

TiKL 'Transitions in Kitchen Living Project' Addressing ergonomic problems in the kitchen – old ways and new

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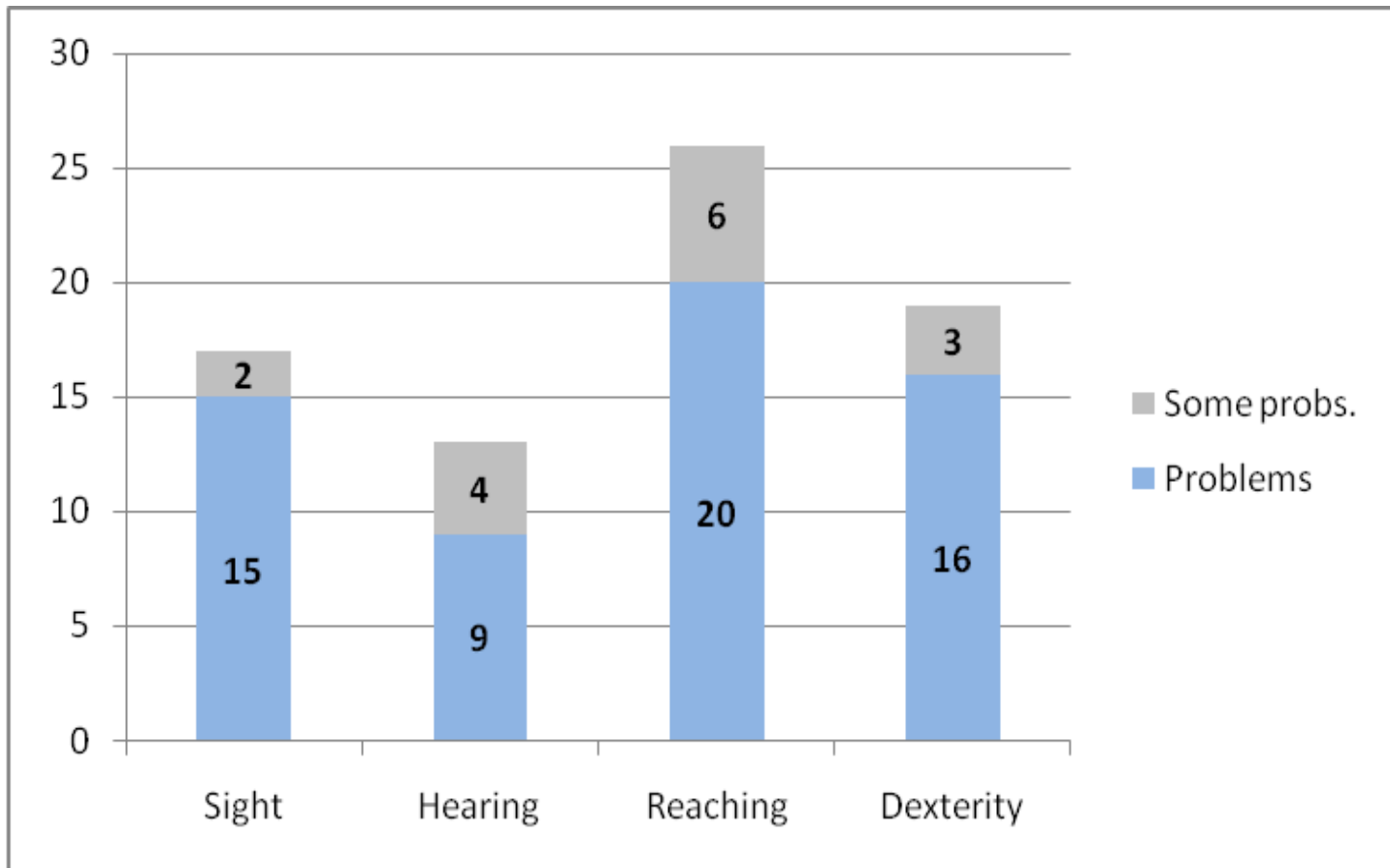
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An interview study

- Interviews with a sample of 48 older people
- A databank of the stories and experiences, documenting people's lives in the kitchen and their changing needs.
- How older people feel about their current kitchen
- “Inspirational material” of adaptations made by the participants that others may apply to their own kitchens.
- Develop a guide to help people adapt their kitchen to meet their changing needs in later life...



Capability issues across the sample



Changes to made to kitchens

Many of the TiKL project participants developed simple and practical solutions to overcome the problems they faced.

- Dishwashers
- Automatic kettles
- Lighter irons
- More plug sockets
- Lever taps
- Fan fitted in window (avoid opening it)
- Pull-out shelves fitted
- Easy-to-clean floors
- Shallower drawers
- Move items lower so easier to reach
- Improve lighting / magnifier to read small print



pull-out drawer cupboards



under-cupboard lighting 4

Example adaptations.....

Utilising space....



Saving space....



Accessing items....



..... Assisting with vision

Further adaptations

Extra light....



Not always convenient....



Simple and practical kitchen solutions

- Some of these ideas (along with existing design innovations) have been compiled into a 'Kitchen Living Guide' to help other people adapt their kitchens to better meet their changing needs as they grow older.
- A natural extension to the main TiKL study was to review the possibilities of using more advanced technology to make kitchen life easier.

ESRC New Dynamics of Ageing Programme

Transitions in Kitchen Living (TiKL)



Introduction

The Open University and Loughborough University have conducted a project, funded by the ESRC New Dynamics of Ageing Programme, to study people's lives in relation to the kitchen. It examined experiences of the kitchen across the life course for older people living in a variety of accommodation: private houses, flats and

sheltered apartments. A sample of 48 older people in their 60s, 70s, 80s and 90s in Loughborough and Bristol participated in the study. Each person was interviewed twice. In the first interview they related their 'kitchen history' – all the kitchens they had experienced throughout their life. The second included an examination and discussion of their current kitchen; how well it

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Examples of more technically advanced kitchen ideas

The Ambient Kitchen developed by Patrick Oliver's Team at Newcastle University, developed particularly for those with cognitive impairment such as dementia containing:

- Recipe reminder
- Medication reminder



More accessible kitchen units developed by Design Matters

<http://www.bbc.co.uk/news/uk-11893452>

Survey to explore requirements for technological support

- A survey conducted with a group of 40 older people to obtain their reactions to some of the ideas and concepts behind the ‘techno kitchen’.
- As a basis for the survey, an analysis was done of the problems that participants faced, simple solutions from the TiKL interviews and more advanced ‘techno’ solutions proposed by the smart house community.

Simple and advanced (part 1)

Problem	Possible 'low tech' solution	Possible 'hi tech' solution
1. Poor lighting in parts of kitchen for doing tasks	Install under cupboard lights or table lamps with switches.	Activity is sensed and light is turned on automatically.
2. Tiredness and needing to sit down to carry out tasks	Table or lower work surface for sitting or perching stool.	Work surface motorized so can be raised or lowered.
3. Difficulty in reaching window or blind over sink	Reposition catches to be at bottom of window frame.	Remote control opening and closing of windows/blinds.
4. Reading small instructions on packaged food.	Improved lighting to read instructions or magnifier.	Gadget to scan and read instructions aloud.
5. Bending down to low or reaching up to high shelves.	Relocate shelving height. Pull out or carousel shelving.	Motorised cupboards that can be moved up and down.
6. Bending down to check cooking in oven/take out pan	Oven placed at waist height. Light- check without opening.	
7. Transporting food from oven to work surface or table.	Trolley to help transfer items between kitchen-dining room.	'Robot' to transfer items between kitchen-dining room.
8. Drudgery of washing up	Wash up in stages.	Dishwasher installed (perhaps a small unit).

Simple and advanced (part 2)

Problem	Possible 'low tech' solution	Possible 'hi tech' solution
9. Hearing door bell or phone with kettle on.		Visual alert if door bell pressed or phone rings.
10. Kettle too heavy to lift to tap to fill.	Smaller kettle that can be lifted more easily.	Hot water unit to provide hot water 'on tap'.
11. Wash basket too heavy to take outside.	Lighter washing basket. Use with smaller loads.	'Robot' to carry clothes to outside.
12. Lack of space for ironing board in the kitchen	Additional space (e.g. utility room) for board to be set up.	Pull out ironing surface built into kitchen units.
13. Concern that iron, oven or kettle left on when out	Return to house or contact neighbour to check.	Auto shut off of these items if left on too long or if go out.
14. General cleaning (floor, on cupboards, behind units)	Easy clean floor and work surfaces.	'Robot' kitchen cleaner with access behind units.
15. Lack of plug points.	Additional electricity points installed.	Future gadgets may be powered wirelessly.
16. Needing help with shopping.	Neighbour, friend or relative helps with transport.	Online shopping service. Fridge notifies of items needed.

Method

- Survey conducted to obtain responses to the innovations
- 40 older participants older in total (27 females, 13 males) from 50 to 85 years, average age of 72.9
- Asked to think about a range of possible technological enhancements that might support them in the kitchen.
- Each respondent was asked to state whether they would like to have each innovation in own kitchen or not.

1. Fridge readout

Press button on
fridge to read out
food items present
or run out of.

Positive responses:
38%



“Would help with shopping.”

“Good idea for freezer where more food stored. Opening door less saves energy.”

“Unsure of technology behind it. Would you trust it? “

“Would also need to know if items in date. Would need to log food items in and out.”

2. Recipe display on wall

Recipe display on wall so easier to follow when cooking.

“May make it more efficient and save writing recipe’s down.”

Positive responses:
48%

“Don’t follow recipes.”

“Prefer to print with large font. Interested to see prototype. .”

3. Reader for small text on packaging

Device scans and reads out food preparation instructions on food items.

Positive responses:
50%

“Cooking temperature and time of cooking are often printed in tiny writing. “

“My eyesight is too bad so would make life easier.”

“I only need to read instructions on a small subset of food I cook.”

“Too techno.”

“Just print bigger on packaging.”

4. Adjustable cupboard heights

Ability to raise or lower cupboard heights for easier access.

Positive responses:

57%



“Would bring them into eye line and reach.”

“As a 4' 11" tall person this would be wonderful.”

“Waste of space under cupboard.”

“Too many things to go wrong. What about things underneath..”

5. Adjustable worktop height

Ability to raise or lower worktop heights for easier access or seated use.

Positive responses:

63%



“Very good- If you are feeling tired or in a wheelchair or have limited mobility.. “

“Would not want surface without a cupboard or storage space underneath”

“Use a low table instead.”

“Lose the convenience of a lower cupboard..”

6. Automatic task light

Task light comes on automatically when performing task in specific area.

Positive responses:
73%

“Very useful.”

“Could see better and avoid eye strain.”

“Could save energy.”

“Safety and emergencies in the dark.”

“I wouldn’t need to stay in the corner. Need good light all the time.”

7. Remote control of windows & blinds

Open/close
windows and blinds
with button press
e.g. on wall or
remote control.

Positive responses:
75%

“Would be handy as window situated over sink.”

“Would make life easier often have to stretch to close them.”

“Would be safer.”

“Blind may hit items on window sill. Would make us lazy.”

8. Quick cooling oven hob

Hob cools quickly
after being turned
off to reduce risk
of burning oneself.

Positive response:

78%

*“Would be safer especially
for grand children.”*

*“Good idea – have
sometimes been caught out
by residual heat on ceramic
hob.”*

9. Flood alert warning

You or others
alerted if water on
floor indicates
possible flood.

“Useful – water can run a long time before noticed.”

“Would be safer and avoid waste.”

Positive response:
79%

“Too many alarms may make you worry about too many minor things.”

10. Electrical shut off

Shut off non-essential electrical equipment when you leave the house.

Positive responses:
93%

“Yes it is easy to go out and forget that things still on.”

“Would be safer.”

“Save money on electric not being used. Peace of mind.”



Participants' own innovations

- Participants were also asked to propose their own innovations.
- Requirements included:
 - To be energy or water efficient in the kitchen, for example, a plug to cut down on energy use in the kitchen by avoiding standby
 - A better mixer tap so that hot water was delivered quickly rather than running it until it warmed up
 - Help to assess food quality e.g. “Has egg or cheese gone off?”
 - Hand over complete tasks to technology.

Enthusiasm for certain types of technology support

- The results of the survey show that there is enthusiasm for certain types of technological support in the kitchen provided it is well thought through and designed to meet people's needs.
- Most interest was expressed in technology that increases safety in the kitchen or which addressed immediate problems
- Some ideas received only limited support but were seen as possibly useful to others with more severe disabilities.

Conclusions

- More needs to be done to be done to make consumers more aware of ‘techno’ kitchen ideas.
- Demonstrations or videos to illustrate some of the ideas in the survey might have allowed the participants to give a more informed opinions. Or the ideas could have been related to their own kitchens.
- An understanding of older people’s viewpoints and their involvement remains critical to ensure that such developments are useful and practical to kitchen users in the future.
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