

The Cognitive Basis for an MR Image Tutor

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Abstract This paper describes the cognitive basis for an MR image tutor. The tutor is designed to help medical students learn to interpret MR images. The tutor is based on a model of the cognitive processes involved in interpreting MR images. The model is based on the work of experts in the field. The tutor is designed to help students learn to interpret MR images by providing them with a structured approach to the task. The tutor is designed to help students learn to interpret MR images by providing them with a structured approach to the task. The tutor is designed to help students learn to interpret MR images by providing them with a structured approach to the task.

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Cognitive Support Systems

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p^f on o nn n o o p, - on v ppo v n o
n, v op n n A n p^foo n on ED CA
o n v ppo f o p n C EC, o p o n p o
o^f p n o q n^fo n^f o q p n-
o n on^f o n v ppo p n , pp q o
o
n n v n o v :-
p ov ppo^fo n n' o n on^f own n o^f p o
p , n p n ow o on-
o n v o n w o o^f n n ow v v n
o^f o n p n n n w n ow n , p ov n p o
o^f o p v n n n p on o p own n
v n n^f o on n on v p o^f -
n n o^f v , p^fo n^f w n o^f o op n
n w o^f n p n n n nn o po o o^f o n
wo. nv on n -
-no no on on v o n nn p n on n op on, o

Explain the terms to be used in labelling the concepts and their attributes (Stones, 1979)

o on D on v p ov o p n v o p n v op Bo
 v op n n p o o o p o n nno v o n n o
 p n o on p po -A po on p n o v o p n n o
 p n on own n -An n p n n v on n f o p n n o
 nno p n - pp o o po n, n o f n o

ar n
 any s arp
 Gra
 ap
 oun
 Irr u ar
 Ar a sq
 Con or n to an anato a atur
 Int r, or patt rn
 Ho o n ous
 H t ro n ous
 Conta n a, st n t o a stru tur

E -A po on p D p on n n o pp n on

non p on n p pp op o o p o n, n p ov
 p n o o n n p n n v f o f o p n p
 n Bo , , po n n p n p n on p n p o o -
 , p o o n n o n n n o f o , n o

Provide a definition of each concept in terms of its critical attributes (Tennyson and Park, 1980)

C o on p n o n n o o
 o n v o o non - o o
 no n n n o n f o n v n o n
 o p n on o n v p ov p o o
 n o pp op on-

Provide concept maps showing the relationships between concepts (Novak et al., 1983)

p nv n o n on p o o v n n ov v o
 o p n q o pon n n n p ov p p o
 o pon n o n on p n v n p -n o o
 v n n on ov on o p n o o n p o
 own o n n p o o pon n n n p ov o v p o
 o n n n p o n n n o n n n n on
 p ov v n n n n n n n n n on
 o n n o o p n ow f o o -A n p p o
 n ow o -An p o on ov v o p n n on
 ov v o n n o p -

f n on q n n pon o o p n on , n v n on o n
A o v v p n o p on , o n o pon n o
p n -

Conclusions

D v op o p o n v p oo n on o n v
n n on p oo n n- p n n n np oo n
o n on n n o o on o nq o n on p , n p ov p
n o n o on o p n o o n n n
pp o n n q n p on n pp o n o n
n n p p no o o n pp o n o o p
o n o v on p , n oo , o n , n n o , n v n
p C p o o n Do on -
n v o on on p o n n n on o p ov n n o

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now , o A q on o -Rivista di Neuroradiologia, 4, 4 -
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np D on n v o -
- n , - Correspondence Analysis in Practice-A -
- v , C-B- n o , E- C o o -Annual Review of Psychology , -
- ov , D- G o w n D-B- n o n n - o Con p pp n n now pp n
w n o oo -Science Education, 4 -
- p , - n Bo , B- n o o o n B on -Rivista di
Neuroradiologia, 4, 4 -
- p , - G o o , n on D v op n ; A n - n - Technology
and Writing: Readings in the Psychology of Written Communication- on on n -
- p , n ; C- A w o o D n o ; A n - n - Artificial
Intelligence and Human Learning: Intelligent Computer-Aided Instruction- on on C p n n -
- , D- o ED CA Co n v ppo o -IMES Working Paper WP-6,
n o o o o E ono o o n v u no-
- on , E- Psychopedagogy- n on on-
- , D- , B-A- , - Bo , E- , D- w o o , - n G o , A-
Ev on o Co p A v o n n p on o -Neuroradiology , -
- , D- , B-A- p , - ff , - Bo , B- Bo , E- - 4 n n o n
o n o n C D -Proceedings of Twelfth International Congress of the
European Federation for Medical Informatics E 4 on-
- nn on -D- n , - n o Con p v w o n on D n -
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n, v op n n A n p^foo n on ED CA
o n v ppo f o p n C EC, o p o n p o
o^f p n o q n^fo n^f o q p n⁻
o n on^f o n v ppo p n , pp q o
n n v n o v :-
p ov ppo^f o n n' o n on^f own n o^f p o
p , n p n ow o on-
o n v o n w o o^f n n ow v v n
o^f o n p n n n w n ow n , p ov n p o
o^f o p v n n n p on o p own n
v n n^f o on n on v p o^f -
n n o^f v , p^f o n^f w n o^f o op n
n w o^f n p n n n nn o po o o^f o n
wo. nv on n -
-no no on on v o n nn p n on n op on, o

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o on D on v p ov o p n v o p n v op Bo
 v op n n p o o o p o n nno v o n n o
 p n o on p po -A po on p n o p n n o
 p n on own n -An n p n n v on n p n n o
 nno p n - pp o o po n, n o f n o

ar n
 any s arp
 Gra
 ap
 oun
 Irr u ar
 Ar a sq
 Con or n to an anato a atur
 Int r, or patt rn
 Ho o n ous
 H t ro n ous
 Conta n a, st n t o a stru tur

E -A po on p D p on n n o pp n on

non p on n p pp op o o p o n, n p ov
 p n o v o n f p n n f o f o p n p
 n Bo , , po n n p n p n on p n p o o -
 , p o o n n o n n n o f o , n o

Provide a definition of each concept in terms of its critical attributes (Tennyson and Park, 1980)

C o on p n on n o o
 o n v o o non - o o
 no n n n o f o n v n o n
 o p n on o n v p ov p o o
 n o pp op on-

Provide concept maps showing the relationships between concepts (Novak et al., 1983)

p nv n o n on p o o v n n ov v o
 o p n q o pon n n p ov p p o
 o pon n o n v o n on p n v n p -n o o
 v n n on o ov on o p n o o n p o
 own o n n p o o pon n n n p ov o v p o
 o n n n p o n n o n n n n n n on
 p ov v n n n n n n n n n n on
 o n n o o p n ow f o o -A n p p o
 n ow o -An p o on ov v o p n n on
 ov v o n n o p -

f n on q n n pon o o p n on ; , n v n on o n
A o v v p n o op on , o n o pon n o
p n -

Conclusions

D v op o p o n v p oo n on o n n v
n n on p oo n if o n- p n n n np oo n
o n on n n o o o on o nq o n on p , n p ov p
n o n o on o p n o o n n n n
pp o n n q n p on n pp o n o n
n n p p no o o n o pp o n o o p
o n o v on p , n oo , o n , n n o , n v n
p C p o o n Do on -
n v o on on p o n n n on o p ov n n o

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- v , C-B- n o , E- C o o -*Annual Review of Psychology* , -
- ov , D- G o w n D-B- n o n n - o Con p pp n n now pp n
w n o oo -*Science Education* , 4 -
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