

Evaluating the 'dementia friendliness' of public and commercial buildings.

BACKGROUND

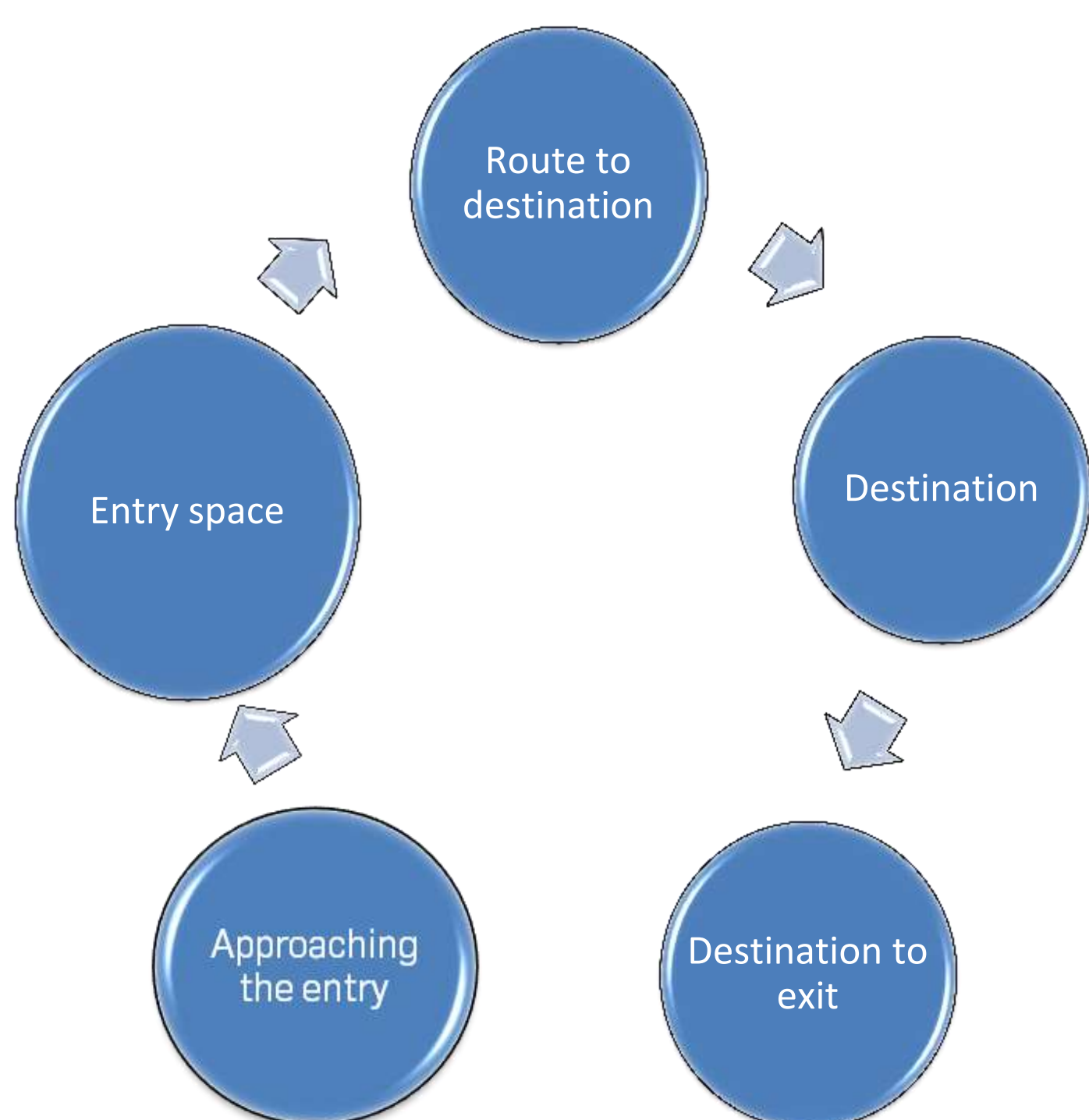
While there are tools available for the evaluation of the enabling and disabling characteristics of residential aged care and hospital facilities for people with dementia there has been relatively little progress made in the development of tools for evaluating shopping centres, banks, libraries, etc. This project involves the development of the Dementia Friendly Communities – Environmental Assessment Tool (DFC-EAT) for this purpose.

The project is one of a suite of projects, funded by Alzheimers Australia and the University of New South Wales based Dementia Collaborative Research Centre, aimed at gaining a better understanding of the nature of Dementia Friendly Communities.

The initial development of the DFC-EAT took place in Kiama, a small town on the South Coast of New South Wales Australia, as part of an Alzheimers Australia Dementia Friendly Communities project run in collaboration with the local council.

METHODS

The development of the DFC-EAT involved a team comprising people with dementia, their carers, town planners, architect, graphics designer, psychologist, occupational therapist, physiotherapist and community development officers. They began their work by considering a large number of possible questions drawn from research on the evaluation of residential aged care facilities for people with dementia and the existing literature on evaluating public spaces and buildings used by people with dementia. Having decided which of these to keep they tested the first draft of the tool by using it to assess a council building in Kiama. They then carefully considered the results of the assessment and the useability of the tool. This led to the understanding that a building is not experienced in one go, but at a variety of stages as we journey through it. The tool was re-drafted to enable assessment of the built environment features experienced during the journey from the car park, the approach to the entrance, the entrance area, the journeys from the entrance to the destination, from the destination to the exit, the exit area and the journey back to the car park.



This version was tested by the team walking through a shopping mall. This resulted in further changes to the items and these were evaluated by assessing a library and discussing the experience and the findings.

The draft tool was then ready for a careful examination of its inter-rater reliability and internal validity. This involved two people carrying out independent assessments on a convenience sample of public and commercial buildings. The sample comprised 10 sets of six types of buildings. The locations of the sets of buildings ranged from metropolitan areas to small regional towns. Each set comprised a bank, shopping mall, medical facility, council building, small shop and a supermarket.

RESULTS

The development of the tool revealed the inadequacy of using a simple checklist to describe the characteristics of a building. The building is experienced dynamically as the person identifies it from a distance, approaches it, enters it, moves through it, carries out the required task and exits. The final version of the tool captures this journey and highlights the strengths and weaknesses of buildings as perceived by the person with dementia.

The retention of the individual items was determined by the calculation of the Kappa coefficient and the percentage of absolute agreement. An item was retained if Kappa > 0.2 and absolute agreement exceeded 70%. This resulted in the exclusion of one item resulting in the final scale comprising 37 items. The mean percentage of absolute agreement on these items was 83%.

The inter-rater reliability of the final version of the tool is substantial in all stages of the journey through the building with minimum correlation being 0.652.

The internal validity, as measured by Cronbach's alpha, is greater than the commonly agreed minimum of 0.7 when the tool is used in three of the five stages. Alpha could be improved in the other two stages by deleting some items however it was decided that, at this stage in the development of our knowledge, it would be better to retain the items until more experience is gained in the use of the tool.

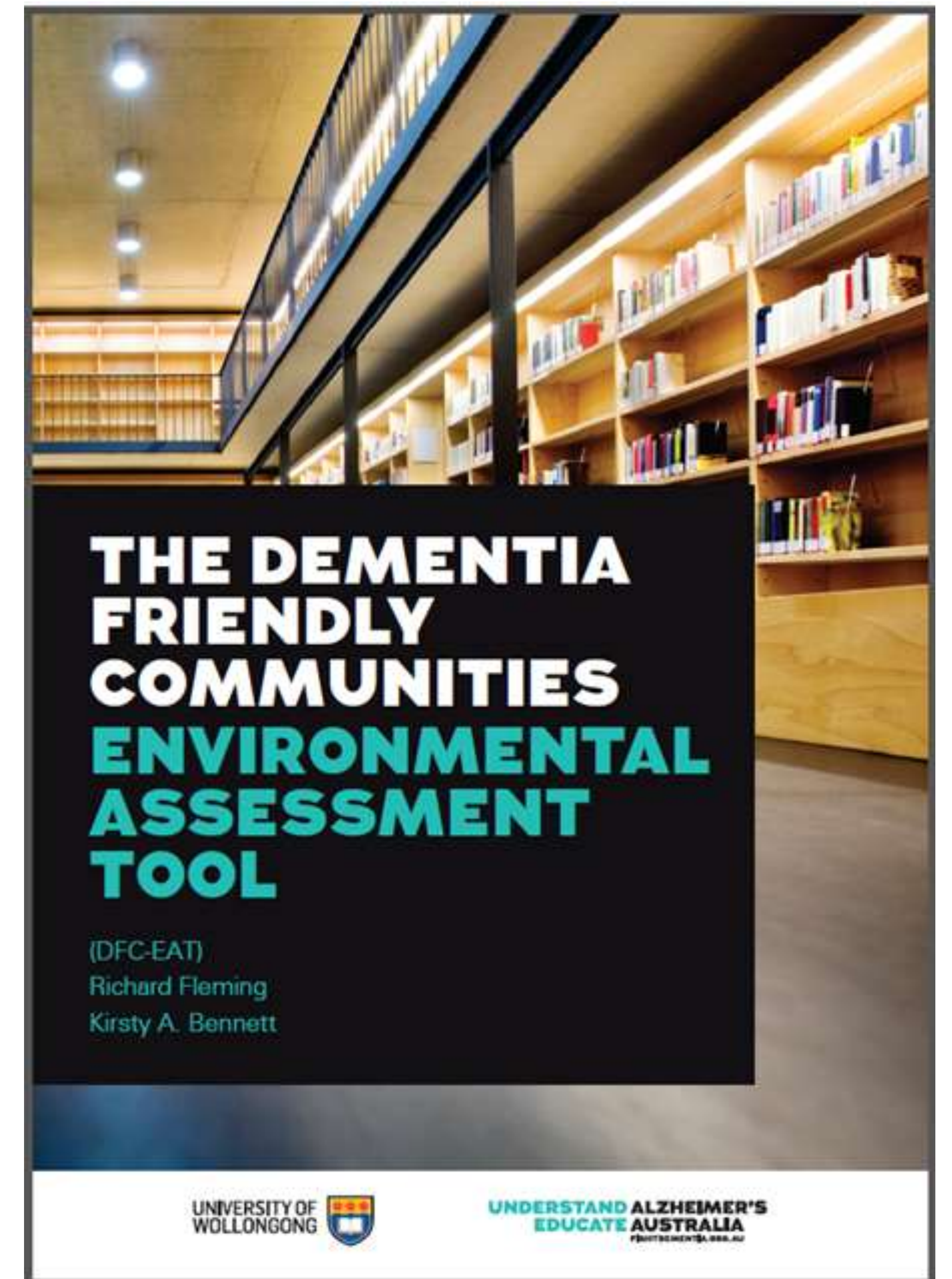
Stages of the journey	Inter-rater reliability (Intra class correlation coefficient)	Sig	Internal Validity (Cronbach's alpha)
1. Approaching the entry:	0.68	.000	.66
2. Entry space:	0.90	.000	.76
3. Route to destination:	0.81	.000	.82
4. Destination:	0.65	.000	.59
5. Destination to exit:	0.84	.000	.80

The data collected from the 60 sites has enabled the establishment of a set of norms for the types of building assessed. These can be viewed at <http://www.enablingenvironments.com.au/audit-tools/>

CONCLUSION

The combination of the literature review, experience gained from the development of tools for the evaluation of residential care environments, the insights of a team containing experts in design and users of public buildings who are, or are caring for, people with dementia provided a good foundation for the first draft of the new tool. The experience of refining the draft tool by walking through buildings with the team and reflecting on the experience of using it was invaluable. The final stage of evaluating its inter-rater reliability and internal consistency not only provided confidence in the tool but began the collection of data that will be useful in promoting discussions on what makes a dementia friendly building. It is hoped that the DFC EAT will be used by others who will share their data and contribute to a data base that will help us to explore the current state of the friendliness of buildings used by people with dementia. They will be able to do this by uploading their data to the Alzheimer Australia WA web site .

The DFC-EAT is available for downloading at <http://www.enablingenvironments.com.au/audit-tools/>



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PRINCIPLES INFORMING THE DFC-EAT

Safety: People living with dementia require an internal and external environment that is safe, secure and easy to move around if they are to make the best of their remaining abilities. However, obvious safety features and barriers will lead to frustration, agitation and anger and so potential risks need to be reduced unobtrusively.

Seeing and being seen: The provision of an easily understood environment will help to minimise confusion. It is particularly important for a person living with dementia to be able to recognise where they are, where they have come from and what they will find if they head in a certain direction. When they can see key places, they are more able to make choices and find their way to where they want to go. Being able to see and be seen opens up opportunities for engagement and gives the person with dementia the confidence to explore their environment.

Familiarity: The person with dementia is more able to use and enjoy spaces and objects that are familiar to them from experiences earlier in their life. The environment should afford them the opportunity to maintain their competence through the use of familiar design (internal and external), furniture, fittings and colours.

Size: The scale of a building will have an effect on the behaviour and feelings of a person with dementia. The experience of scale is determined by three factors; the number of people that the person encounters, the overall size of the building and the size of the individual components, such as doors, rooms and corridors. A person should not be intimidated by the size of the surroundings or confronted with a multitude of interactions and choices. Rather the scale should help the person feel in control.

Provide opportunities to be alone or with others: People with dementia need to be able to choose to be on their own or spend time with others. This requires the provision of a variety of spaces, some for quiet conversation with one or two others as well as spaces where people can be by themselves. These internal and external spaces should have a variety of characters, to cue the person to what is available and stimulate different emotional responses.

Support movement and engagement: Confused wandering can be minimised by providing a well-defined pathway that guides people past points of interest and gives them opportunities to engage in activities or social interaction.