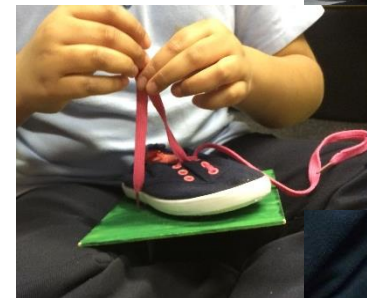


# Developing novel intervention materials to aid the development of dressing skills in young children with visual impairment

Jessica Hayton

[jhayton@ioe.ac.uk](mailto:jhayton@ioe.ac.uk)



## The Issue

- Development of mobility and independence skills in visually impaired children is essential
- Independence training allows active engagement in their environment
- Skills of dressing and undressing are fundamental in everyday life
- Distinct lack of research in Habilitation literature

# Habilitation

Habilitation refers to the teaching and developing of Independent Living Skills in children as they move towards independence

## Incidental Learning

- Vision acts as a facilitator for the natural learning process for independence (Lewis & Iselin, 2002)
- Sighted children develop independence without organised guidance
- In the absence of vision, development of independence is achieved through systematic teaching activities

# Compensating for the lack of Incidental Learning

- Intervention should be structured appropriately for the task
- Carried out at the relevant time and place e.g. the cloakroom at playtime
- Split the task into manageable steps
- Suited to ability while correctly teaching necessary skill (Klein, 1987)
- Time and Rehearsal (Swallow, 1987)

## Research Question

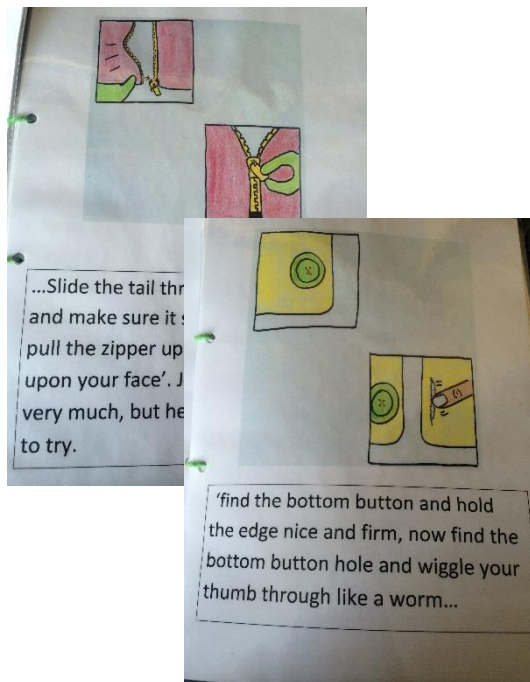
Would an interactive suite of intervention materials aid the development of dressing skills in children with visual impairment?

# Aim

- to develop and test novel intervention materials specifically designed for teaching shoelaces and the fastenings of an outdoor coat

# Designing Novel Materials

- Three materials were created for the study: an interactive story ('Just Joey'), an interactive puzzle game (IPG) and a standardised coat





# Materials and Apparatus

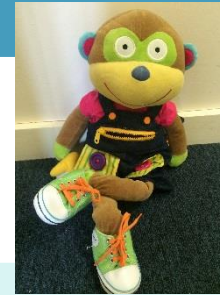


Table 1: Resources:

Resource Name	Type	Purpose
<b>Interactive Puzzle Game (IPG)</b>	Large Jigsaw Puzzle	1. For the children to familiarise themselves with the fastenings, and practise fastening and unfastening
<b>'Learn to Dress with Alex' (Joey)</b>	Commercially Available educational Soft toy	1. Bright and colourful soft toy to develop dressing skills.
<b>'Just Joey'</b>	Interactive story game	<ol style="list-style-type: none"> <li>1. Introduce children to rhyming strategies for fastening</li> <li>2. Dress along with Joey and fasten coats together</li> </ol>
<b>'Simon Says'</b>	Game	<ol style="list-style-type: none"> <li>1. Interactive game used as a warm-up for the children</li> <li>2. Labelling body parts (i.e. put your finger on your nose) beneficial for body awareness and postural control</li> </ol>

# Participants

- 9 children with visual impairment (VI) (3 girls, 6 boys; age range 5;06-10;02 years; mean 8;0).
- 6 were registered blind, 3 were diagnosed with partial sightedness
- 4 typically developing (TD) boys (age range 3;03-7;09 years old; mean = 5;05)
- Children with VI were recruited from a Specialist School
- TD children were recruited from a mainstream school
- Ethical approval was granted from the Institute of Education Ethics Committee

# Procedure

- A pre-test, intervention, post-test design was used to assess the impact of the intervention over a 10 week period
- The children participated in two 15 minute sessions per week for the duration
- A series of event based observations were used at weekly intervals to examine the effects of the interventions and assess the progress of the children.
- The observation schedule was previously piloted with the intervention resources for reliability and face validity.

Week number	Session	Activity	Week number	Session	Activity
1	1	1. Play 'Simon Says' 2. Read 'Just Joey' with IPG	6	1	1. IPG
	2	1. IPG		2	1. Standardised coat
2	1	1. Story with IPG	7	1	1. IPG & standardised coat
	2	1. IPG		2	1. IPG, standardised coat & Joey
3	1	1. IPG	8	1	1. IPG & Joey
	2	1. IPG with laces*		2	1. IPG, standardised coat & Joey
4	1	1. IPG	9	1	1. IPG & Joey
	2	1. IPG		2	1. IPG, standardised coat & Joey
5	1	1. IPG	10	1	1. IPG, standardised coat & Joey
	2	1. Joey 2. IPG with laces		2	1. Transfer skills onto different items

Note: \* = all IPG activities incorporated laces after wk3 S2

## Results

- The observations show that all children demonstrated some level of practise effects in the zip, button, popper and lace conditions.
- All TD children, and 3 boys with VI were able to unfasten and fasten all fastenings without assistance
- All VI children were able to unfasten all fastenings but required physical or verbal assistance to support some stages of fastening

## Findings

- Chronological age may affect and skill ability in the VI condition as the older children were able to independently fasten/unfasten at the end of the intervention period
- Within the VI sample, boys appeared to develop motor skills faster than girls – this could also be linked to chronological age



## Discussion

- Children show a similar developmental pattern in terms of fastening, however children with VI appear to be delayed
- Motivation and additional disabilities could play a role in fastening ability, as children with partial sight and additional disabilities performed worse than children with blindness
- The ‘developmental lag’ theory supports the findings (Warren, 1994)

## Moving Forward

- The current study could be developed in the following ways:
  - Increase sample size
  - Inter-rater validity for the observation schedule
  - Create a training manual for the intervention for key supporting adults



## Conclusion

- The results indicate that the suite of intervention materials could support dressing skill development in both sighted children and children with VI
- The degree of skill mastery between the children varied, but overall the results show an improvement in each child's skill ability from pre-test to post-test

# Thank you for listening!



## Any questions?

Email: [jhayton@ioe.ac.uk](mailto:jhayton@ioe.ac.uk)