NHS
Blood and Transplant

Educational Skills

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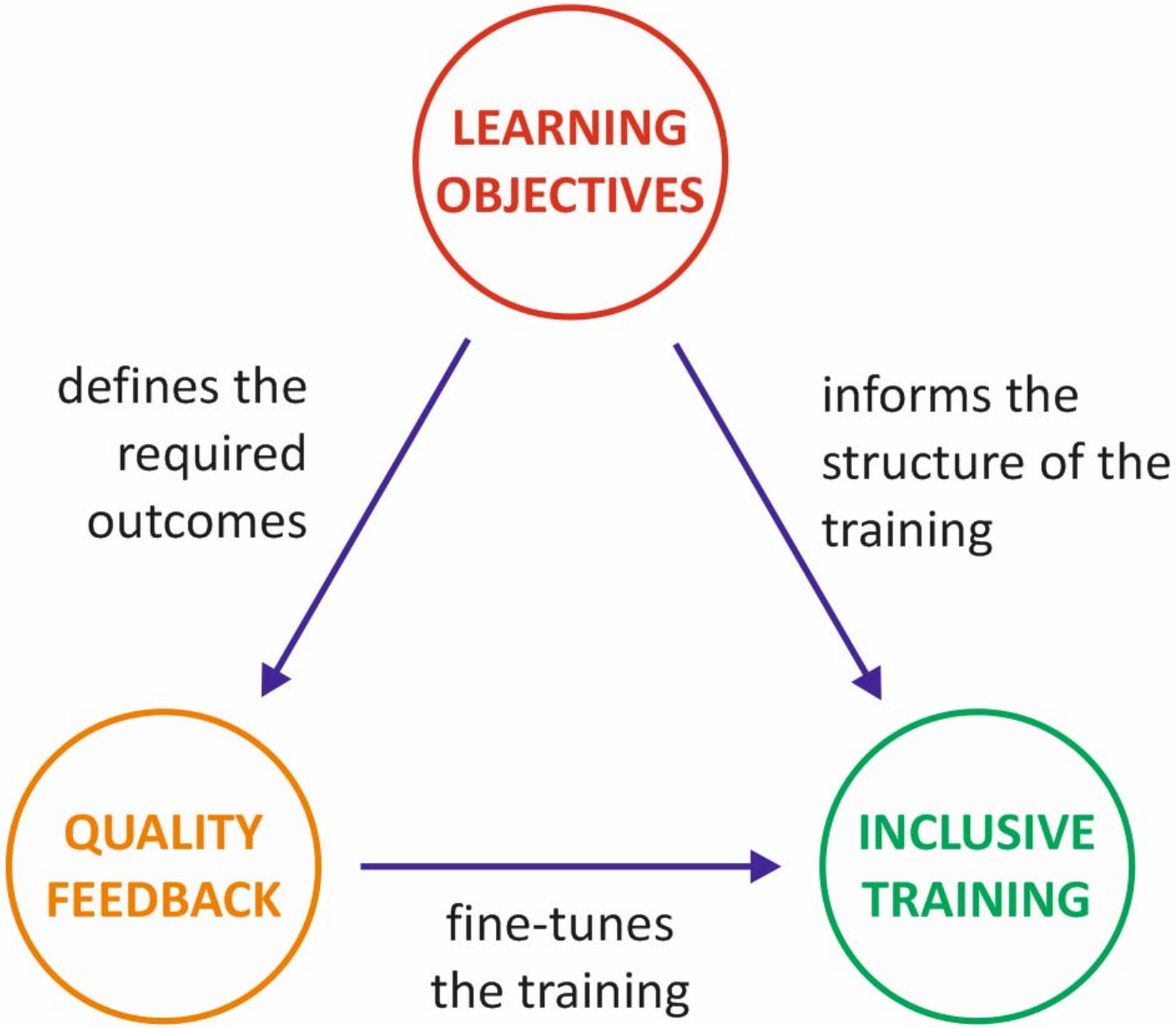
Overview

- A session exploring the nature of knowledge and learning to create a more effective and enjoyable learning environment.
- We will look at what constitutes effective feedback for learners and how the writing of SMART learning objectives can streamline the training process.


LEARNING OBJECTIVES
defines the required outcomes
informs the structure of the training
QUALITY FEEDBACK
fine-tunes the training
INCLUSIVE TRAINING

What is the purpose of your training?

- Do not underestimate this!
- If you want funding from Health Education England (HEE) then they will ask
  - HEE holds *the* training budget (~£5 billion)
- NHS England and HEE want 5 year departmental / Trust training and development plans
- Do we currently have the skills to produce and produce these?

My first development plan

- Number of support staff (ATP)
- Number of graduate staff (PTP)
- Number of postgraduate staff (STP)
- Number of senior staff (HSST)

- Multiply by your staff turnover rate

Example

• Support staff (ATP)	12	0.60 pa
• Graduate staff (PTP)	11	0.55 pa
• Postgraduate staff (STP)	7	0.35 pa
• Senior staff (HSST)	2	0.10 pa
• Staff turnover rate	0.05	

Training / Development Requirement

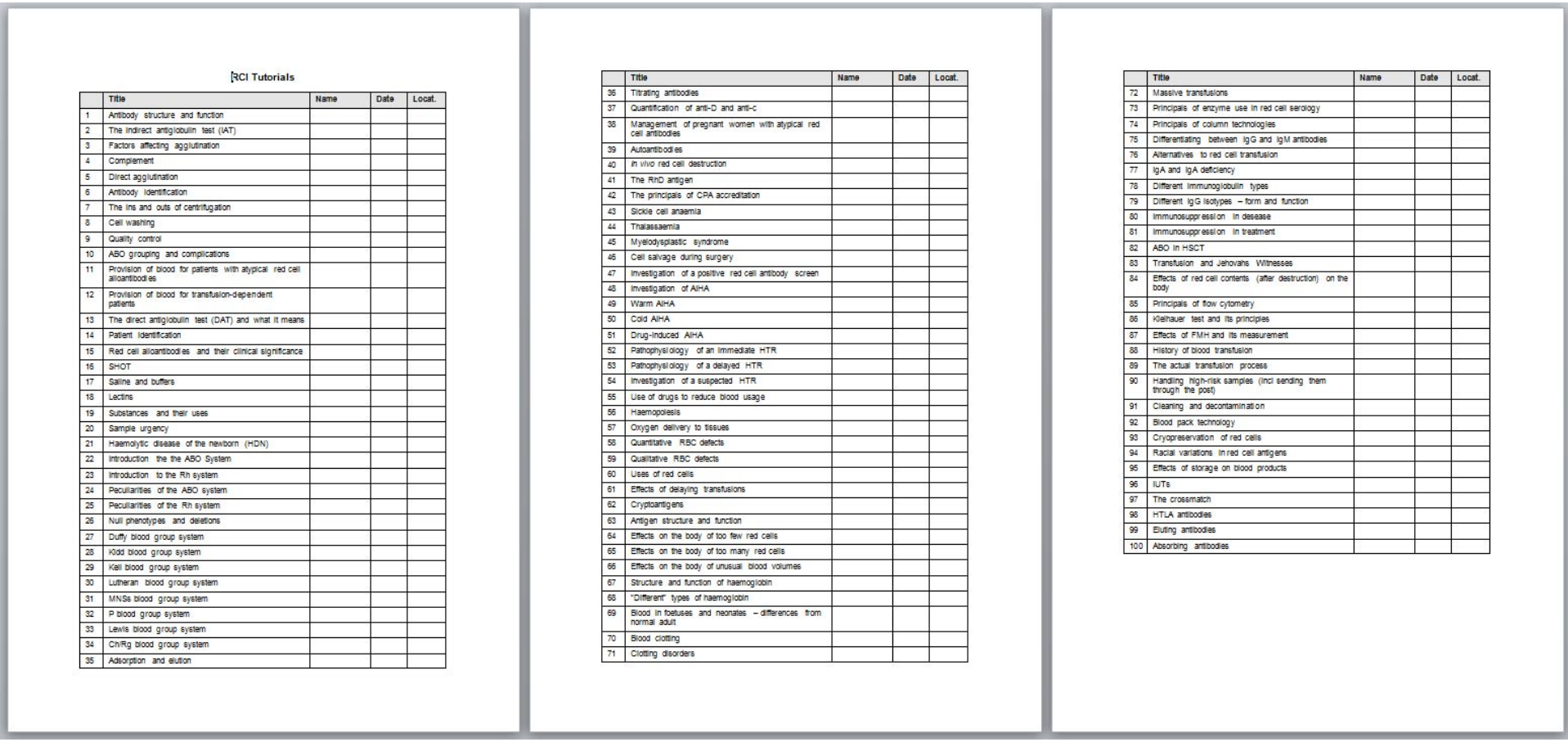
- Support staff (ATP) approx 1 every 2y
- Graduate staff (PTP) approx 1 every 2y
- Postgraduate staff (STP) approx 1 every 3y
- Senior staff (HSST) approx 1 every 10y

- To advance staff internally – these are the training requirements on a yearly basis

Because of Modernising Scientific Careers (MSC) at least we will have a “standard” graduate

Now we need to define what graduates with the standard MSC qualification require to transform them from a graduate into a member of staff

RCI – tutorial list for PTP graduates



RCI Tutorials

	Title	Name	Date	Locat.
1	Antibody structure and function			
2	The indirect antiglobulin test (IAT)			
3	Factors affecting agglutination			
4	Complement			
5	Direct agglutination			
6	Antibody identification			
7	The ins and outs of centrifugation			
8	Cell washing			
9	Quality control			
10	ABO grouping and complications			
11	Provision of blood for patients with atypical red cell alloantibodies			
12	Provision of blood for transfusion-dependent patients			
13	The direct antiglobulin test (DAT) and what it means			
14	Patient identification			
15	Red cell alloantibodies and their clinical significance			
16	SHOT			
17	Saline and buffers			
18	Lectins			
19	Substances and their uses			
20	Sample urgency			
21	Haemolytic disease of the newborn (HDN)			
22	Introduction the the ABO System			
23	Introduction to the Rh system			
24	Peculiarities of the ABO system			
25	Peculiarities of the Rh system			
26	Null phenotypes and deletions			
27	Duffy blood group system			
28	Kidd blood group system			
29	Kell blood group system			
30	Lutheran blood group system			
31	MNSs blood group system			
32	P blood group system			
33	Lewis blood group system			
34	Ch/Rg blood group system			
35	Adsorption and elution			

	Title	Name	Date	Locat.
36	Titrating antibodies			
37	Quantification of anti-D and anti-c			
38	Management of pregnant women with atypical red cell antibodies			
39	Autoantibodies			
40	*In vivo* red cell destruction			
41	The RhD antigen			
42	The principals of CPA accreditation			
43	Sickle cell anaemia			
44	Thalassaemia			
45	Myelodysplastic syndrome			
46	Cell salvage during surgery			
47	Investigation of a positive red cell antibody screen			
48	Investigation of AIHA			
49	Warm AIHA			
50	Cold AIHA			
51	Drug-induced AIHA			
52	Pathophysiology of an immediate HTR			
53	Pathophysiology of a delayed HTR			
54	Investigation of a suspected HTR			
55	Use of drugs to reduce blood usage			
56	Haemopoiesis			
57	Oxygen delivery to tissues			
58	Quantitative RBC defects			
59	Qualitative RBC defects			
60	Uses of red cells			
61	Effects of delaying transfusions			
62	Cryptoantigens			
63	Antigen structure and function			
64	Effects on the body of too few red cells			
65	Effects on the body of too many red cells			
66	Effects on the body of unusual blood volumes			
67	Structure and function of haemoglobin			
68	"Different" types of haemoglobin			
69	Blood in foetuses and neonates – differences from normal adult			
70	Blood clotting			
71	Clotting disorders			

	Title	Name	Date	Locat.
72	Massive transfusions			
73	Principals of enzyme use in red cell serology			
74	Principals of column technologies			
75	Differentiating between IgG and IgM antibodies			
76	Alternatives to red cell transfusion			
77	IgA and IgA deficiency			
78	Different immunoglobulin types			
79	Different IgG isotypes – form and function			
80	Immunosuppression in desease			
81	Immunosuppression in treatment			
82	ABO in HSCT			
83	Transfusion and Jehovahs Witnesses			
84	Effects of red cell contents (after destruction) on the body			
85	Principals of flow cytometry			
86	Kleihauer test and its principles			
87	Effects of FMH and its measurement			
88	History of blood transfusion			
89	The actual transfusion process			
90	Handling high-risk samples (incl sending them through the post)			
91	Cleaning and decontamination			
92	Blood pack technology			
93	Cryopreservation of red cells			
94	Racial variations in red cell antigens			
95	Effects of storage on blood products			
96	IUTs			
97	The crossmatch			
98	HTLA antibodies			
99	Eluting antibodies			
100	Absorbing antibodies			

100+ created by John Eggington, Malcolm Needs and Andy Miller

Example

- **Pathophysiology of a delayed HTR**
  - What does this mean?
    - Level / type / depth / breadth of knowledge
  - Don't say "everybody knows" – they don't
  - What do we even understand by the words "know" and "understand"?
  - There are as many different opinions in this room as there are people

Levels of Knowledge

Mary, Mary, quite contrary,
How does your garden grow?
With silver bells, and cockle shells,
And pretty maids all in a row.

Do we know this rhyme?

Do we all know it the same?

Let’s look at this nursery rhyme more closely

Who is Mary?

- Mary Tudor (Catholic queen of England)
  - Lived: 1516-1558
  - Reigned: 1553-1558
  - Predecessor: Edward VI (Protestant)
  - Successor: Elizabeth I (Protestant)
  - Father Henry VII excommunicated by the Pope for making England Protestant, himself head of the C of E and dissolving the monasteries

“Bloody Mary”

- Repealed religious laws made by her father and brother
- Persecuted Protestants (very “contrary” indeed!)
  - 300 dissenters burned at the stake for heresy
    - Many high-level clergy (incl. bishops and arch-bishops)
    - Whole families burned together – couples and children
    - Others beheaded
  - Many exiled
  - Extensive use of torture to “extract confessions”

Lack of “Issue”

- “Garden” was slang for *the womb* and *cemetery*
- Mary had two phantom pregnancies
- Had thanksgiving services in London for her “pregnancies”
  - Must produce an heir (preferably male)
  - Deep sense of shame and humiliation
- No successor (her “garden” does not grow well!)
  - The rhyme is mocking Mary’s barrenness

What about the flowers?

- Silver bells
  - Early for of thumbscrews / Catholic bells used in mass
- Cockle shells
  - Devices designed to crush the testicles
- Maids
  - Predecessor of the guillotine
  - Used in Scotland and N England
  - Introduced a couple of years earlier by Edward VI

Mary, Mary, quite contrary,
How does your garden grow?
With silver bells, and cockle shells,
And pretty maids all in a row.

Mocking Mary's barrenness

Drawing attention to State torture and executions

We now know the rhyme
differently than we did before

Different levels of knowledge give different outlooks on the same piece of information (rhyme)

What about applying that knowledge to other things?

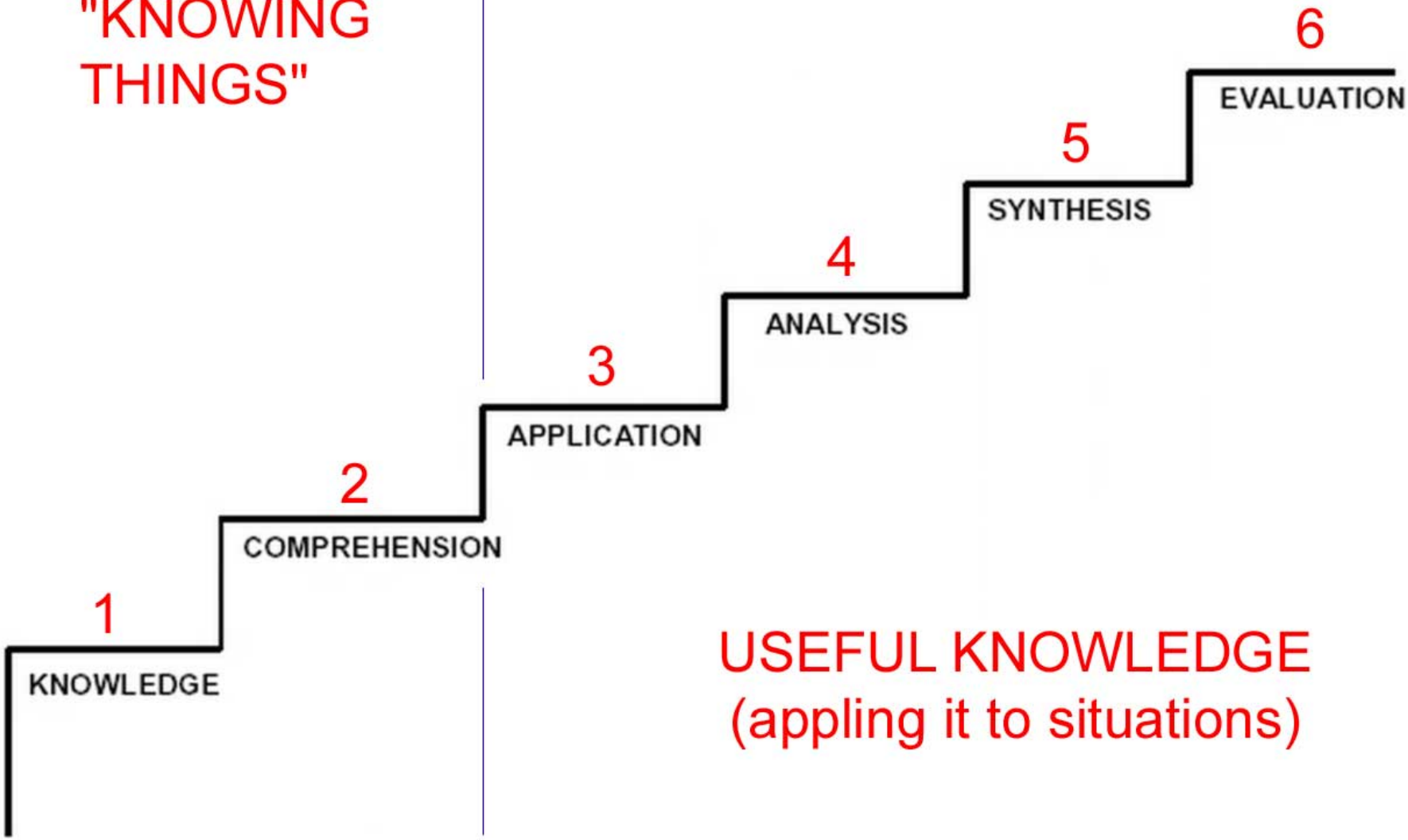
Is there a way of classifying knowledge?

Bloom's Taxonomy

Benjamin Bloom (1956)

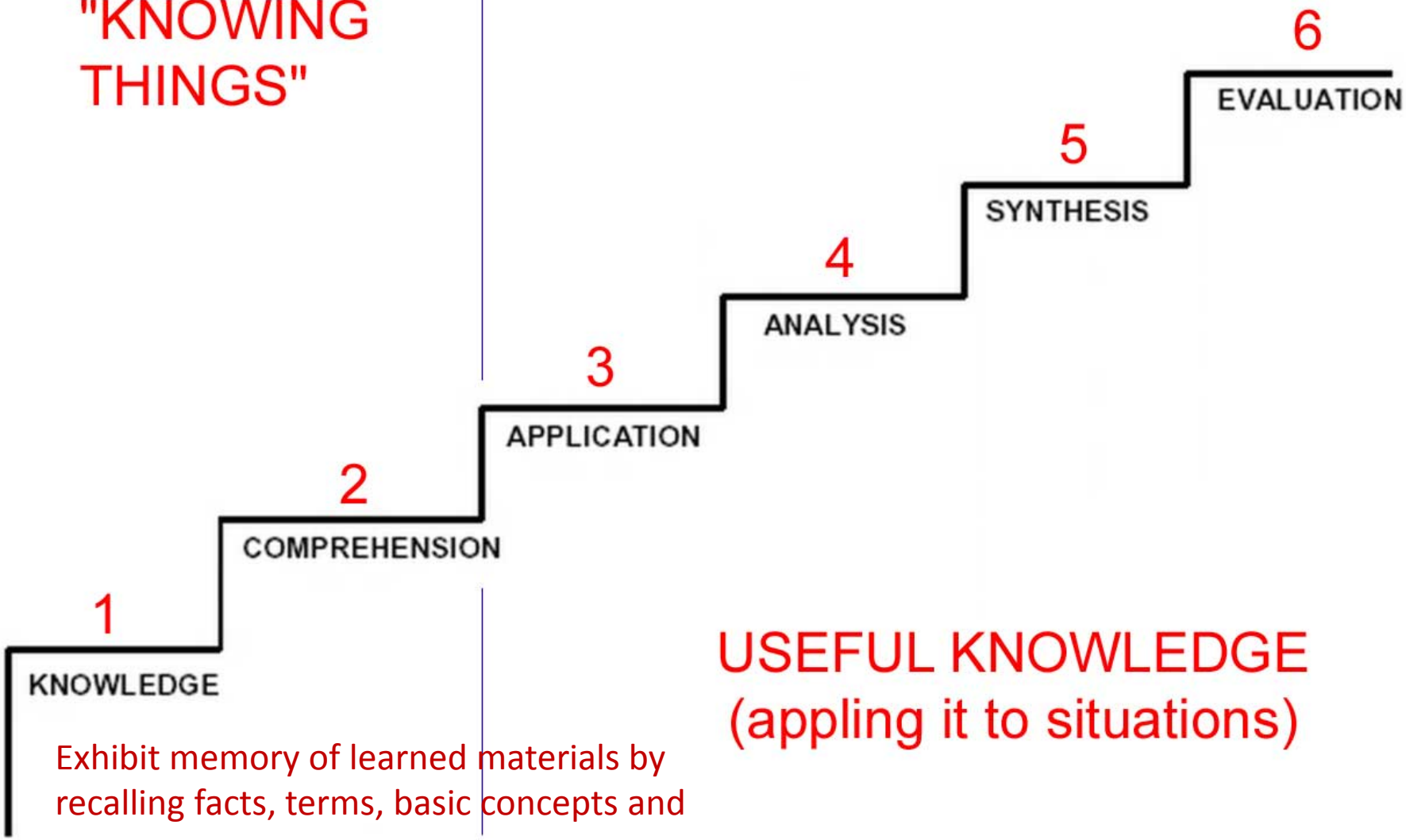
More info: Wikipedia

"KNOWING THINGS"



USEFUL KNOWLEDGE
(appling it to situations)

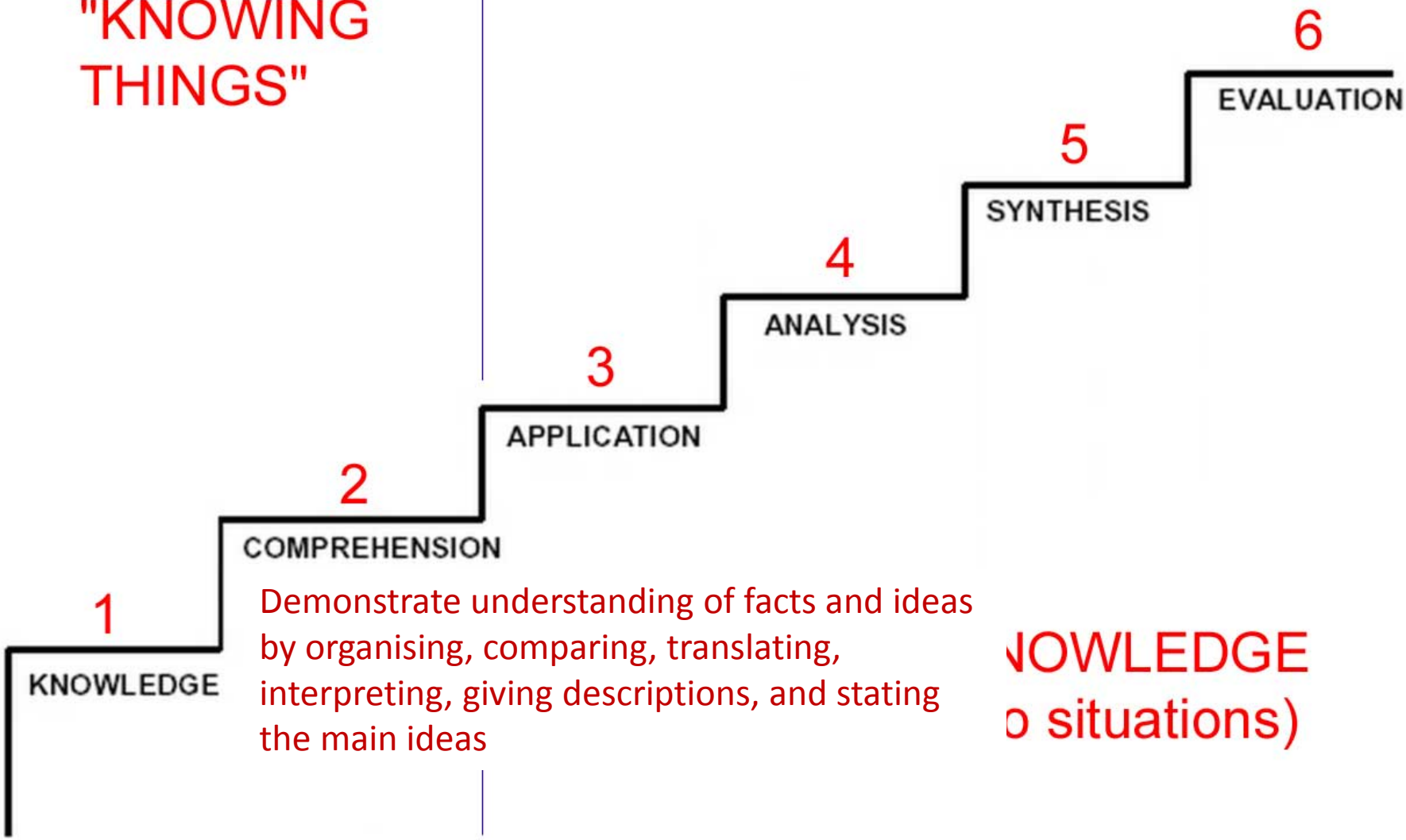
"KNOWING THINGS"



USEFUL KNOWLEDGE
(appling it to situations)

Exhibit memory of learned materials by recalling facts, terms, basic concepts and answers

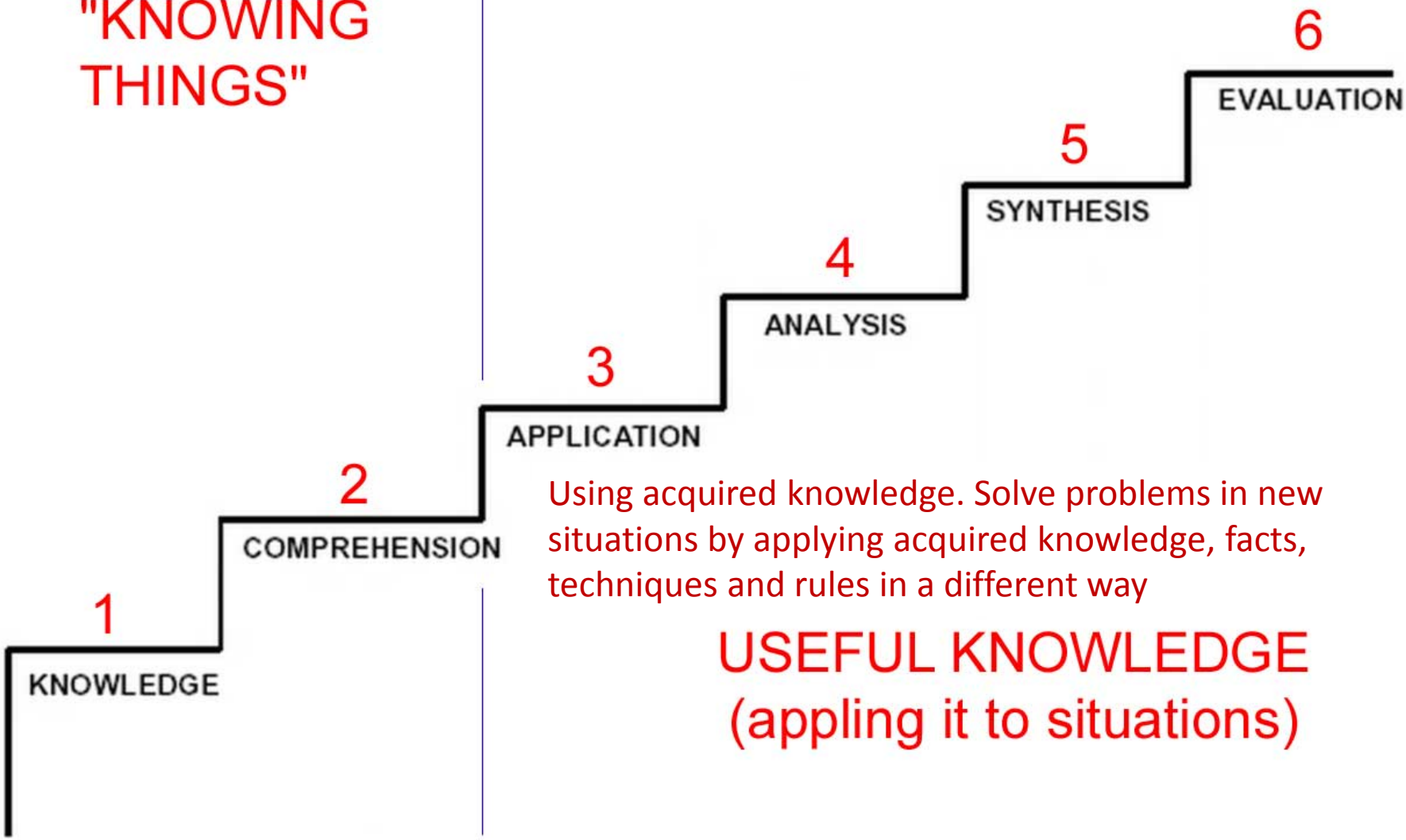
"KNOWING THINGS"



Demonstrate understanding of facts and ideas by organising, comparing, translating, interpreting, giving descriptions, and stating the main ideas

NOWLEDGE
o situations)

"KNOWING THINGS"



Using acquired knowledge. Solve problems in new situations by applying acquired knowledge, facts, techniques and rules in a different way

USEFUL KNOWLEDGE
(appling it to situations)

"KNOWING

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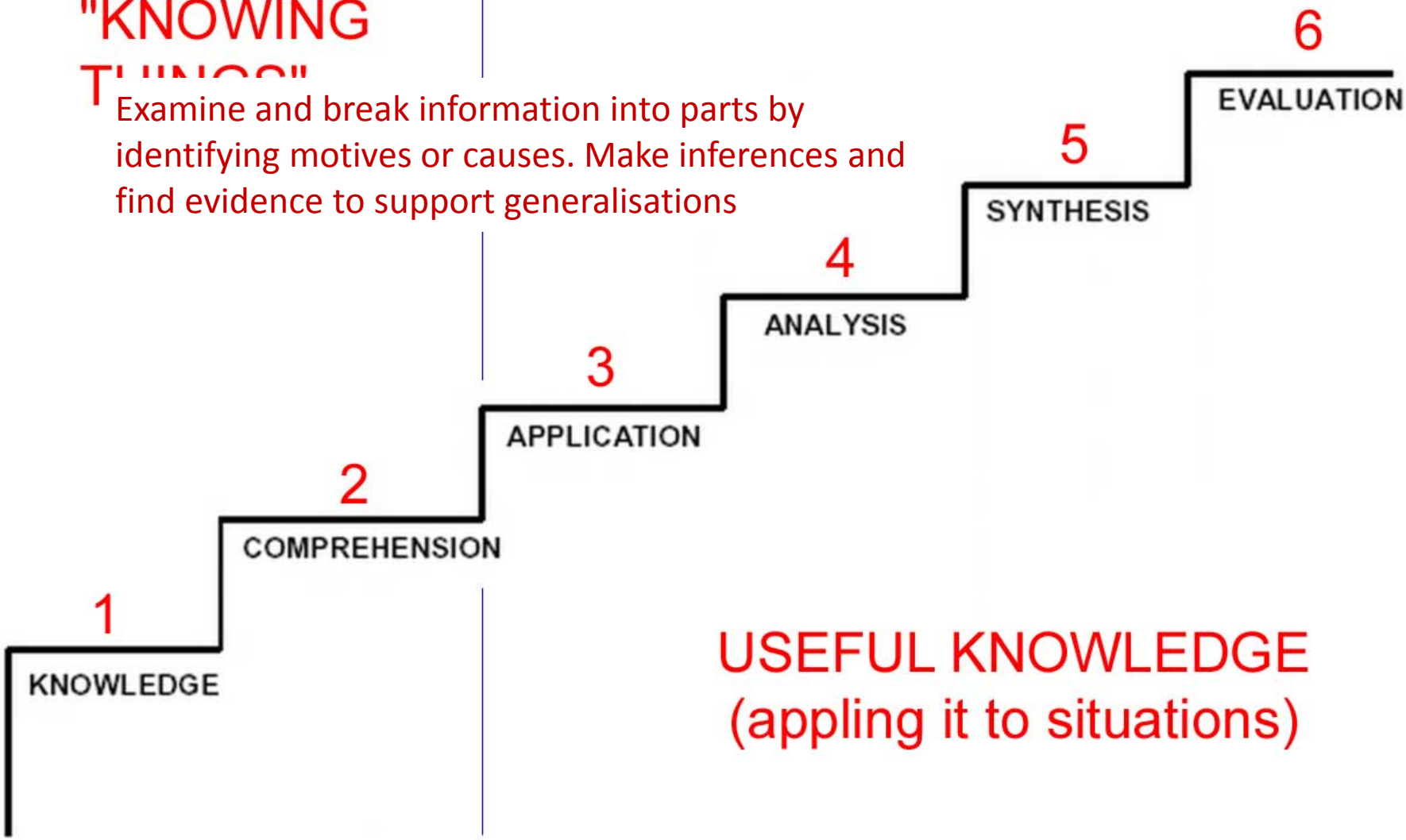
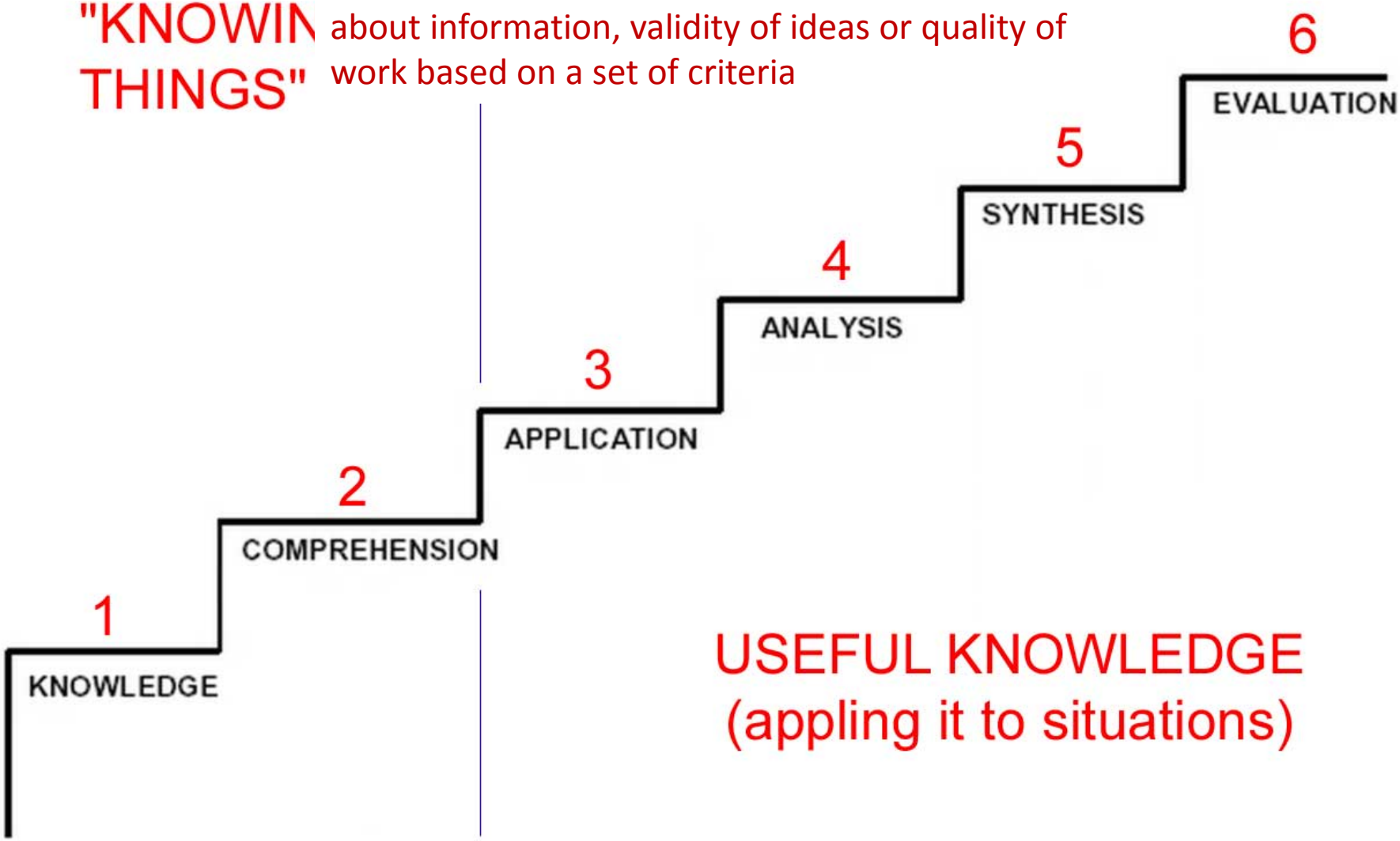
Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalisations



USEFUL KNOWLEDGE
(appling it to situations)

"KNOWIN
THINGS"

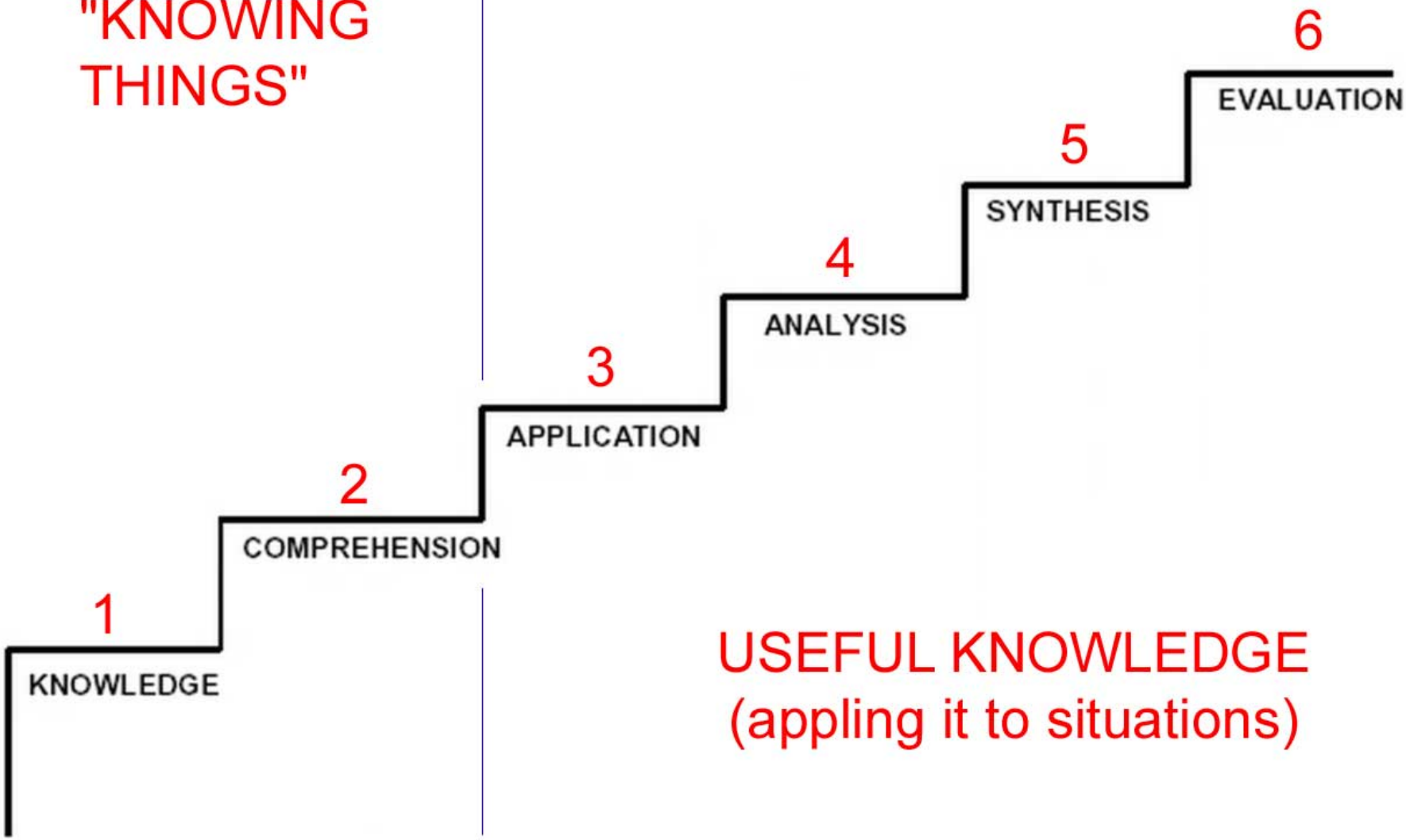
Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria



USEFUL KNOWLEDGE
(appling it to situations)

Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions

"KNOWING THINGS"



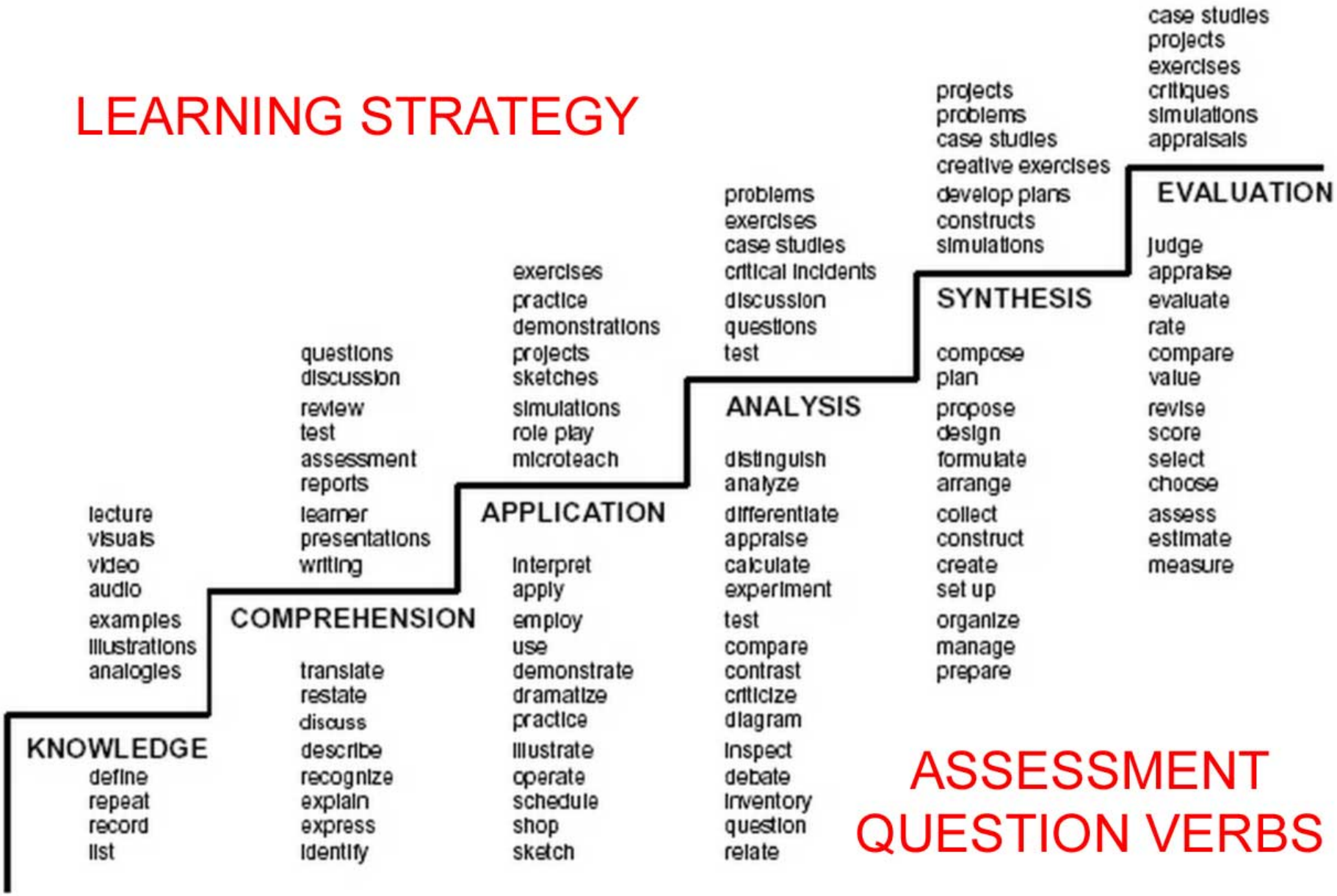
USEFUL KNOWLEDGE
(appling it to situations)

How do we differentiate between these levels?

Good news!

The work has already been done

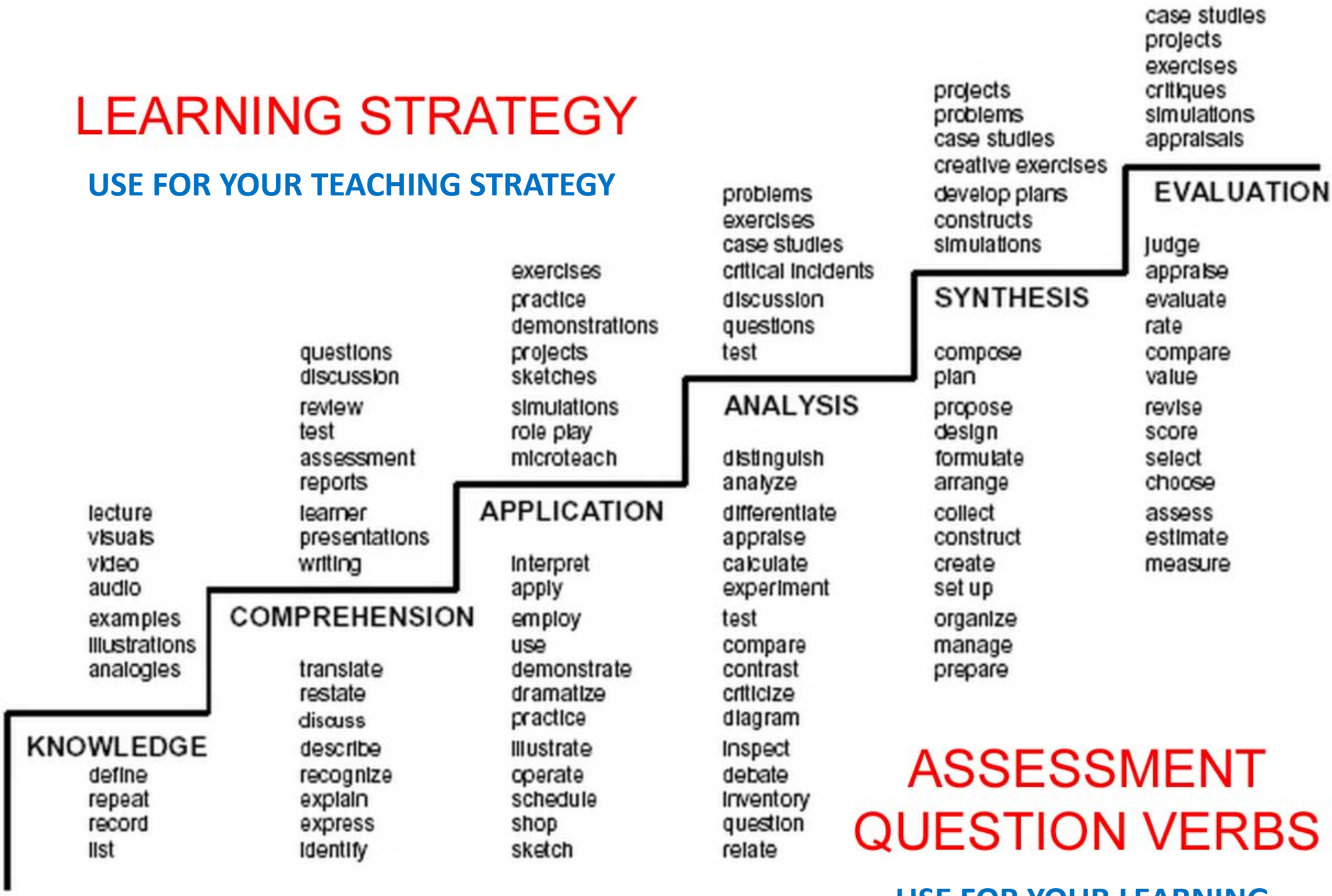
LEARNING STRATEGY



ASSESSMENT QUESTION VERBS

LEARNING STRATEGY

USE FOR YOUR TEACHING STRATEGY



ASSESSMENT QUESTION VERBS

USE FOR YOUR LEARNING OUTCOME WORDING

Pathophysiology of a delayed HTR

- *What* needs learning?
  - At which level?
  - At what depth for each level?
  - What will the trained person be able to **do** with that knowledge?
    - Just knowing "stuff" without knowing what to do with it is frustrating and dangerous
    - If we don't know what they are going to do with the knowledge then is it really useful?
  - Do the learners need to know other things before starting on this? (or *visa versa*?)
  - What will you see when the learner has completed the learning?

Pathophysiology of a delayed HTR

- *What* needs learning?
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  - What will you see when the learning?

Specific

Achievable

Relevant

Time-related

Measurable

Learning Models

Where does effective learning take place?

the 70:20:10 model

LEARNING FROM EXPERIENCE

secondments
projects
assignments
secondments
exposure
delegating
new roles
job expansions

LEARNING FROM OTHERS

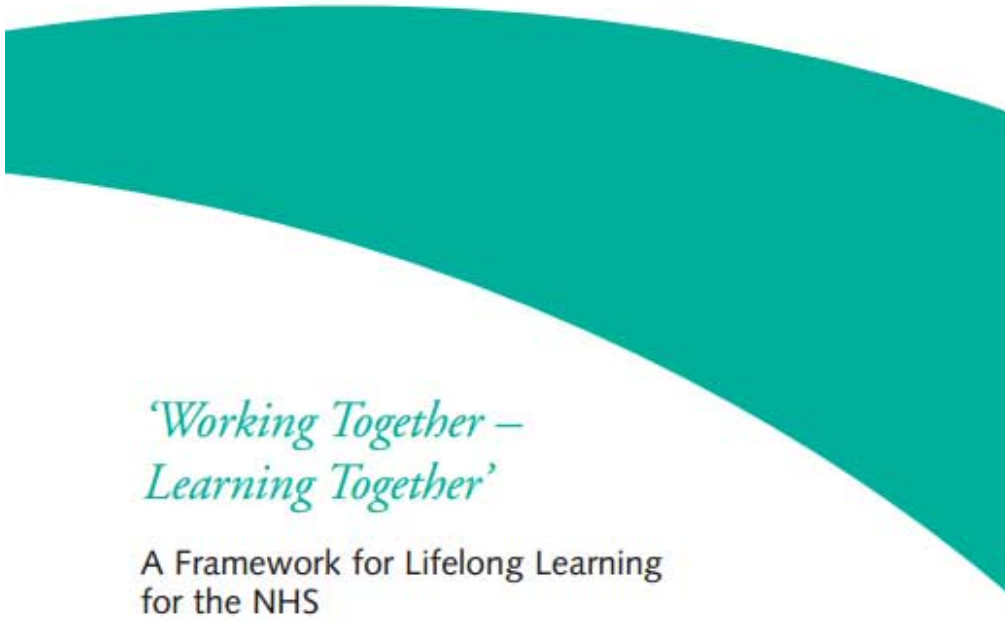
coaching
mentoring
sounding boards
networks
modelling others
work shadowing

FORMAL LEARNING

courses
training programmes
reading

Types of Learning

- Shallow
  - Cramming before exams
- Strategic
  - Predicting what will come up in tests / pleasing the tutor
- Deep
  - A full understanding of the concepts, how they relate to each other and apply to real life



Leaning Styles

- VAK
  - Visual, Auditory, Kinaesthetic
- Peter Honey and Alan Mumford's model
  - Activist, Reflector, Theorist, Pragmatist
- Cognitive approach to learning styles
  - Avoidant, Participative, Competitive, Collaborative, Dependent, Independent
- …and the list goes on

IMPORTANT

- These styles of learning are just preferences
- We can all learn from by any means
  - It just takes more effort on the part of the learner

- As far as teaching goes – we need a mixture
- We need our learners to “make the effort”
- Learning is not *done* to people
- Self-directed learning is to be encouraged and to become the norm (DH)

Making the Effort

- Getting “buy-in” from the learners
  - Know what I am going to learn
  - Know how long it should take
  - Know what use it will be
- These will be in your new Learning Objectives
- Encouragement – **feedback**

- Do we teach those who don’t want to learn?

Effective / Quality Feedback

Good Feedback Experiences

- Discussion immediately after an event to ascertain why what happened happened
- Confirmation that desired knowledge had been attained
- Clear verbalisation of goals with enthusiastic support from an expert willing to share their knowledge
- Clearly formulated constructive feedback

Bad Feedback Experiences

- Lack of knowledge of what is expected
- Being “tested”
- Being put “on the spot” in front of your peers to either succeed or fail
- When assessment is just a tool to achieve something else (like evidence for CPD)
- Praise without supporting evidence of why something was good

The Seven Principles of Good Feeback Practice

Enhancing student learning through effective formative feedback

Charles Juwah, Debra Macfarlane-Dick, Bob Matthew, David Nicol, David Ross and Brenda Smith

Facilitates the development of self-assessment (reflection) in learning.

Encourages teacher and peer dialogue around learning.

2

Helps clarify what good performance is (goals, criteria, expected standards).

3

Provides opportunities to close the gap between current and desired performance.

4

Delivers high quality information to students about their learning.

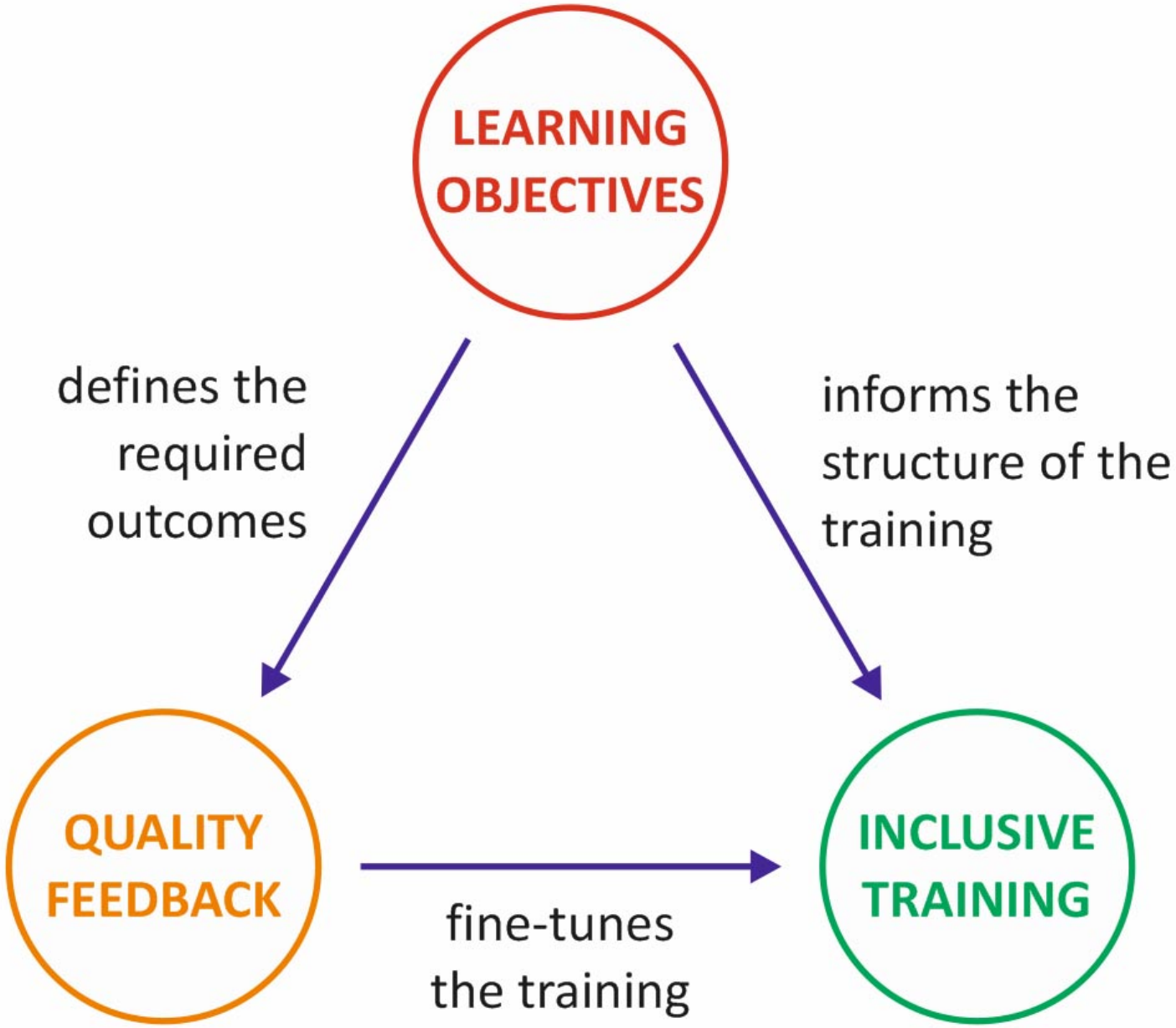
5

Encourages positive motivational beliefs and self-esteem.

6

Provides information to teachers that can be used to help shape the teaching.

Summary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defines the required outcomes
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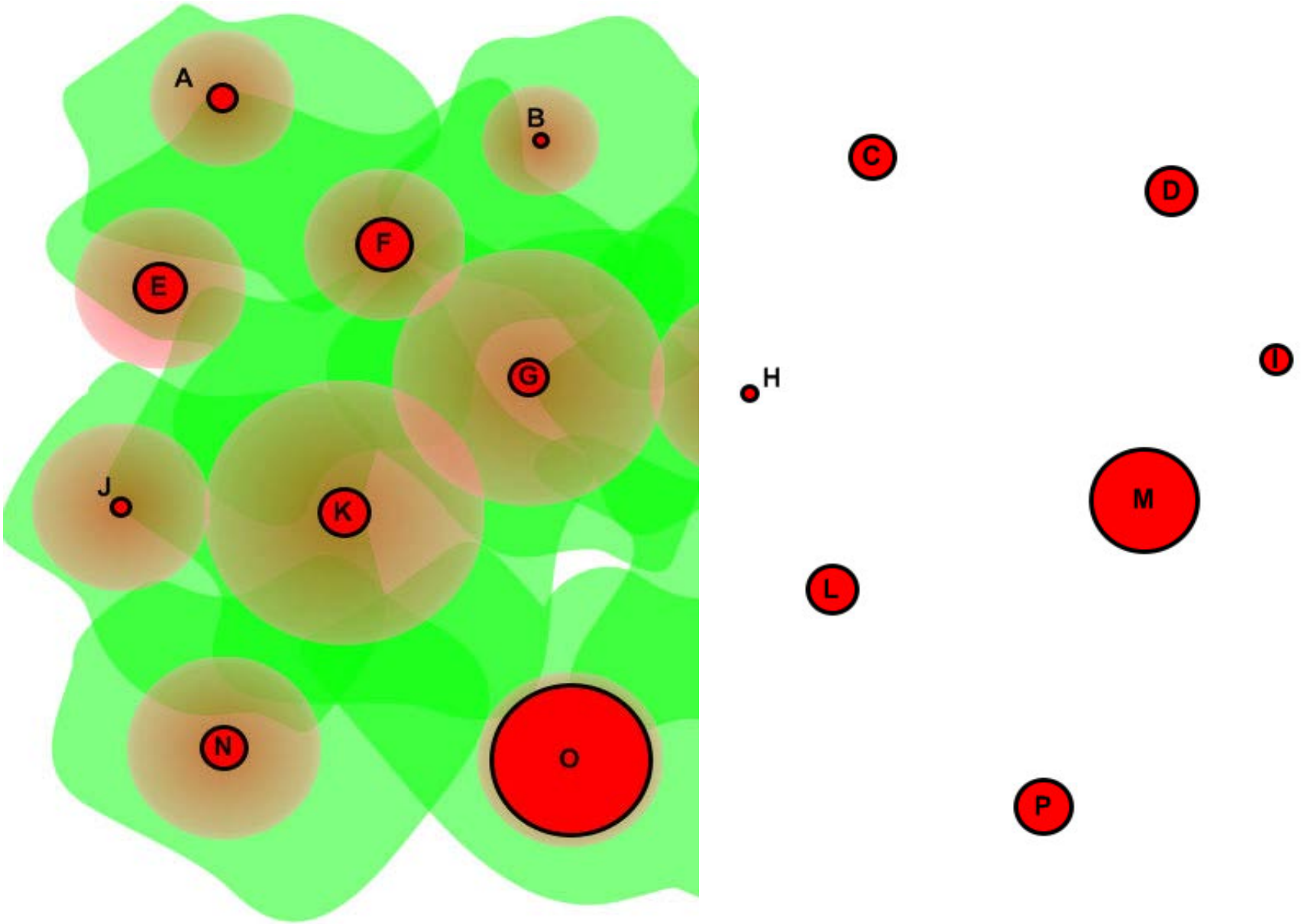
LEARNER
informs progress
gives firm targets
improves ability to learn
QUALITY FEEDBACK
LEARNING OBJECTIVES
INCLUSIVE TRAINING
informs improvements
defines the teaching
makes teaching easier / more fun
TUTOR

THE FUTURE!



Knowledge vs Knowing things

NHS
Blood and Transplant

THANKS

Any additional questions – see you at the tea stand!