

# Smart Indicators on Learning Interactions

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# The Challenge

How to utilize  
interaction footprints  
for learner support in  
unstructured or emerging  
environments?



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Learners need support  
during their learning process

~~with every job~~

~~after school~~

Learning changes throughout life

... and the learner support has to change, too!

~~with the community~~

~~with tasks and processes~~

*with the context*



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# Context Sensitive Learner Support

Model Tasks

Analyze Attention

Recommend Content  
or Activities

Educational Templates

Relate to Ontologies



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# Context Sensitive Learner Support in Unstructured and Emerging Environments

~~Model Tasks~~

~~Analyze Attention~~

~~Recommend Content  
or Activities~~

~~Educational Templates~~

~~Relate to Ontologies~~



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# Our Approach

Highlight and unveil  
effort, interest, and competences  
by providing **indicators**  
on the learning process  
to the **learner**



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# Indicators Systems

## *... inform*

- *Status*
- *Past activities*
- *Events*

## *... help*

- *Orientate,*
- *Organize*
- *Navigate*

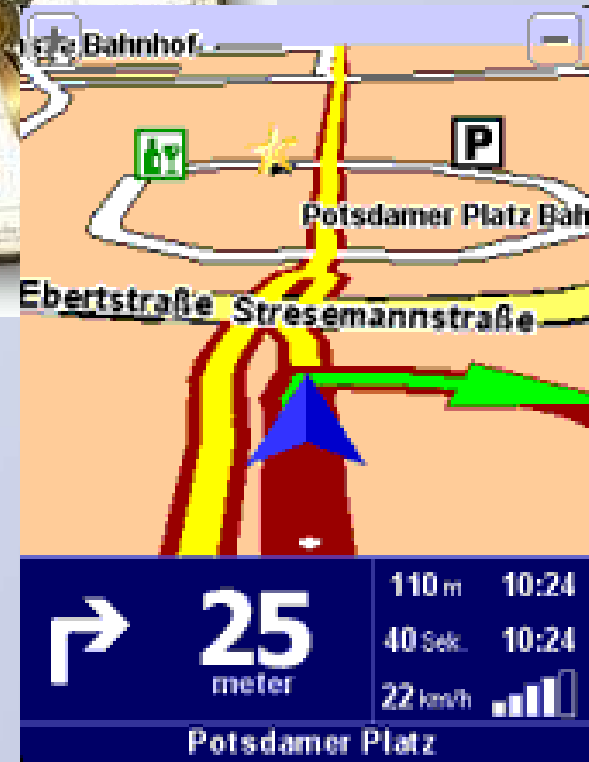
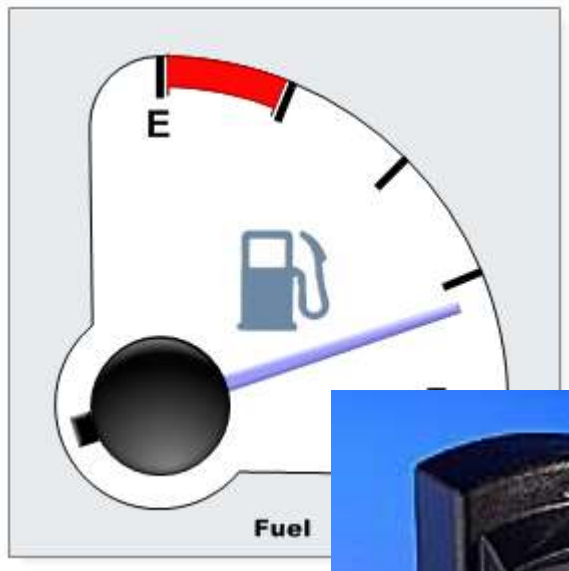
*without recommending  
specific actions*



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# Sample Indicators



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# Indicators for Learner Support?

- Raise awareness about group activities
- Engage and motivate to participate
- Support reflection on the learning process
- Identify hidden competences and interests



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Our mind lives in the future  
Our body lives in real-time

Our history drives our  
actions, tactics, and strategies  
for moving the body towards the mind

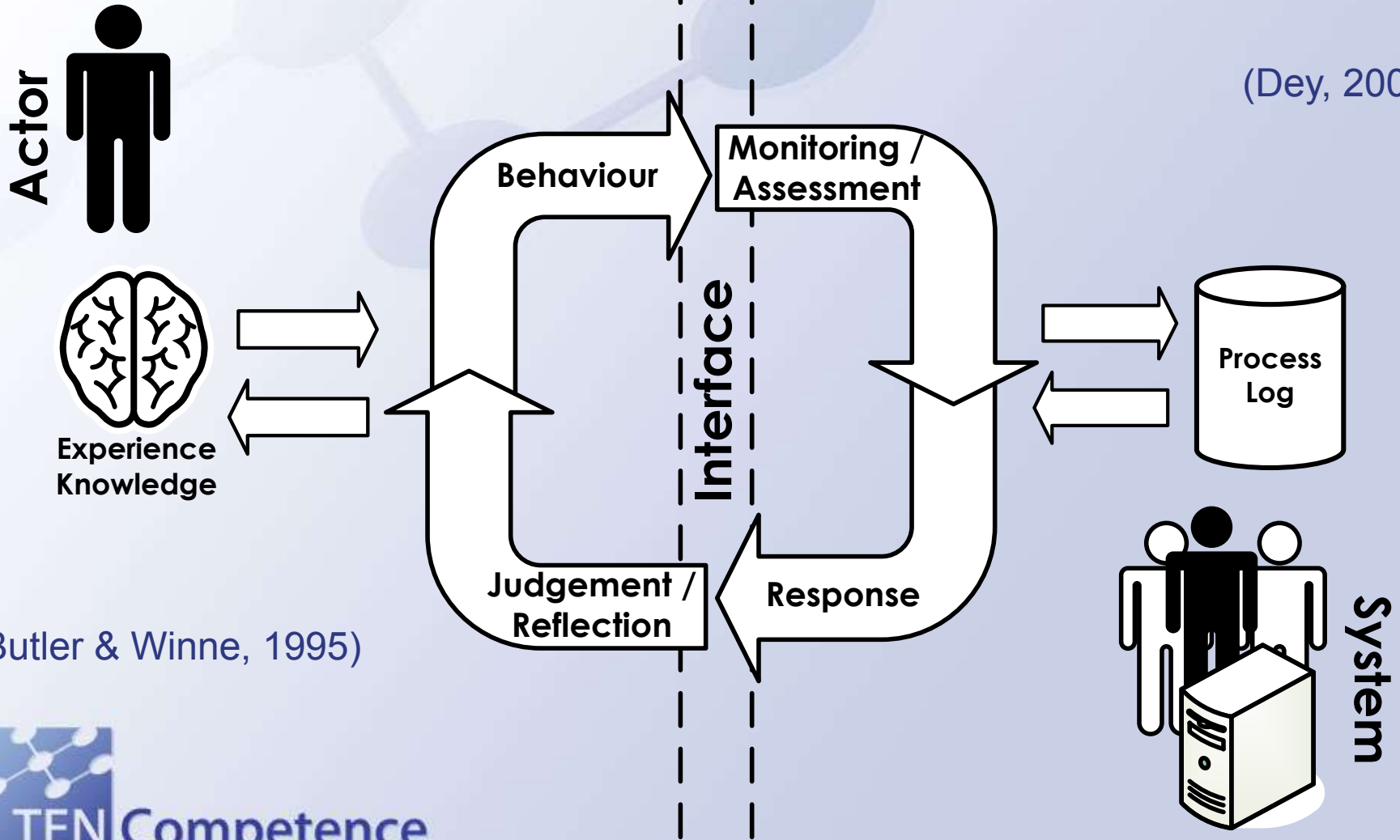


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# Meta-Model for Smart Indicators

(Dey, 2000)



(Butler & Winne, 1995)



One size never fits them all




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# Smart Adaptation for Informal Learning



**Engage**


▼ activity 

▼ tags ComputerGames ComputerHistory  
ComputerScience Demos Design Flash  
FutureTechnologies GameBasedLearning Gaming  
GraphicDesign GUI HCI Journals JSON  
LearningTechnology Literature LSA Mace MMURPG  
MobileLearning OpenSource SOAP SocialSoftware  
TENCompetence Usability Visualisai  
WebAnimation WebApplications We  
XUL

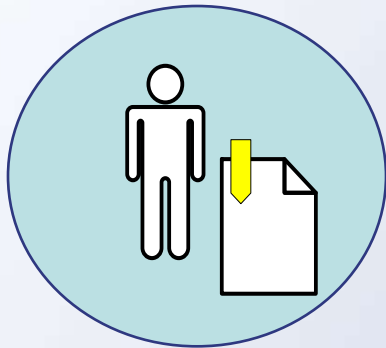
*actions*

*performance*

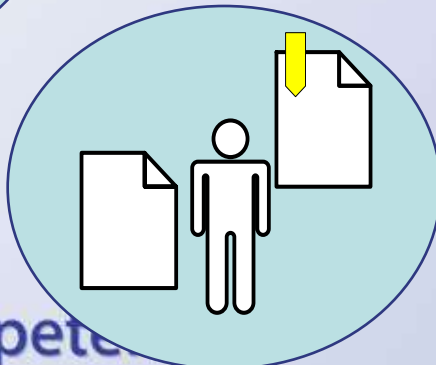


▼ activity 


▼ tags ComputerGames ComputerHistory  
ComputerScience Demos Design Flash  
FutureTechnologies GameBasedLearning Gaming  
GraphicDesign GUI HCI Journals JSON  
LearningTechnology Literature LSA Mace MMURPG  
MobileLearning OpenSource SOAP  
TENCompetence Usability Visualisai  
WebAnimation WebApplications We  
XUL



**Motivate**



**Reflect**

▼ activity 

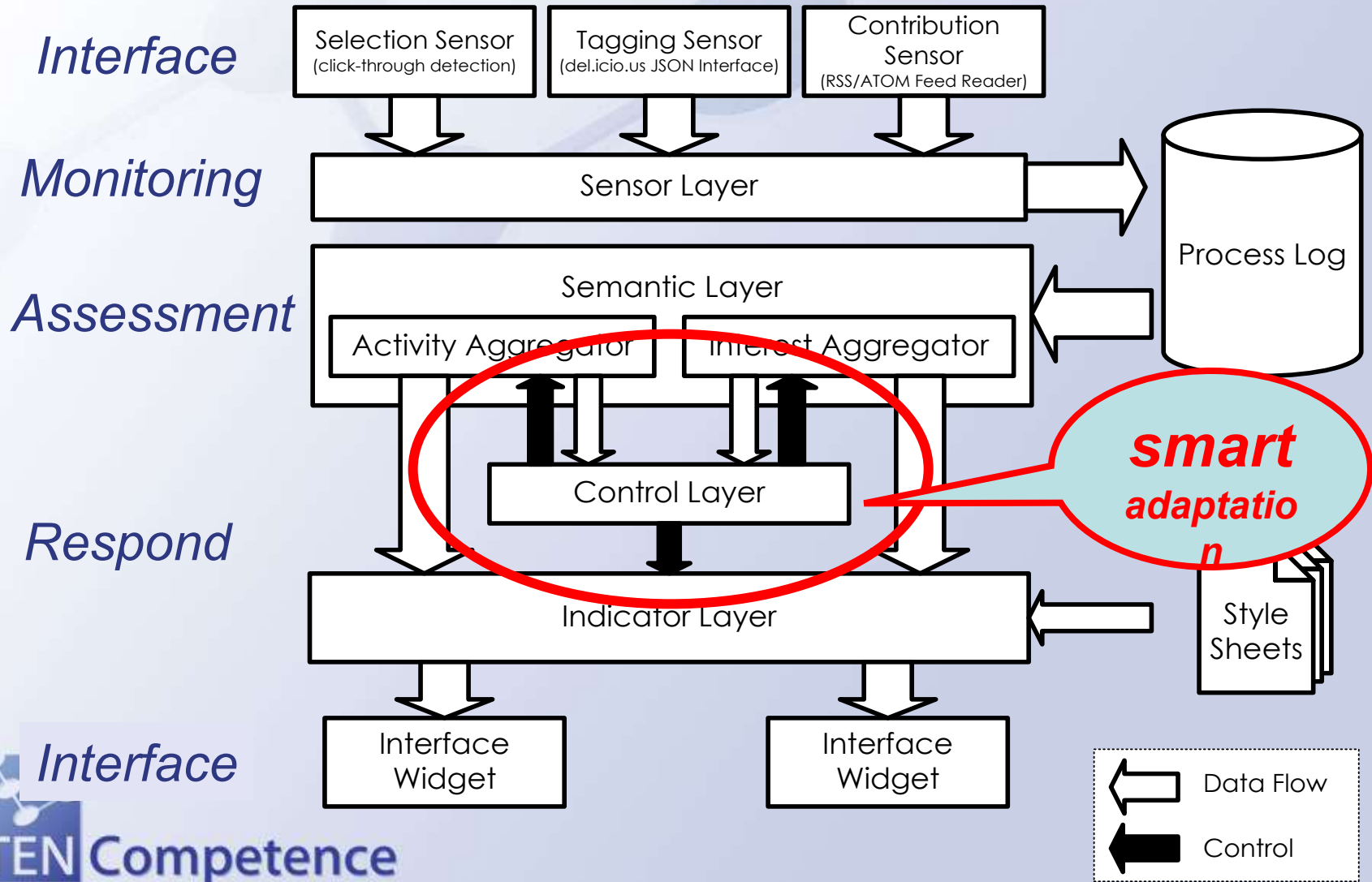
▼ tags ComputerGames **ComputerHistory**  
ComputerScience Demos Design Flash **Flow**  
FutureTechnologies GameBasedLearning  
**GraphicDesign** GUI HCI Journals JSON  
**LearningTechnology** Literature LSA Mace  
MMURPG MobileLearning OpenSource **Perl**  
SOAP SocialSoftware  
**TENCompetence** Usability  
Visualisation Web WebAnimation  
**WebApplications** WebDesign XML XUL

*interest*



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# Framework Architecture



# Smart Adaptation



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# Conclusion

Learning changes ~~throughout life~~ *with the context*  
... and the learner support has to change, too!

Indicators provide *landmarks* to  
navigate the learning process  
... but they have to be in sight of the learners



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Thank you for your attention

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