Birmingham Community Healthcare NHS
NHS Trust

Communication, environmental control and computer access

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what to talk about

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Introduction

- Access to Communication and Technology (ACT)
- Augmentative and alternative communication (AAC)
- Electronic assistive technology
- Environmental control
- Computer access
- Integration
- Assessment and success

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Introduction

- Effects of MS
- Fatigue
- Physical and visual impairment
- Speech impairment
- Case studies

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Access to Communication and Technology (ACT)

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Access to Communication and Technology (ACT)

- Regional Specialist service
- Commissioning
- Assessment and provision
- Augmentative and alternative communication (AAC)
- Environmental control
- Computer access
- Integration
- West Midlands

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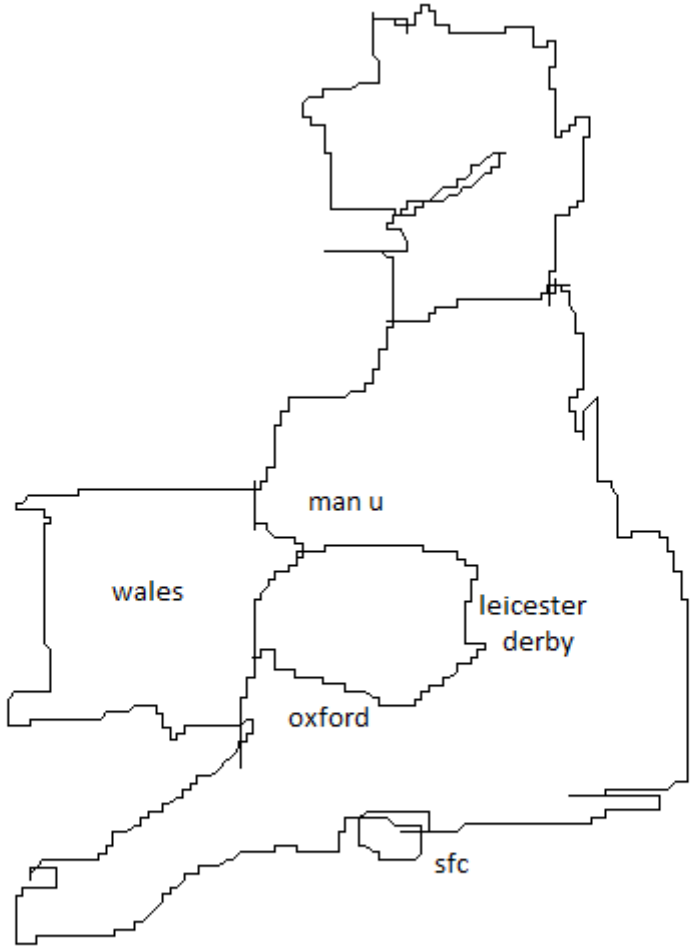
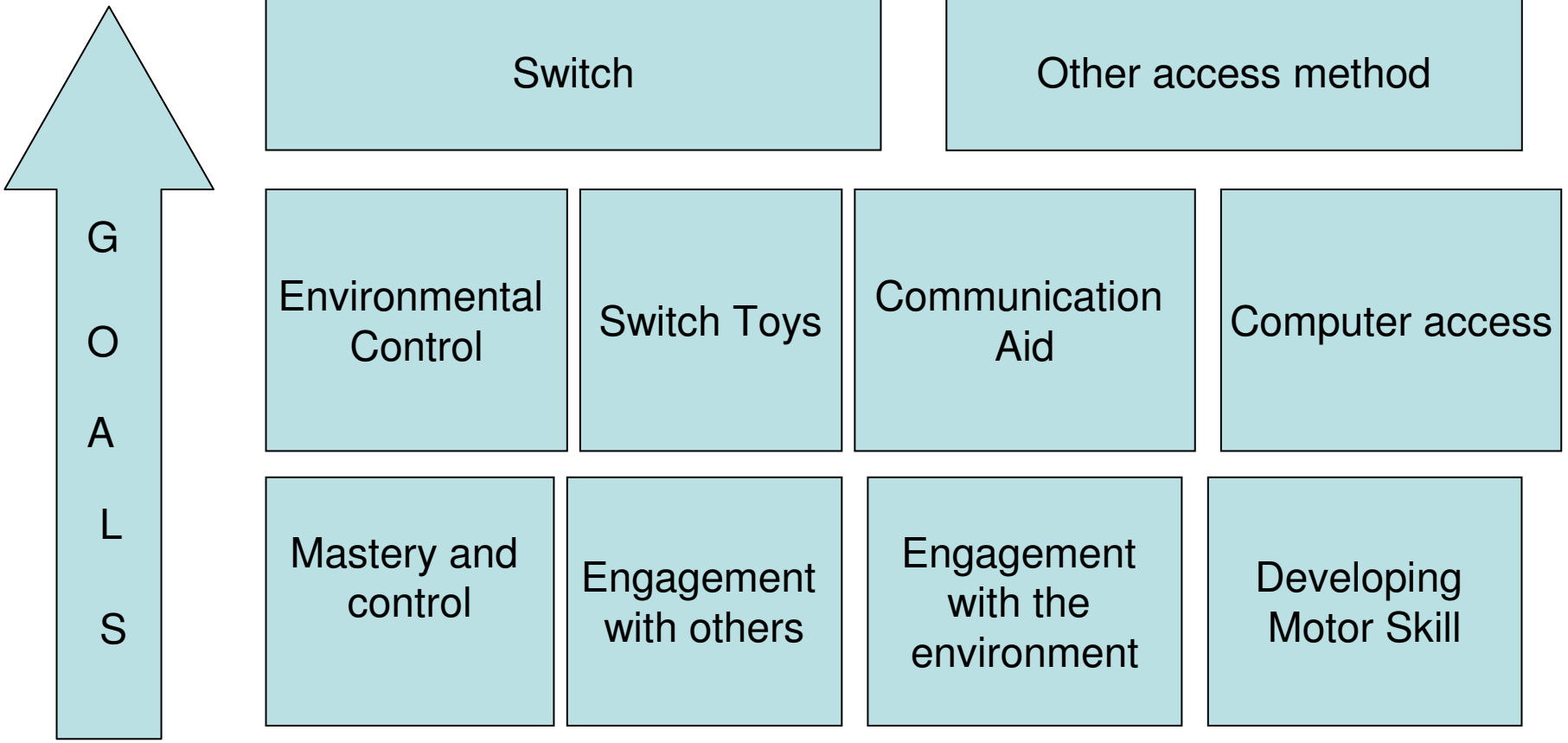
West Midlands Region



What is the goal?



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AAC

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What is Augmentative and Alternative Communication (AAC)?

What is AAC?

"AAC is the use of other means to communicate in support of, or as an alternative to, speech."
Gail Van Tatenhove 1993

We can describe AAC in terms of no-tech through to high-tech

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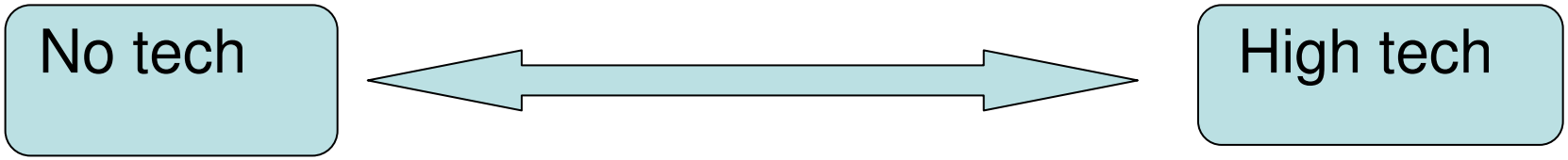
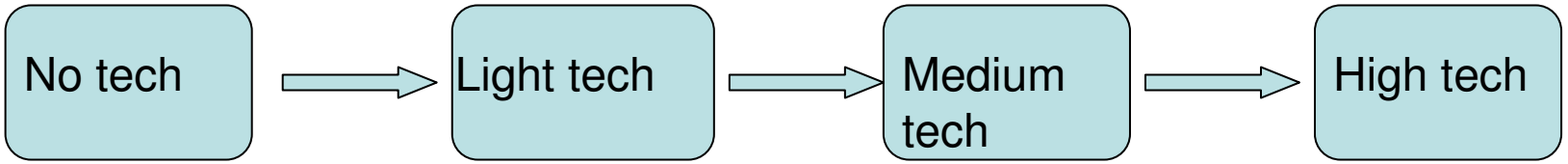
Technological range AAC





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AAC Options

A	B	C	D			
E	F	G	H			
I	J	K	L	M	N	
O	P	Q	R	S	T	
U	V	W	X	Y	Z	

No Tech

- Natural gesture
- Facial expression
- Pointing (using fingers or eyes etc)
- Signing
- 20 questions

South Birmingham NHS
Primary Care Trust

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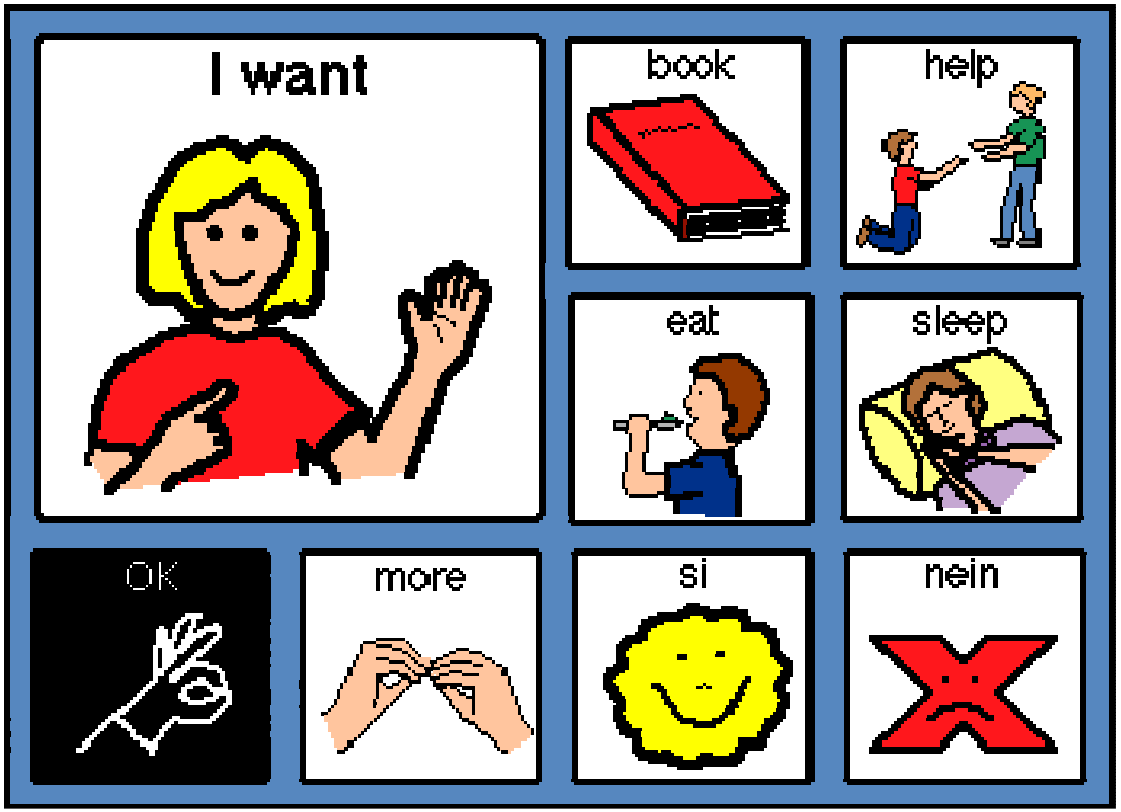
Low Tech example



Mayer Johnson PCS
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Examples of high tech VOCAs

Lightwriter

SL40 –

Spelling Based.

Supplied by

Toby Churchill

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EAT

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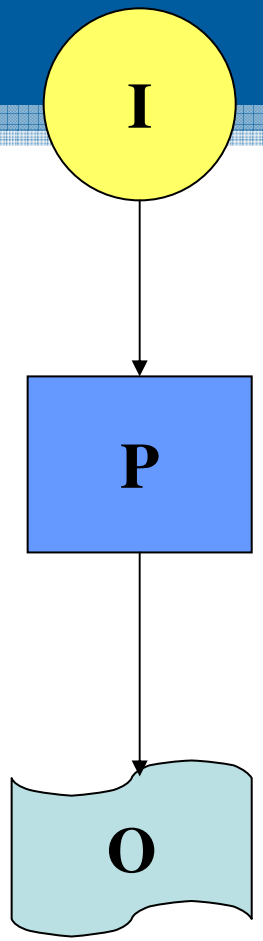
EAT Systems



I=INPUT

P=PROCESSOR /CONTROLLER

O=OUTPUT

Environmental control (EC)

Augmentative and Alternative Communication (AAC)

Computer control

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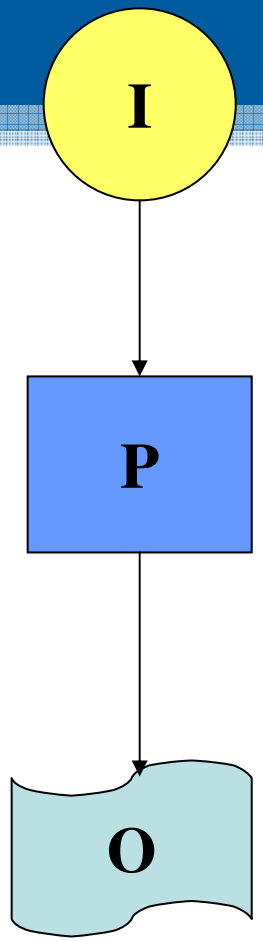
Environmental control system



‘Environmental control systems help people with severe physical disability maintain independence by giving them the means to operate appliances and equipment from a central control’

DoH 1993

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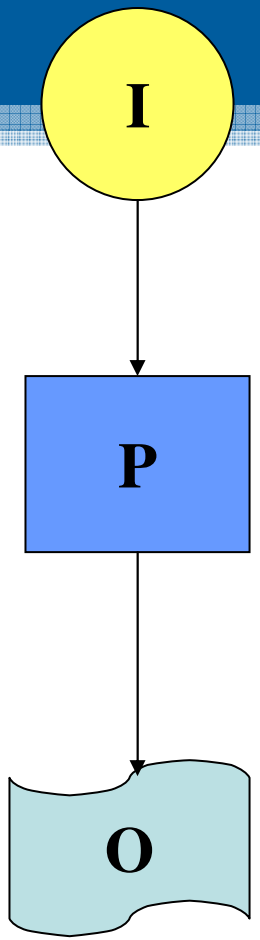
Environmental control system



Input – Jelly Bean switch

Processor – RSL Steeper Activ 500

Output – infra-red code to operate a TV channel

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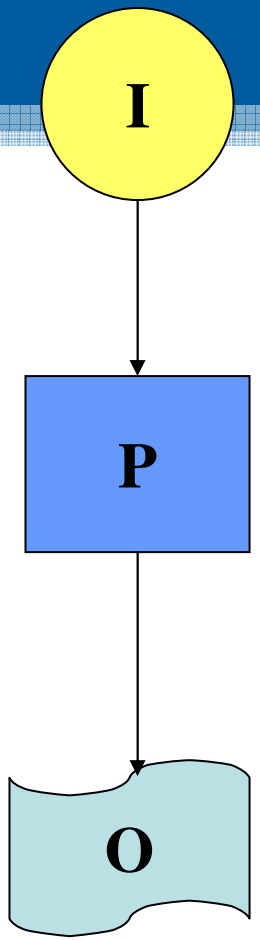
Environmental control system



Input – Jelly Bean switch

Processor – RSL Steeper Activ 500

Output – infra-red code to operate a TV channel

practical demonstration

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Computer Access

- Alternative Keyboards
- Alternative Mice
- Switch Access

integration

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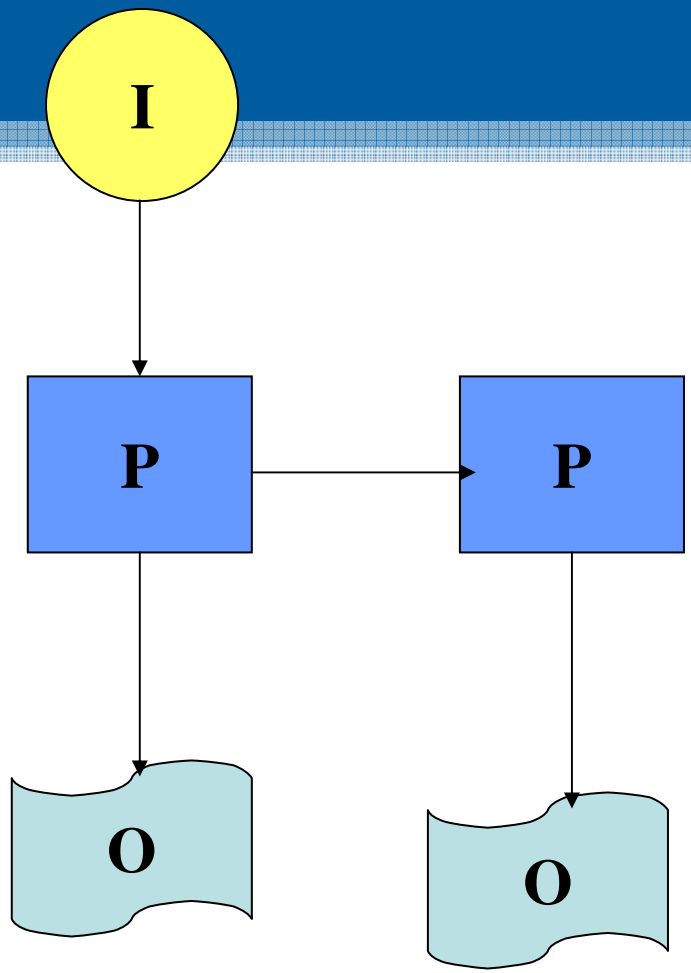
Head-operated switch



DX wheelchair controller

Activ 500

wheelchair drive

EC

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Case example

- In pairs or small groups
- Someone with MS
- Think of someone you know with MS who has a difficulty where you are wondering if EAT might be the answer
- Specify the difficulty and discuss a possible solution

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ACT and MS - some stats

- More than a quarter of our current patients have MS
- Current caseload 424: those with MS 115
- 378 people with MS on our books
  - 13 waiting to be seen
  - 115 current
  - 250 discharged

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ACT

- Open telephone referral system
- Care pathway aspirations
- Work closely with local teams
- Current funding system
  - 180 new assessments
  - 770 reviews

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ACT team

- Assessment
- Occupational Therapists
- Speech and Language Therapists
- Clinical Scientists
- Provision
- Clinical technologists

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The Access to Communication and Technology (ACT) Service

Role definitions

Occupational Therapist

- assessment of general needs, abilities and aspirations taking into account the person, the physical and the social environment
- provision from a range of standard options

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The Access to Communication and Technology (ACT) Service

Role definition

Speech and Language Therapist

- assessment of communication needs, abilities and aspirations taking into account all communication partners
- provision of AAC to the patient taking into account speech, language and cognitive abilities

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The Access to Communication and Technology (ACT) Service

Role definition

Clinical Scientist

- assessment of the requirements for electronic assistive technology
- matching the technology to the needs to the patient
- provision from a range of standard and novel solutions

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The Access to Communication and Technology (ACT) Service

Role definition

Clinical technologist

- attention to the technical aspects of the technologies used for assessment and provision
- provision of techniques and technologies as specified by other members of the team

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Assessment protocol

- Referral
- Initial consultation
- Needs abilities and aspirations
- Goal setting
- Trial of equipment
- Review
- Discharge to local team

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Frame of reference

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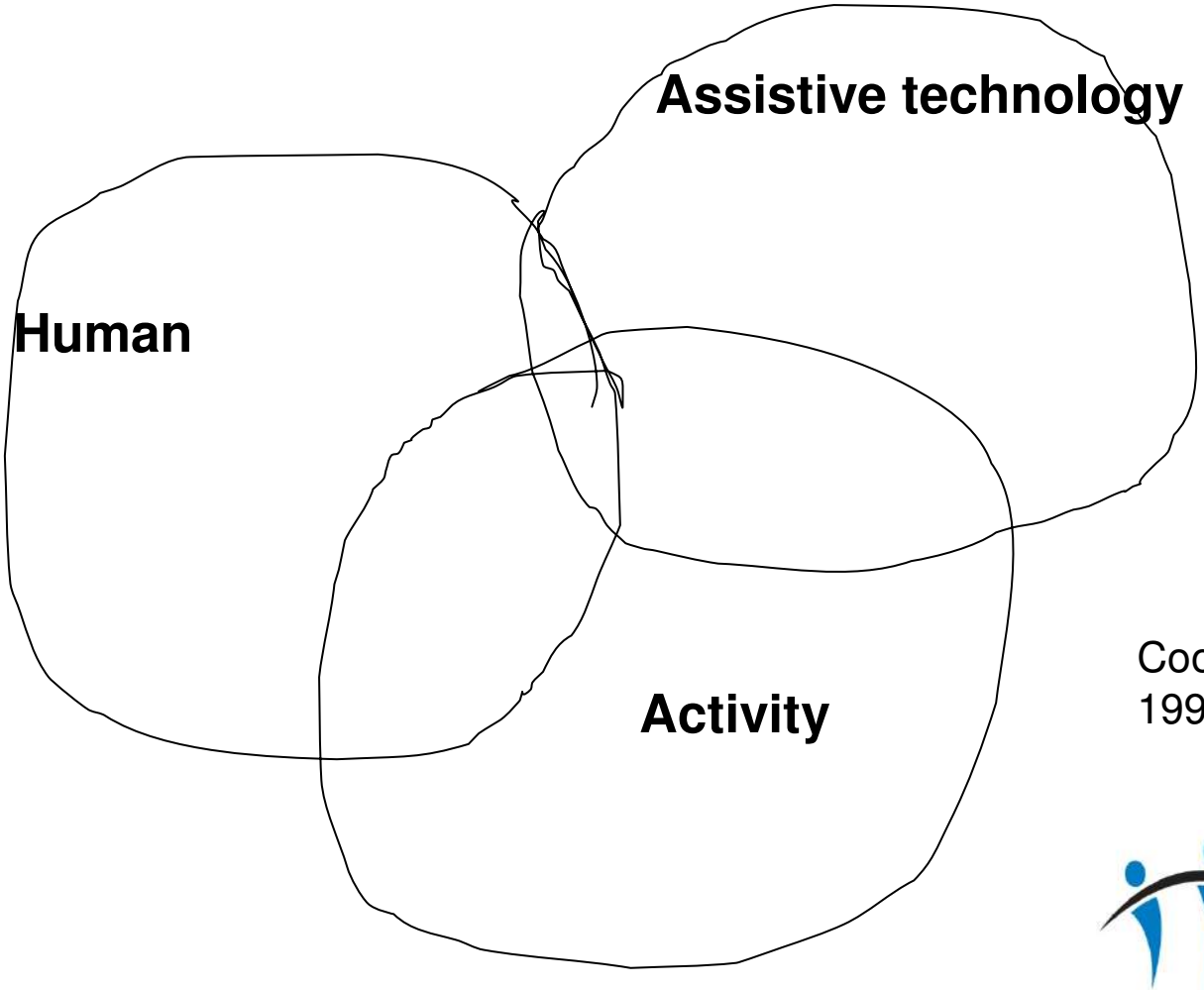
HAAT model

Environment



Cook & Hussey
1995

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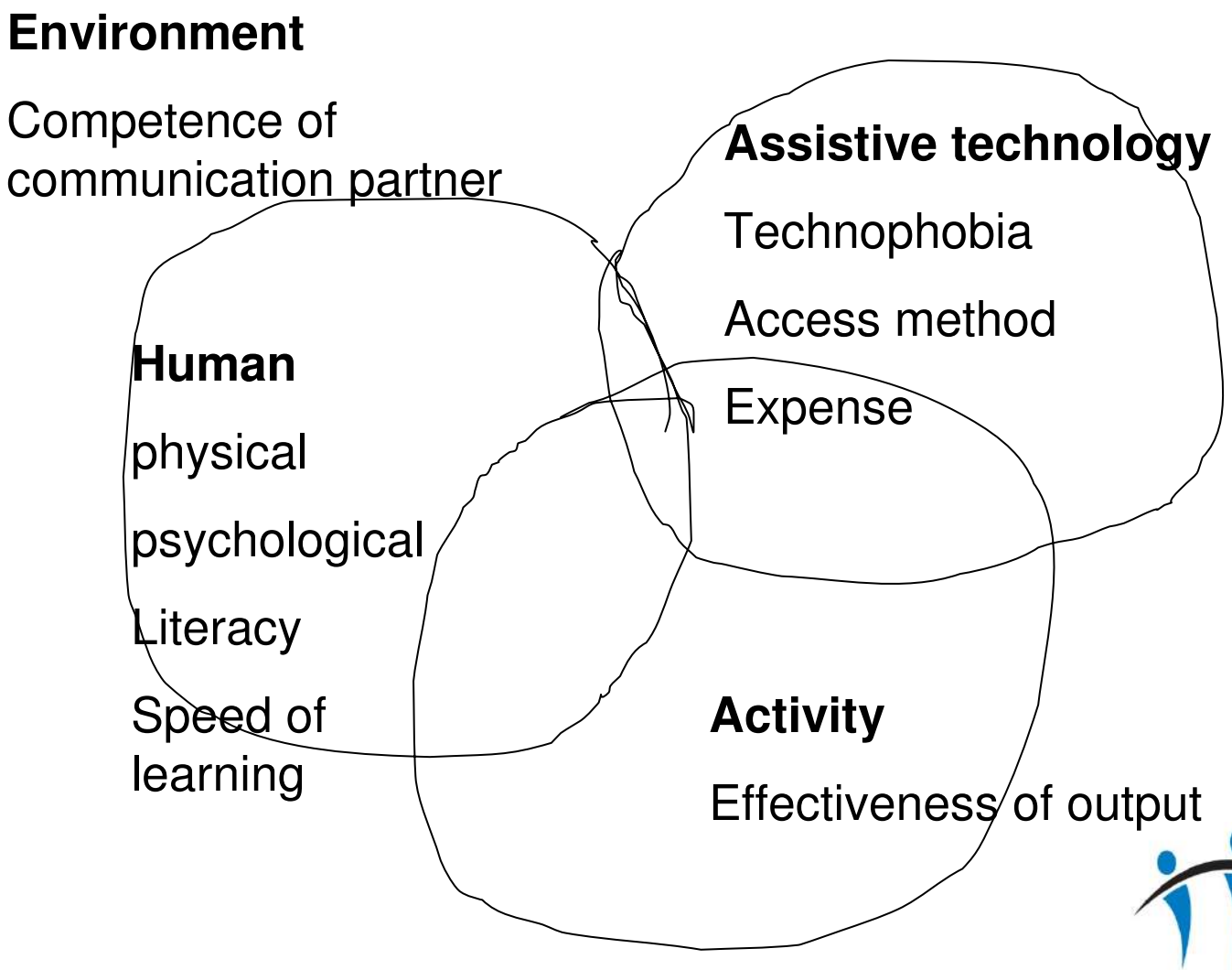
HAAT model applied to AAC



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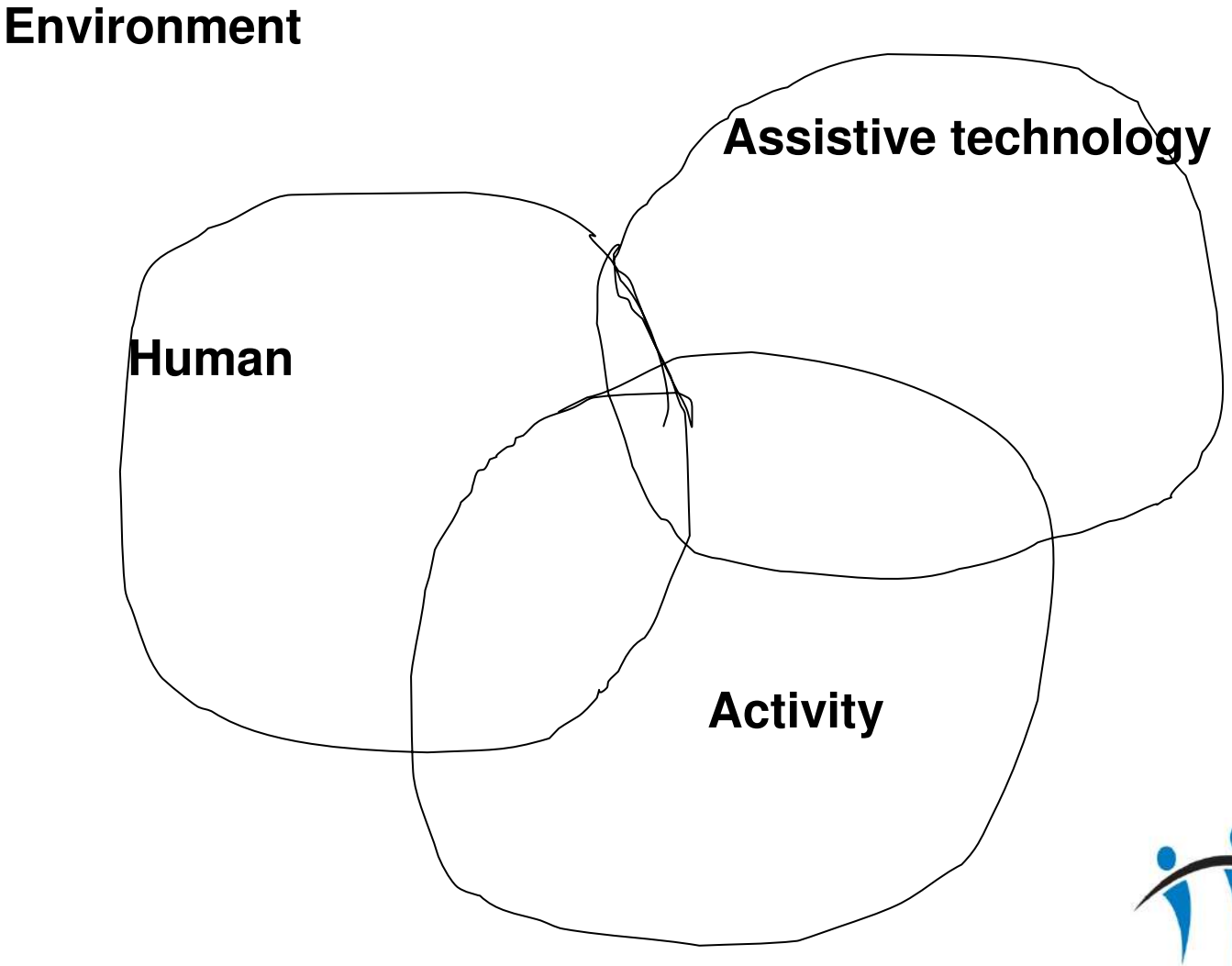
When is the technology good?



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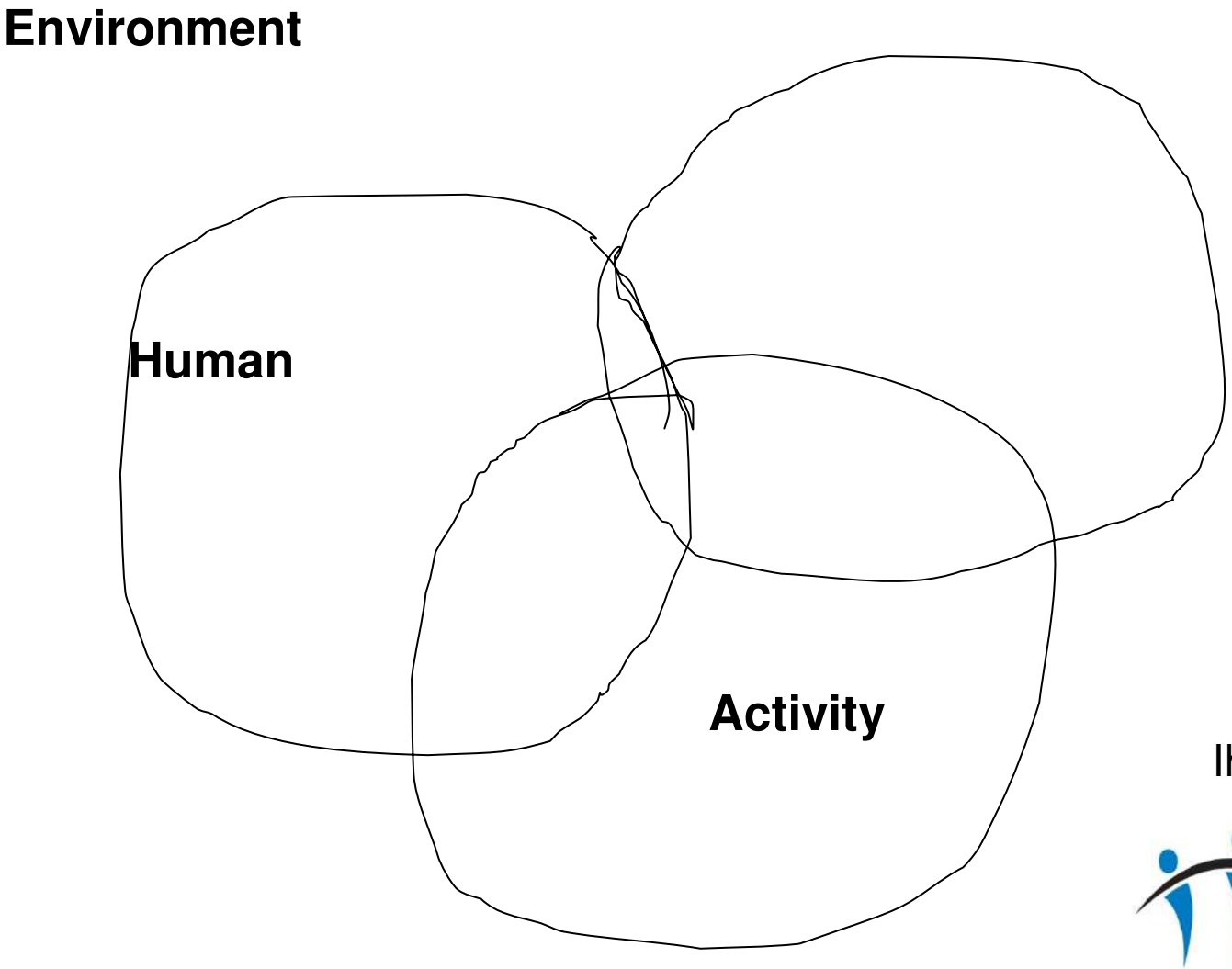
When the user forgets about it



Ihde 1983

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Multiple Sclerosis

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Effects of MS

- Fatigue
- Reduced power of concentration
- Physical impairment
- Visual impairment
- Speech impairment
- Illustrate these effects through some case studies

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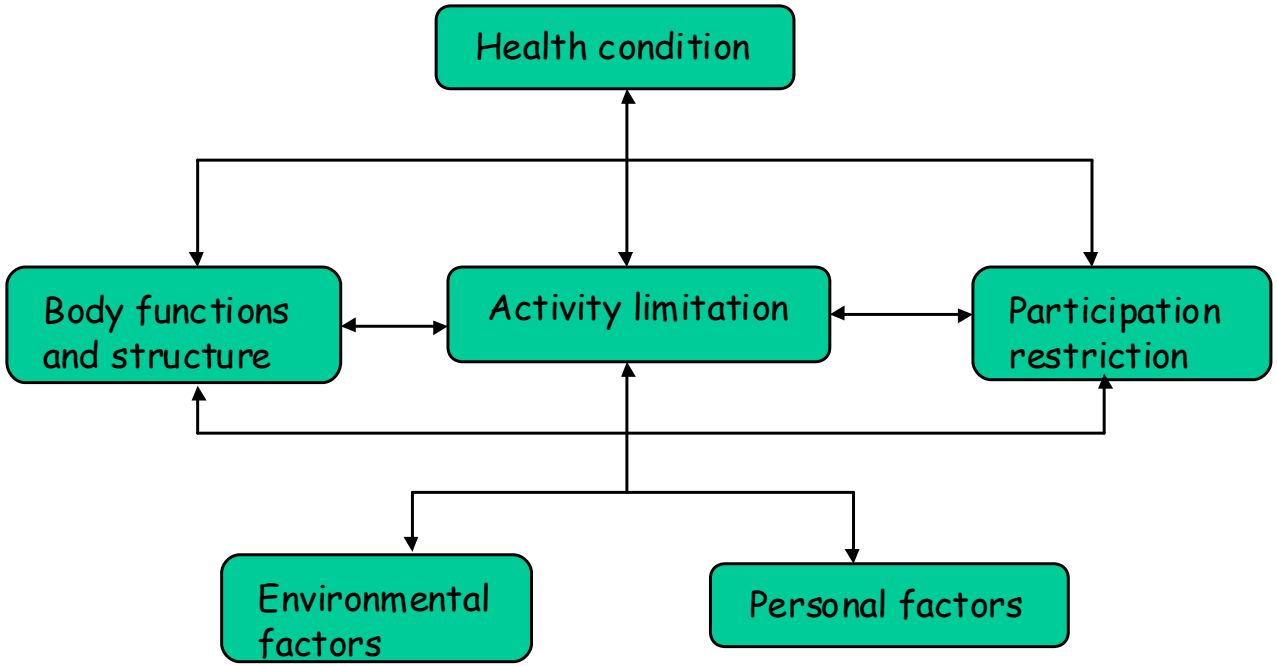
ICF


Health condition
Body functions and structure
Activity limitation
Participation restriction
Environmental factors
Personal factors

WHO 2001

John

- has MS
- predominant effect – physical
- lives alone in Wolverhampton
- environmental control system user
- wheelchair user
- not able to get out
- not able to get an electric door opener

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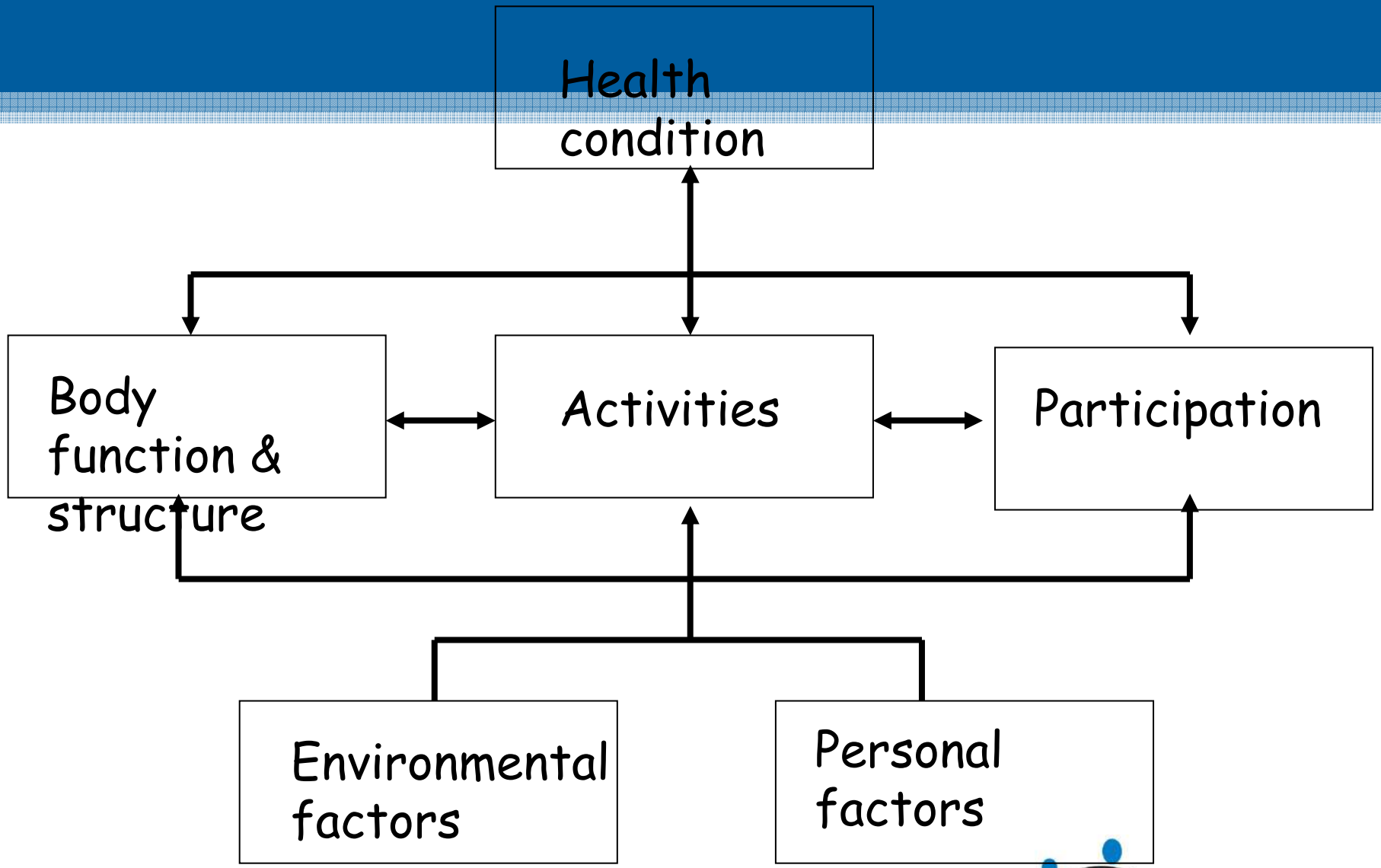

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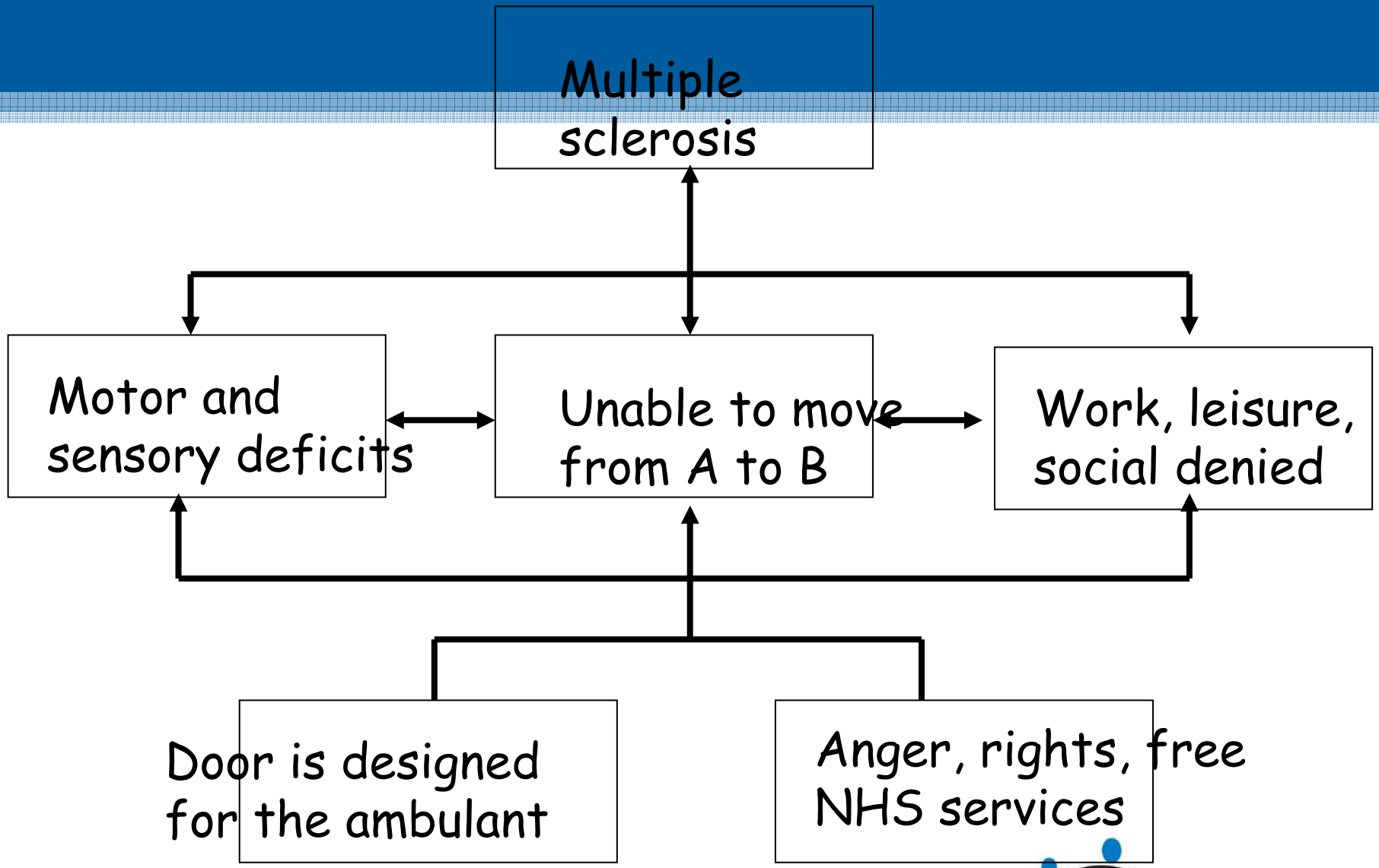

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John

- Comments?

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MS – physical factors

- Brenda

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Brenda

- Has MS
- Predominant effect – physical
- DVD to illustrate some problems with switching

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Brenda

- Comments?

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MS – physical factors

- Doug

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Doug

- Has MS
- Predominant effect – physical
- Competent computer user
- Not able to get out as much as he would like
- Keen to continue to use the computer but no longer able to use keyboard and mouse
- Headmouse with an on-screen keyboard

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Doug

- Headmouse
- Use head movements as mouse emulation
- Plugs into the computer
- Infrared transmission and reflection
- User wears reflective dot on the forehead

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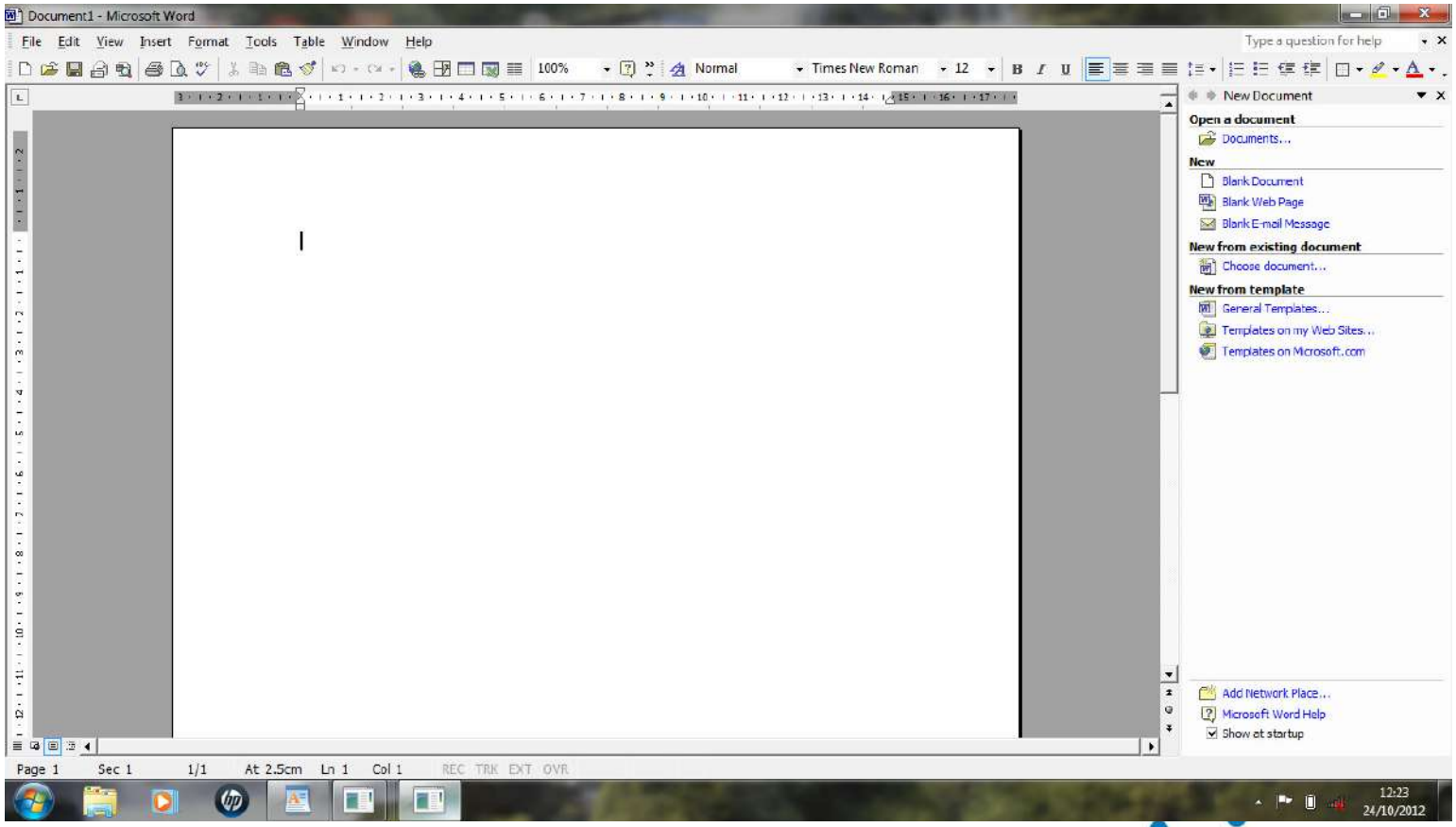
On screen keyboard



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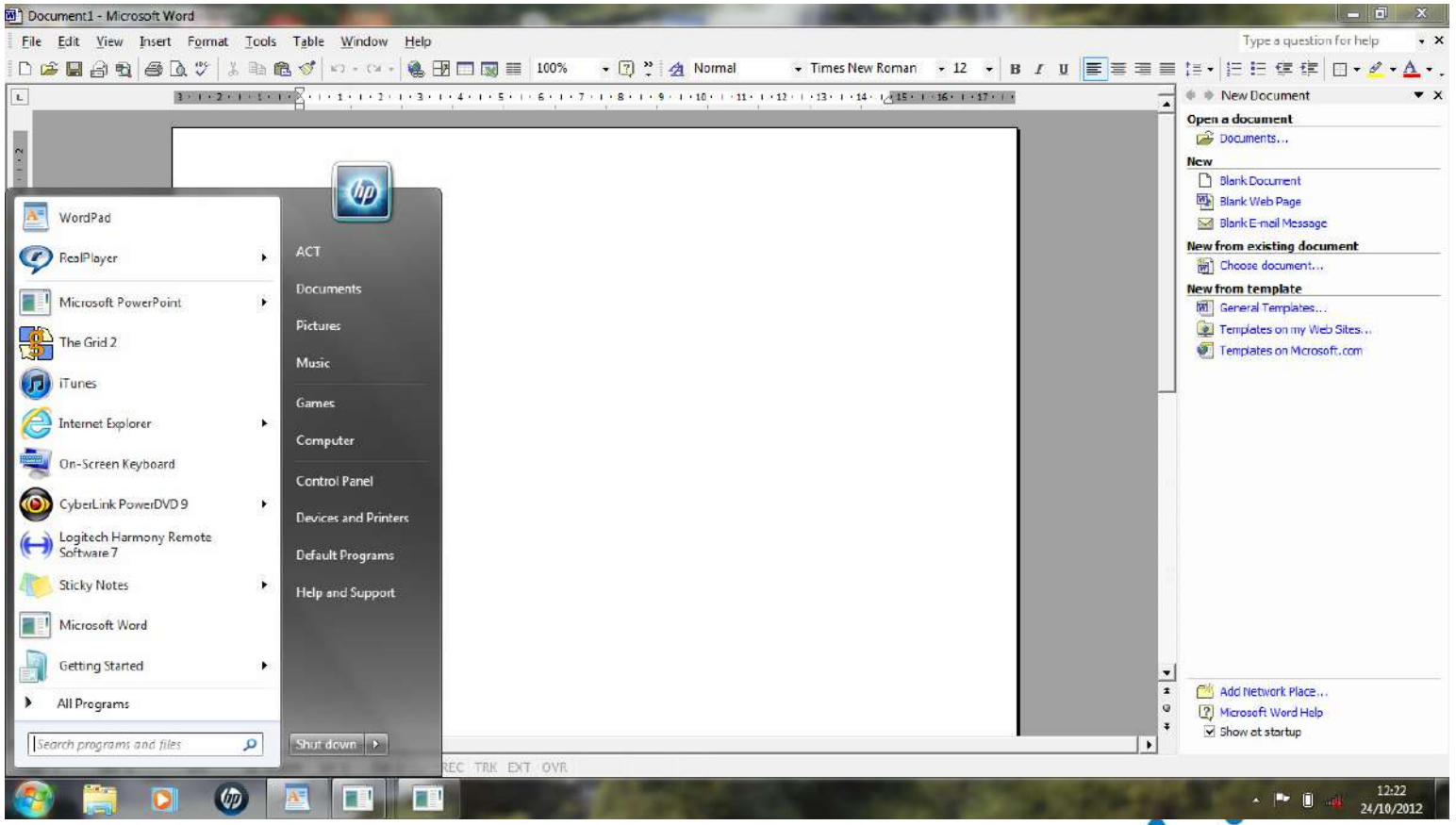
On screen keyboard



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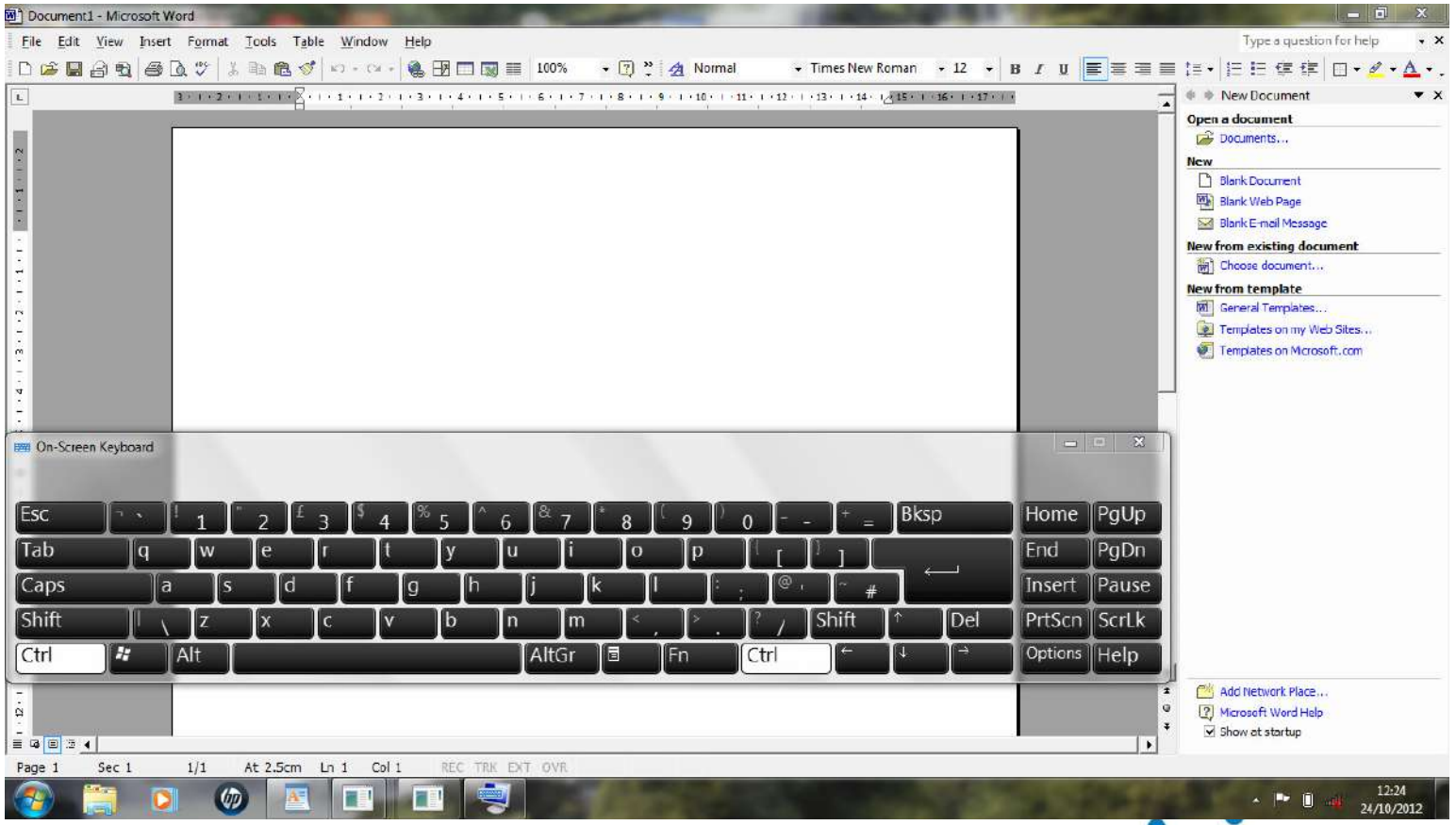

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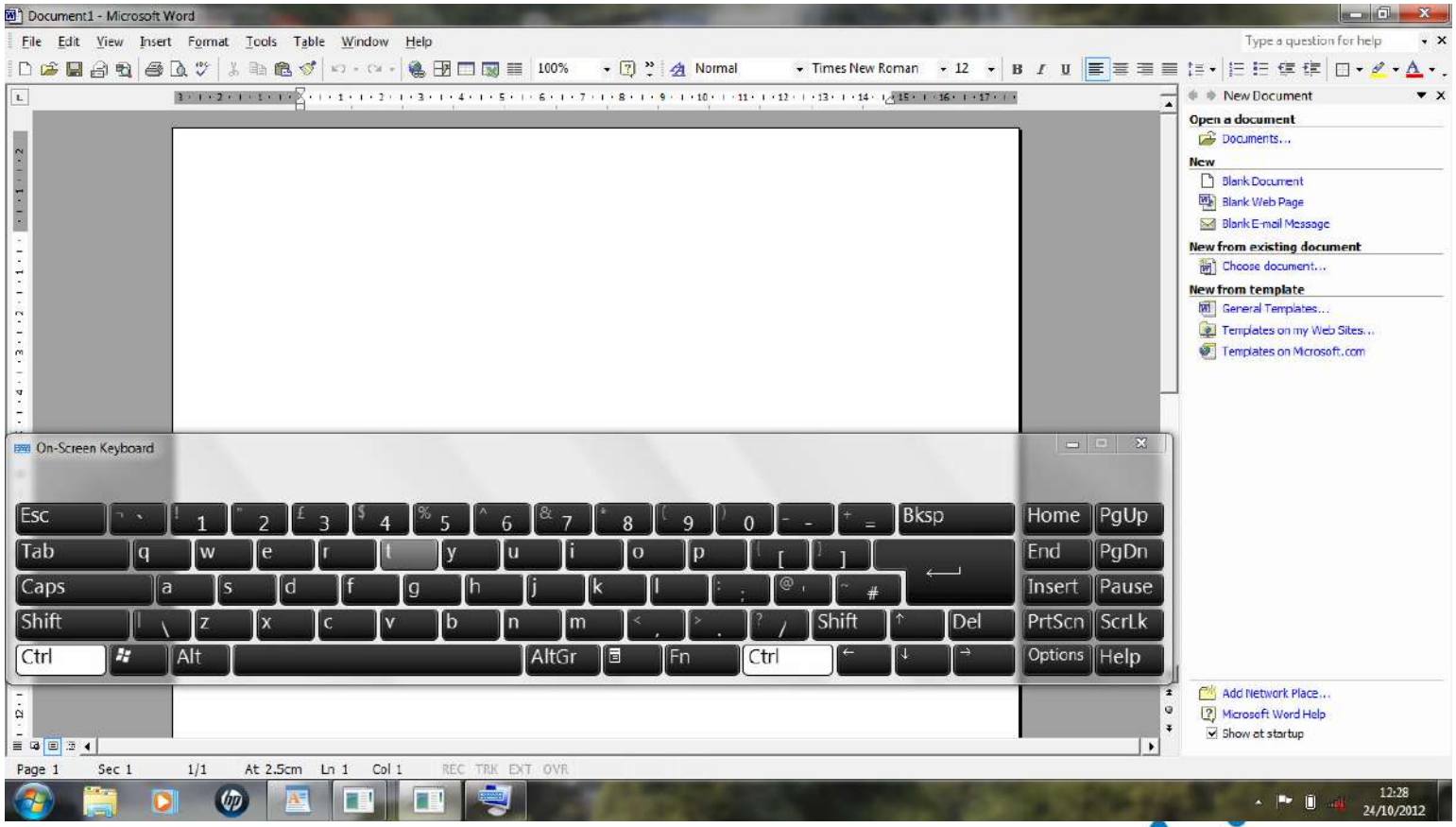
On screen keyboard



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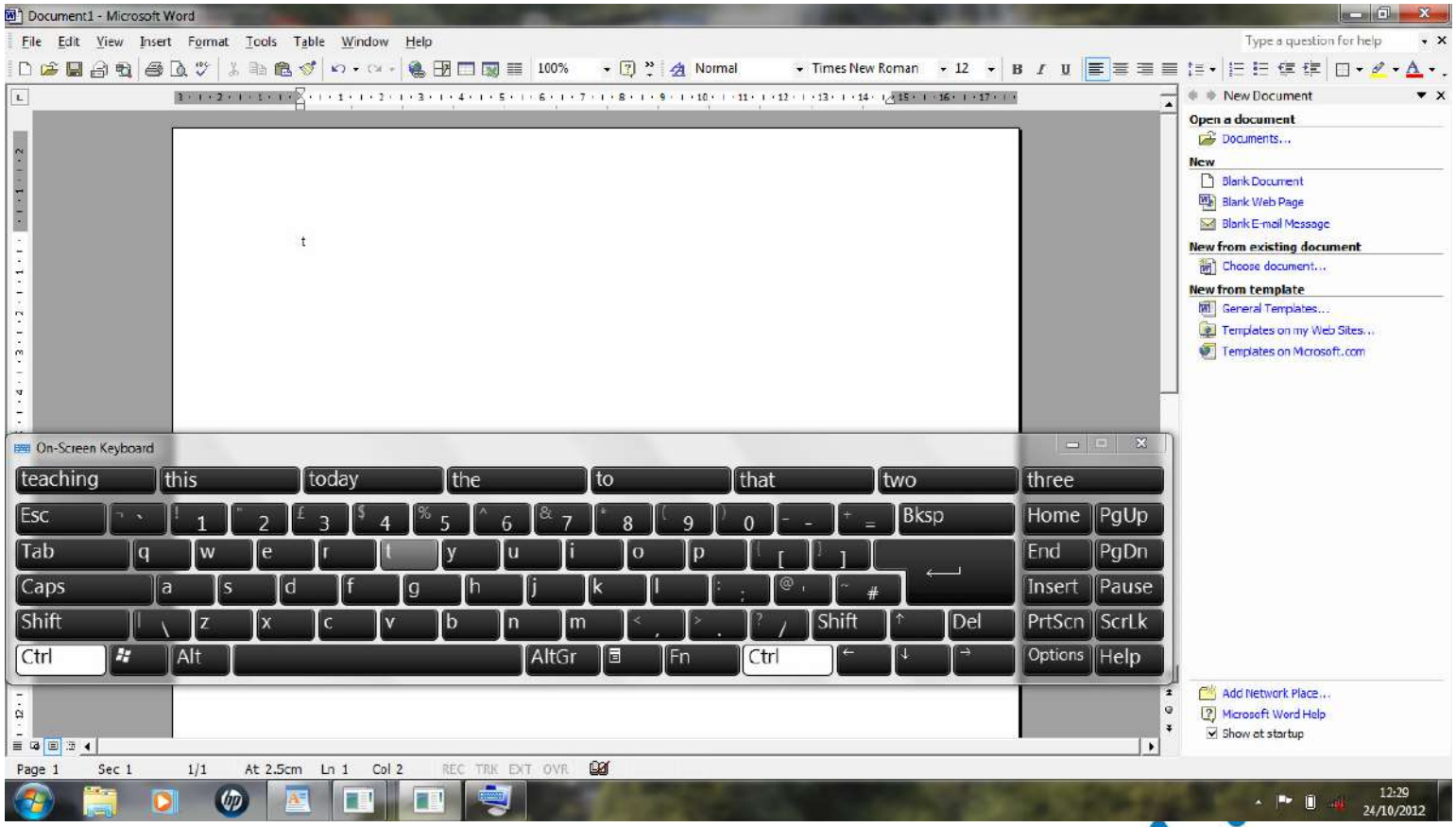
On screen keyboard



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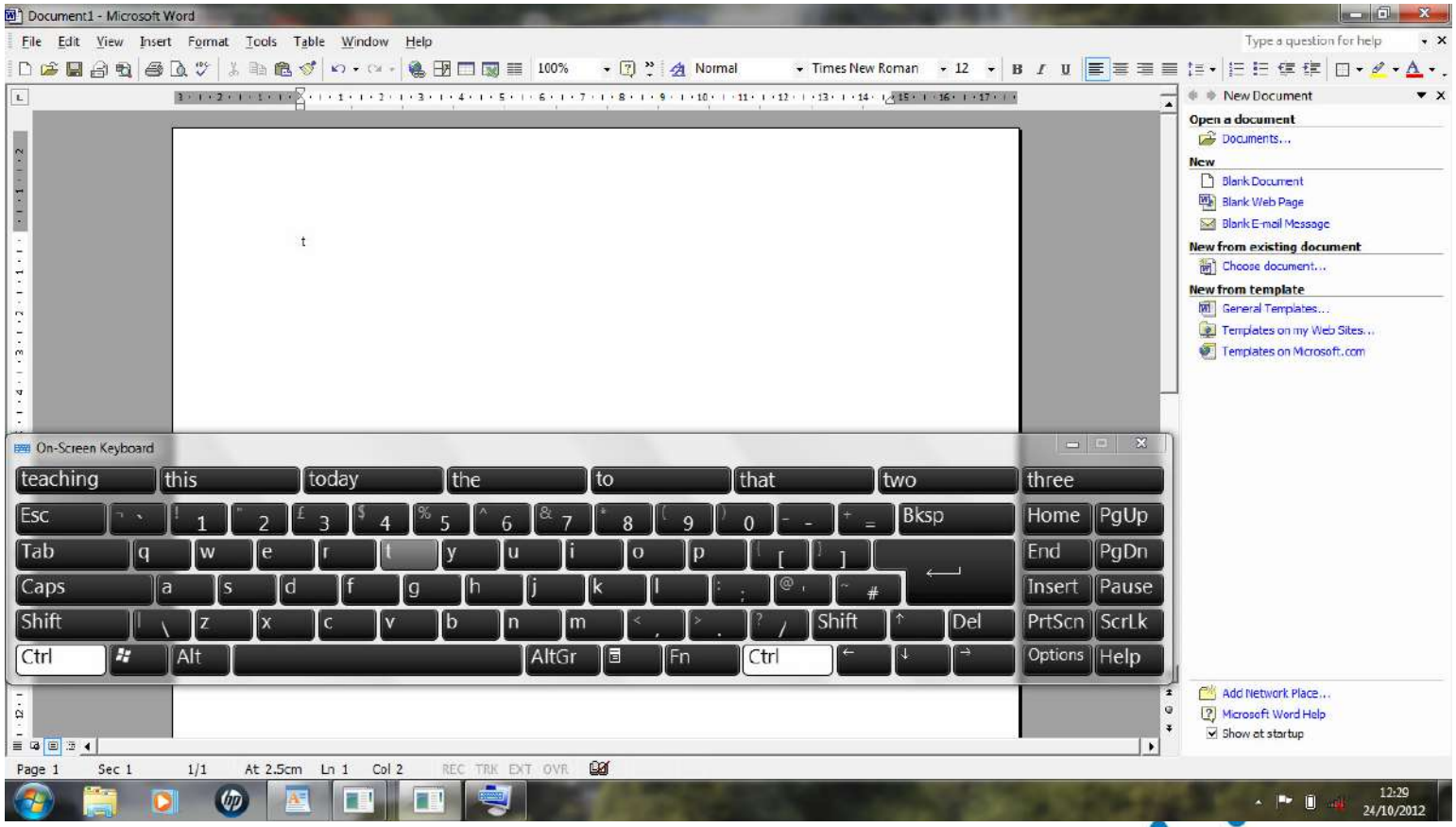
On screen keyboard



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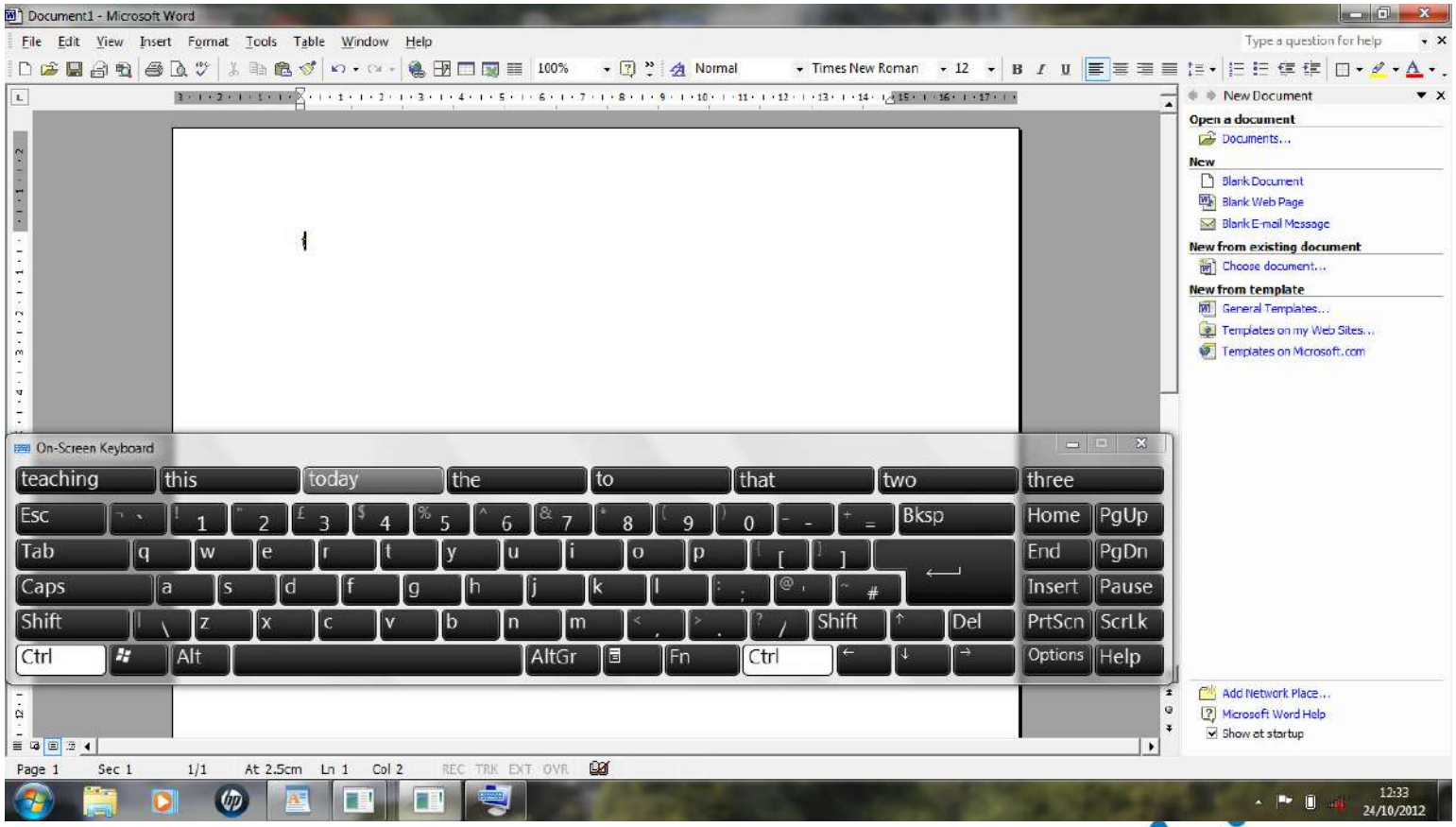
On screen keyboard



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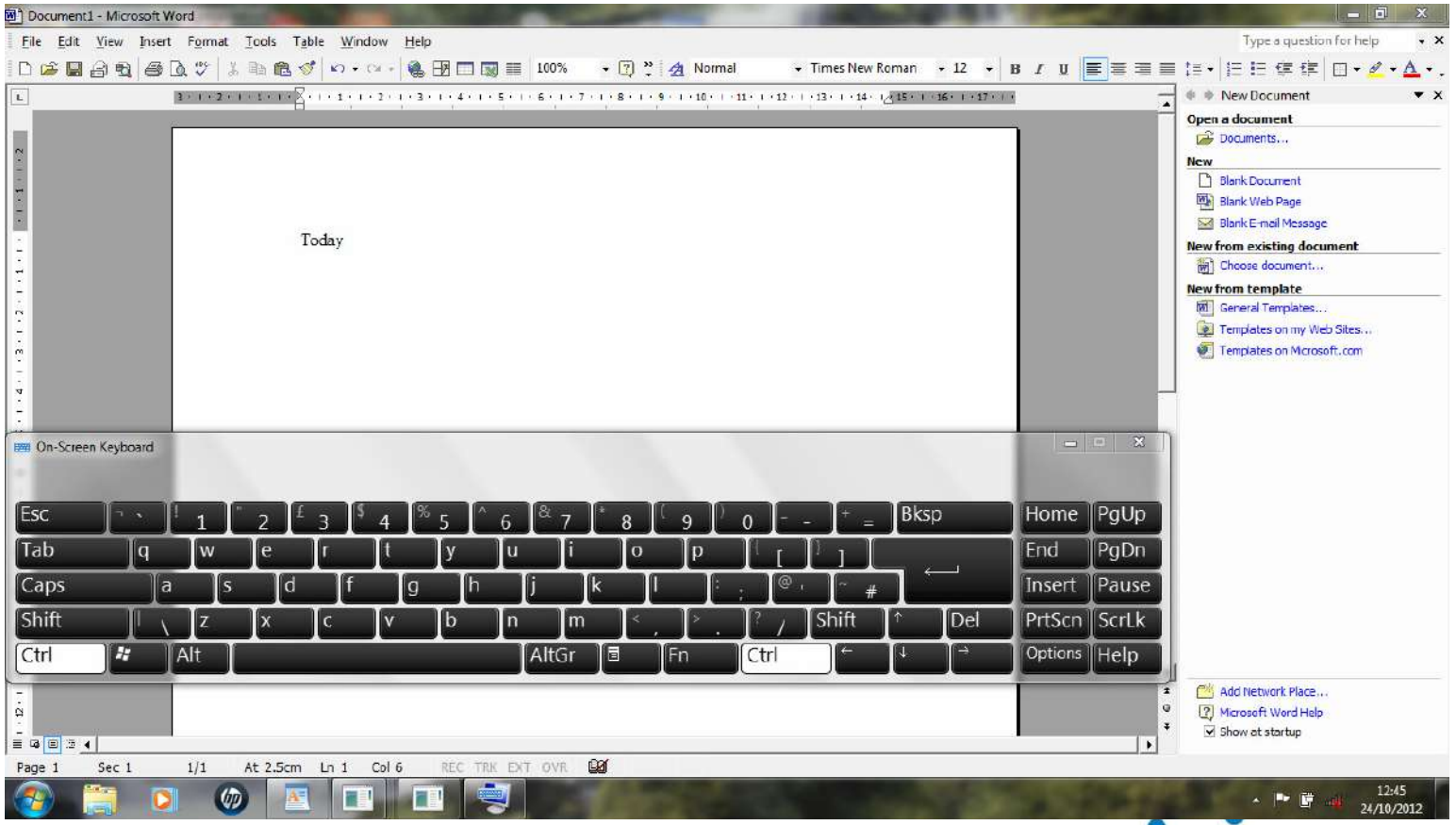
On screen keyboard



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On screen keyboard

- Can use dwell select or click select
- Standard within Windows
- Other options available

- Doug
- Comments?

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MS – speech and fatigue

- James

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James

- Seen last week for the first time with SLT
- MS - physical impairment predominant
- Speech impairment
- Worse later in the day
- Just about able to use a keyboard operated communication aid in the morning
- Main communication partner is his wife

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James

- Elements of fatigue
- Worse later in the day
- Some visual problems
- Potential for learning reduced
- Uses a scanning EC system
- What do you think we recommended?

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MS – physical, visual and speech

- Robert

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Robert

- Saw many years ago
- MS – physical and visual impairment predominant
- Some head movement
- Able to make out light and dark
- Severe speech impairment – nil speech

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Robert

- Well-preserved cognition
- Good hearing
- High tech AAC device appopriate
- What do you think we tried?

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Case example

- In pairs or small groups
- The person with MS with a difficulty where you are wondering if EAT might be the answer
- Has the difficulty changed for you and has the solution changed
- Or think of someone else

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Discussion

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