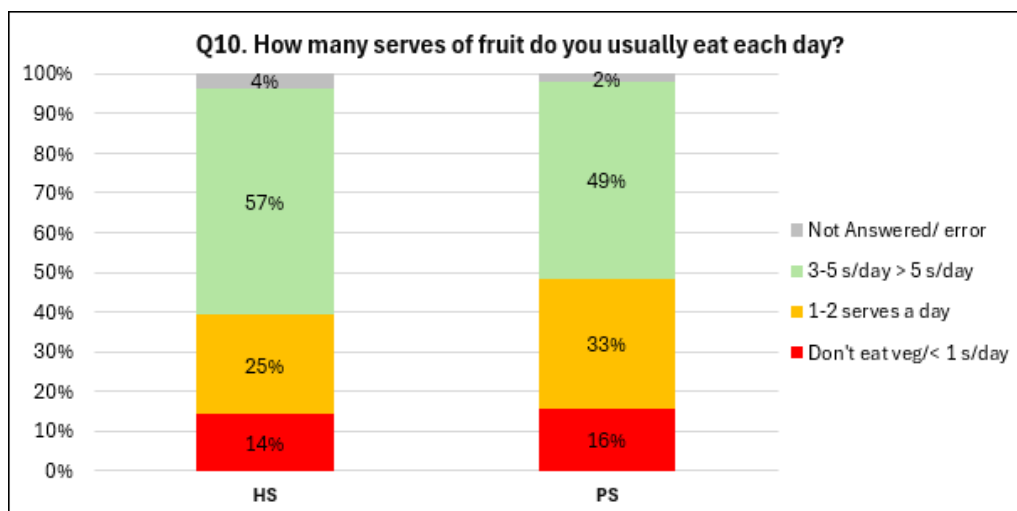
Water
Fruit Juice, fruit juice drink, Milk, flavoured milk
Cordial, Regular Soft, Energy Drink, Sports Drink, Diet Soft Drink
Nothing to drink

## Usual Daily Fruit and Vegetable Consumption

The graphs below show comparisons between High school and Primary school students of preferences for eating fruit and vegetables.



When both groups were combined, of the 123 participants aged 6-17 years 40 (31.5%) reported eating 3-5 or more serves of vegetables per day, 52 (42.2%) reported eating 1-2 serves per day, and 28 (22.7%) and 28 (22.7%) reported eating no vegetables at all.



When both groups were combined, of the 123 participants aged 6-17 years 63 (51.2%) reported eating 3-5 or more serves of fruit per day, 38 (30.8%) reported eating 1-2 serves per day, and 19 (15.4%) reported eating no fruit at all.



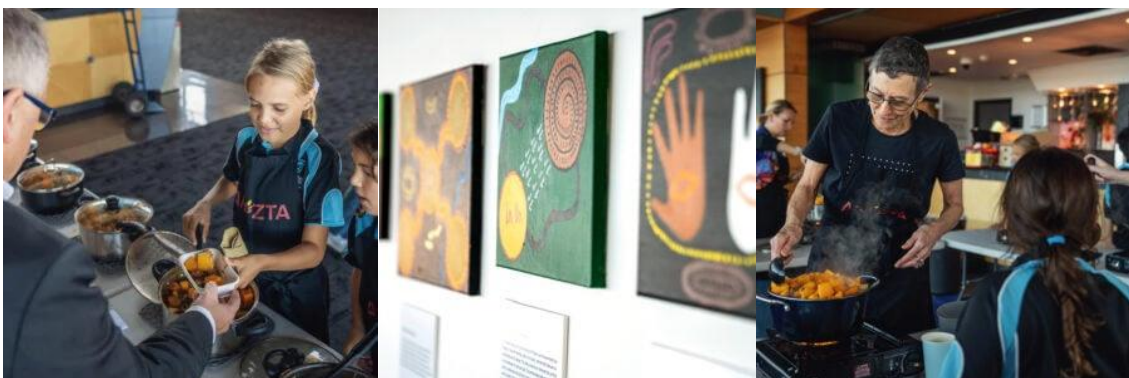
## Cultural Art-Narrative Exhibition of Aboriginal Children’s DKCP Experiences

Thirty-two children participated in the art narrative data collection activity. Three art workshops were facilitated by an Aboriginal Elder artist using Aboriginal symbols in their artwork. Verbal data of the meaning of the paintings was recorded and analysed. The works of art, together with the didactics of the paintings, were exhibited in the Mandurah Performing Arts Centre (Opening June 2024) for wider public dissemination. The verbal data were analysed against the ten experiential drivers for nutritional behaviour change (Fredericks et al., 2020). The findings demonstrated that the development, delivery, and facilitation of the DKCP pilot project aligned with the 10 experiential drivers important to the enhancement and success of cooking and nutrition education. Further, the participants achieved elements of food literacy development related to relational, functional and critical domains (Ares et al., 2024), and elements to plan and manage, select, prepare and eat (Vidgen, 2016; Wright-Pedersen et al., 2024). Table 5 below details the three themes and subthemes of Aboriginal children’s experiences of the DKCP cooking and nutrition classes derived from the narrative art activity.

**Table 5: Aboriginal Narrative Art Themes and subthemes:**

Themes	Sub-themes
1. Children coming together to learn to cook healthy food.	<ul style="list-style-type: none"> <li>• Group involvement in the cooking program.</li> <li>• Participating in nutritional health promotion.</li> </ul>
2. Children feeling confident with newfound cooking nutrition skills and knowledge.	<ul style="list-style-type: none"> <li>• Developing self-esteem through accomplishment in cooking.</li> <li>• Owning of their new cooking skills with surety.</li> <li>• Being confident to share nutrition knowledge.</li> <li>• Identifying the importance of the environment (sun, ground, water) to the provision of food.</li> </ul>
3. Children’s cooking contributing to family health and food work.	<ul style="list-style-type: none"> <li>• Raising awareness of family’s nutritional health.</li> <li>• Feeling proud and a sense of contribution to take prepared food home.</li> <li>• Responding to role model encouragement.</li> </ul>

### Photos from the art exhibition



## References

- Charlton, K., Comerford, T., Deavin, N., & Walton, K. (2020). Australia characteristics of successful primary school-based experiential nutrition programmes: a systematic literature review. *Public Health Nutrition, 24*(14), 4642–4662. doi:10.1017/S1368980020004024
- Dudgeon, P., Bray, A., Darlaston-Jones, D., & Walker, R. (2020). *Aboriginal Participatory Action Research: An Indigenous Research Methodology Strengthening Decolonisation and Social and Emotional Wellbeing*. (Lowitja Institute Discussion Paper Series). The Lowitja Institute [https://www.lowitja.org.au/content/Document/Lowitja-Publishing/LI\\_Discussion\\_Paper\\_P-Dudgeon\\_FINAL3.pdf](https://www.lowitja.org.au/content/Document/Lowitja-Publishing/LI_Discussion_Paper_P-Dudgeon_FINAL3.pdf)
- Fredericks, L., Koch, Liu, A., Galitzdorfer, L., Costa, A., & Utter, J. (2020). Experiential features of culinary nutrition education that drive behavior change: Frameworks for research and practice. *Health Promotion Practice, 21*(3), 331–335. doi: 10.1177/1524839919896787
- Government of Western Australia, Department of Health [GWA DoH]. (2018). Estimated healthcare spending attributable to modifiable risk factors in Western Australia 2018–19. [https://www.health.wa.gov.au/~/\\_media/Corp/Documents/Reports-and-publications/Burden-of-disease/Estimated-healthcare-spending-attributable-to-modifiable-risk-factors-2018.pdf](https://www.health.wa.gov.au/~/_media/Corp/Documents/Reports-and-publications/Burden-of-disease/Estimated-healthcare-spending-attributable-to-modifiable-risk-factors-2018.pdf)
- Hernik, J., & Jaworska, E. (2018). The effect of enjoyment on learning. 12th International Technology, Education and Development Conference. doi: 10.21125/inted.2018.1087
- Love, P., Booth, A., Margerison, C., Nowson, C., & Grimes, C. (2020). Food and nutrition education opportunities within Australian primary schools. *Health Promotion International, 35*(6), 1291–1301. doi: 10.1093/heapro/daz132
- Marcus, C., Danielsson, P., Hagman, E. (2022). Pediatric obesity-Long-term consequences and effect of weight loss. *J Intern Med., 292*(6):870-891. doi: 10.1111/joim.13547. Epub 2022 Aug 5. PMID: 35883220; PMCID: PMC9805112.
- McManus, S., Pendergast, D., Kanasa, H., (2023). Teaching food literacy in Queensland secondary schools: The influence of curriculum. *Family and Consumer Sciences Research Journal, 51*(3). <https://doi.org/10.1111/fcsr.12468>
- Stephens, L., McNaughton, S., David Crawford, D., & Ball, K. (2015). Nutrition promotion approaches preferred by Australian young peoples attending schools in disadvantaged neighbourhoods: a qualitative study. *BMC Pediatrics, 15*, 61. doi: 10.1186/s12887-015-0379-7
- Vaughan, K., Cade, J., Hetherington, M., Webster, J., & Evan, C. (2024). The impact of school-based cooking classes on vegetable intake, cooking skills and food literacy of children aged 4–12 years: A systematic review of the evidence 2001–2021. *Appetite, 195*(1), 107238. doi: 10.1016/j.appet.2024.107238
- Vidgen, H. (2016). Relating food literacy to nutrition and health. In Helen Vidgen (Ed.) *Food Literacy: Key Concepts for Health and Education*. London: Earthscan/Routledge.
- Wright-Pedersen, S., Vidgen, H., & Gallegos, D. (2024). Children’s descriptions of their involvement within everyday food practices. *Appetite, 200*. doi: 10.1016/j.appet.2024.107517

