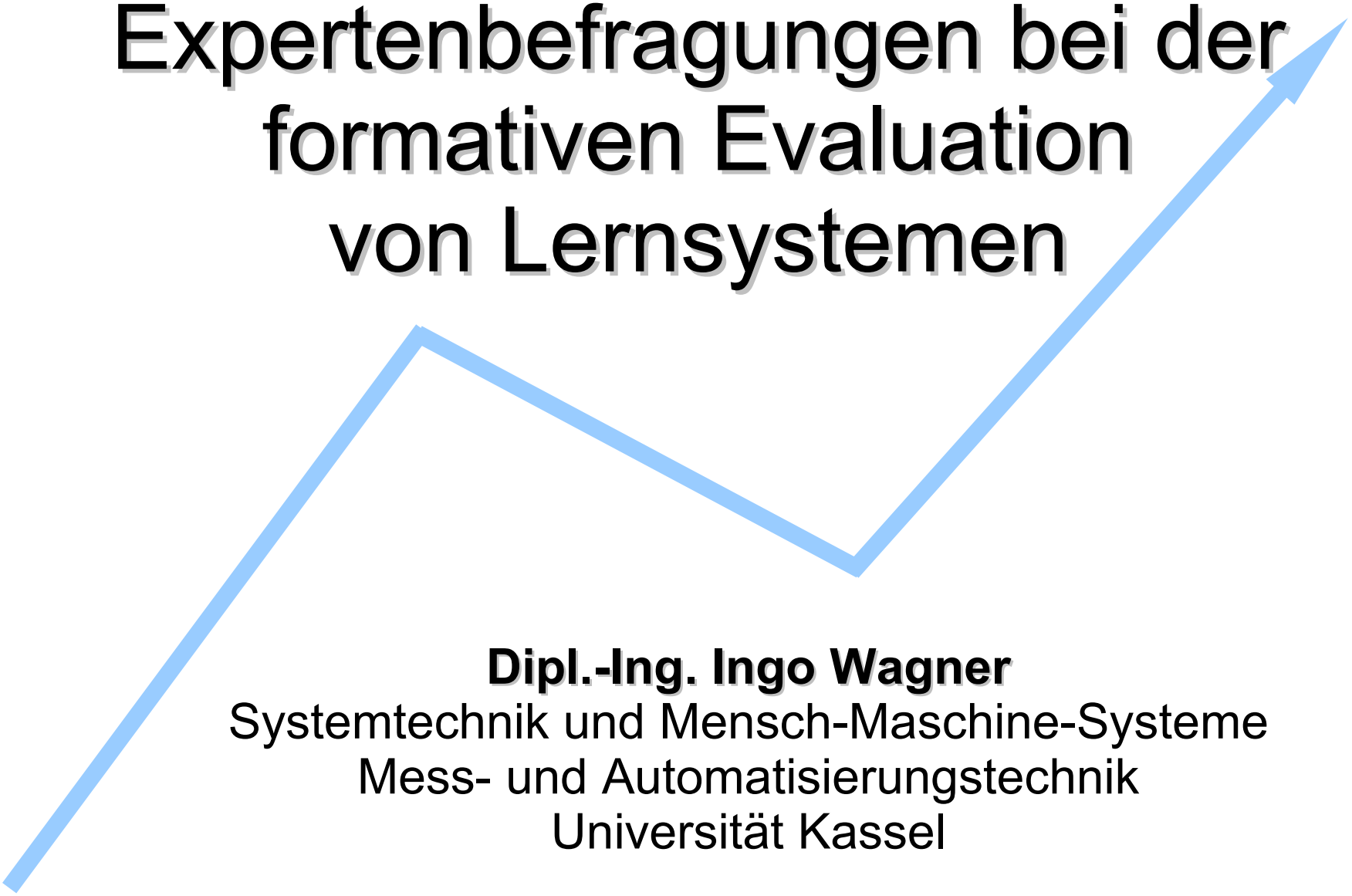
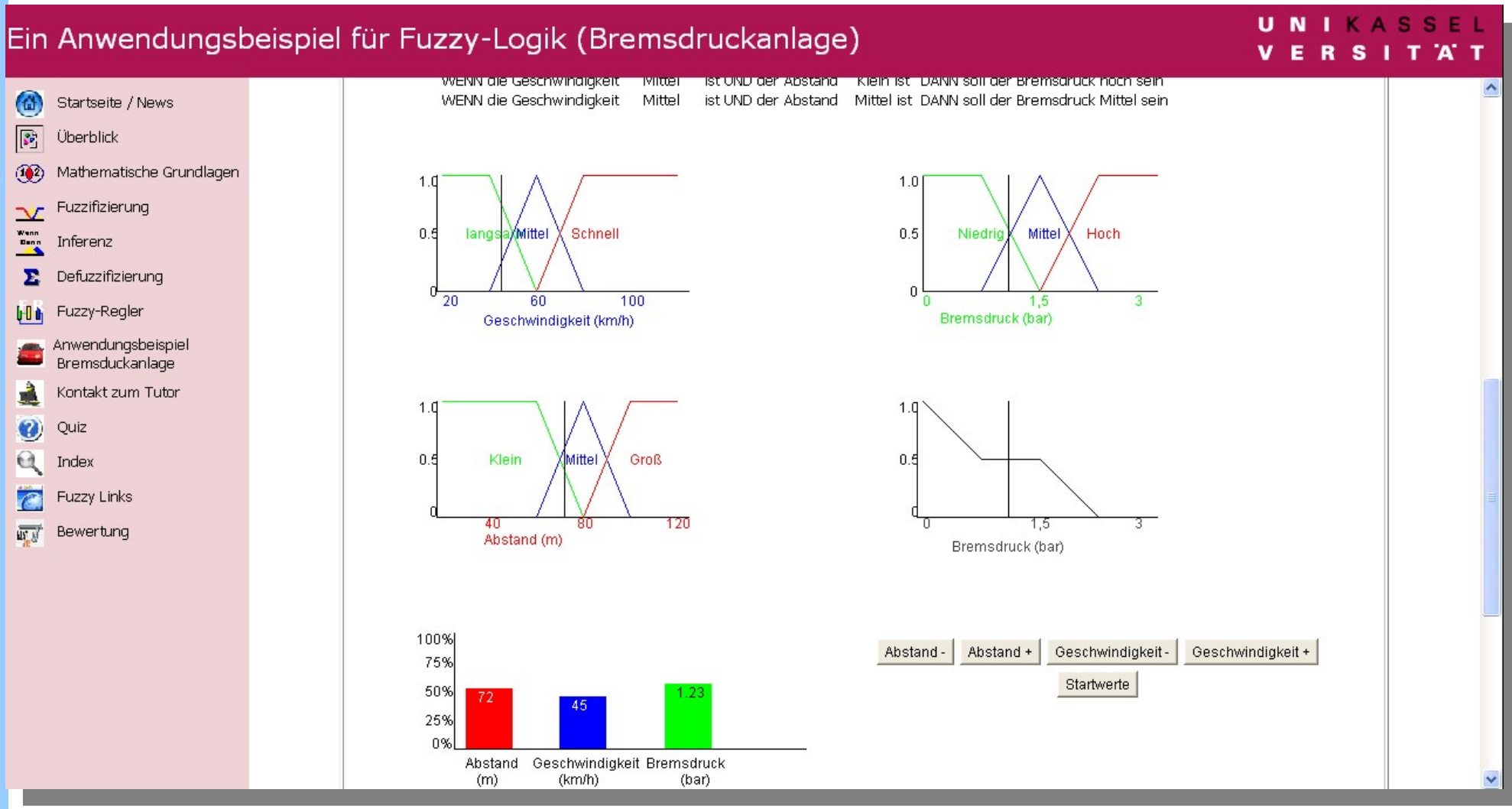
Potenziale von Expertenbefragungen bei der formativen Evaluation von Lernsystemen



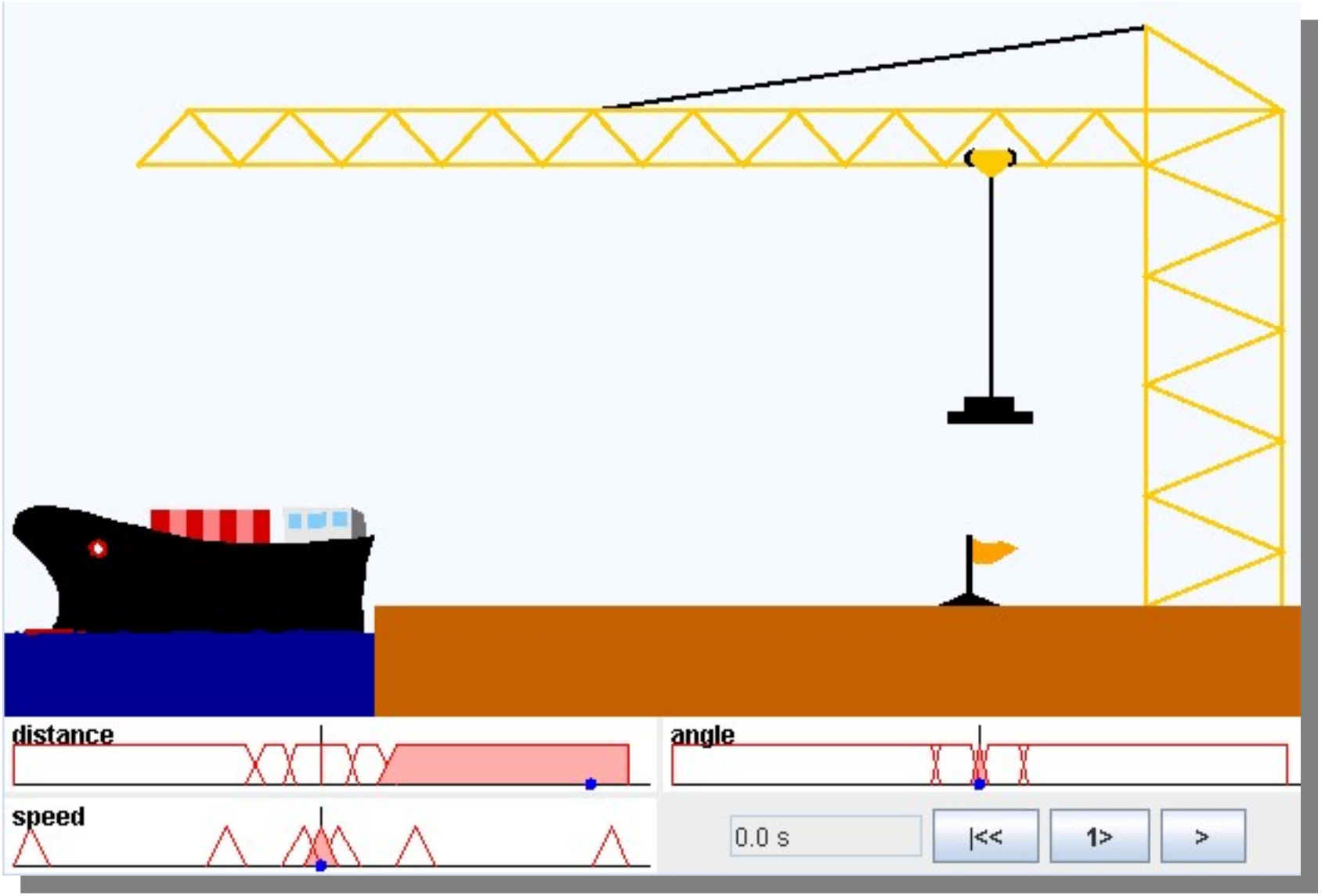
Dipl.-Ing. Ingo Wagner
Systemtechnik und Mensch-Maschine-Systeme
Mess- und Automatisierungstechnik
Universität Kassel

Fuzzy-Logik CBT

Fuzzy-Logik WBT

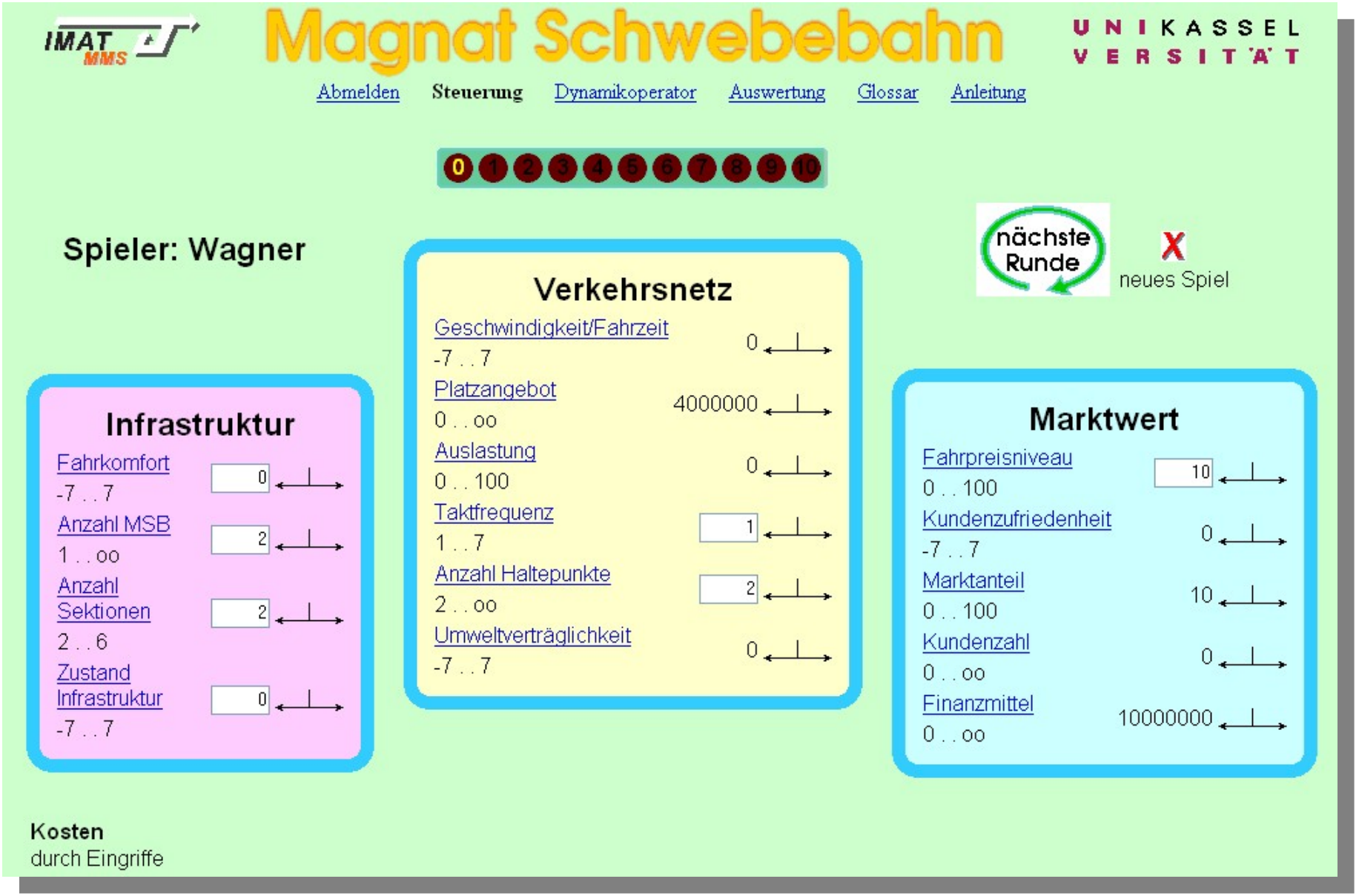


Fuzzy-Logik Kran



Planspiel MSB

Planspiel MSB



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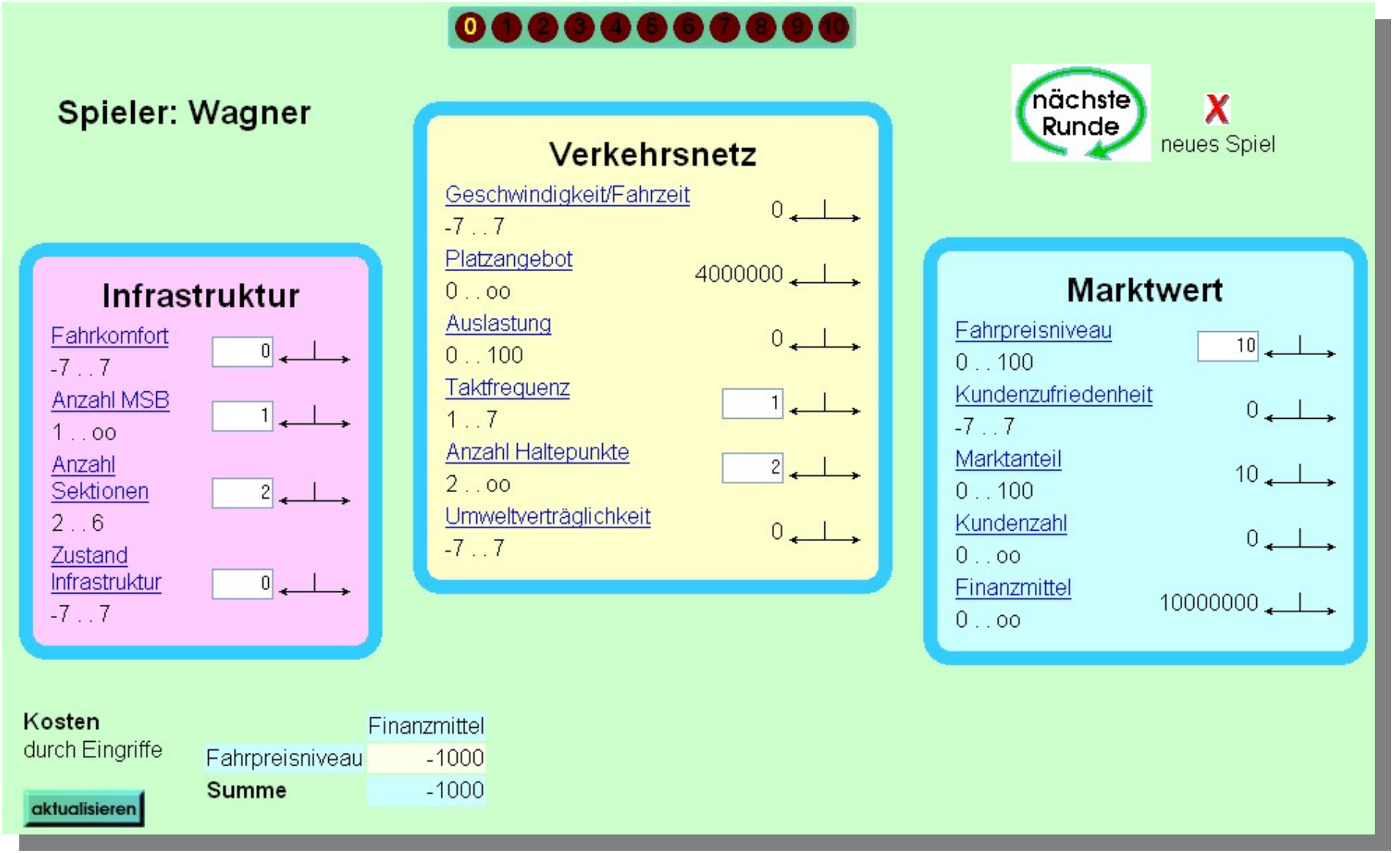
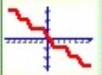
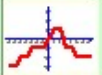
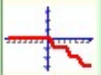
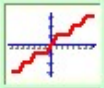
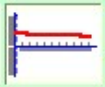
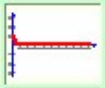
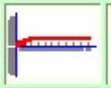


Dynamikoperator

	1 GESCHW	2 PLATZ	3 AUSL	4 TAKT	5 HALTS	6 UMWE	7 KOMF	8 MSBS	9 SEKT	10 INFRA	11 FAHRPR	12 KUZUFR	13 ANTEIL	14 KUZAHL	15 FINANZ
1 Geschwindigkeit/Fahrzeit	-	-	-	-	-			-	-		-		-	-	
2 Platzangebot	-			-	-	-	-	-	-	-	-	-	-		-
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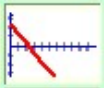
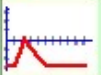
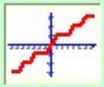
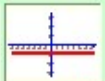
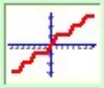
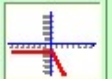
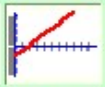
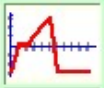
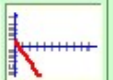
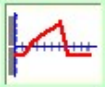
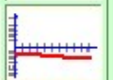
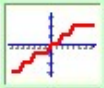
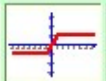
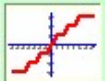
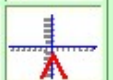
5 Anzahl Haltepunkte		-	-	-	-			-	-	-	-	-	-	-	
6 Umweltverträglichkeit	-	-	-	-	-	-	-	-	-	-	-		-	-	
7 Fahrkomfort	-	-	-	-	-	-		-	-	-	-		-	-	
8 Anzahl MSB	-		-		-	-	-	-	-	-	-	-	-	-	
9 Anzahl Sektionen	-		-	-	-	-	-	-	-	-	-	-	-	-	
10 Zustand Infrastruktur		-	-	-	-			-	-	-	-	-	-	-	
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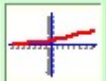
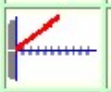
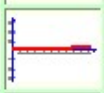
12 Kundenzufriedenheit	-	-	-	-	-	-	-	-	-	-	-	-		-	-
13 Marktanteil	-	-	-	-	-	-	-	-	-	-	-	-	-		-
14 Kundenzahl	-	-		-	-	-	-	-	-	-	-	-	-	-	
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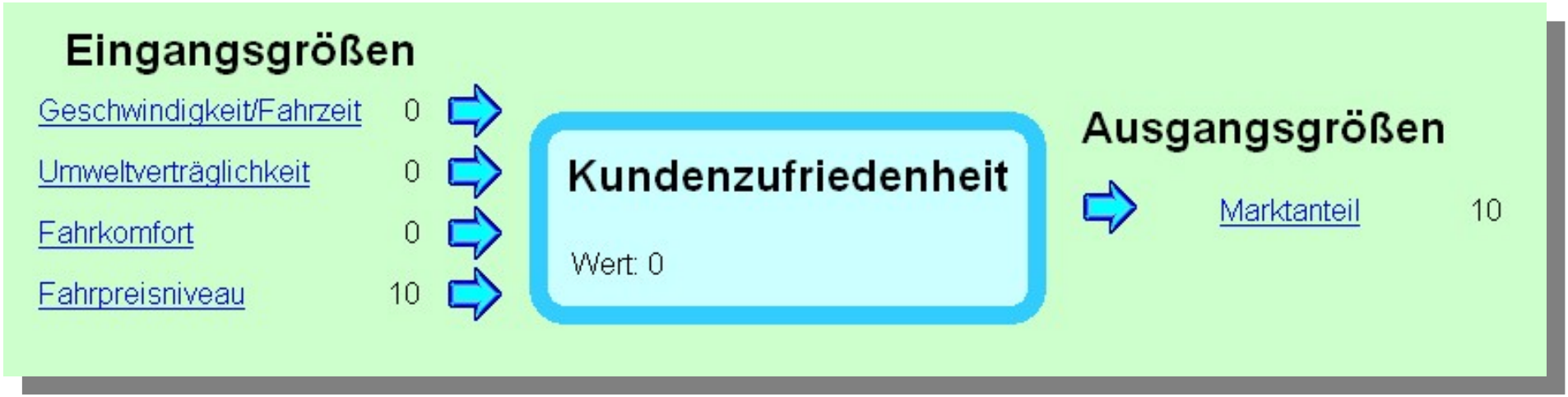
Planspiel MSB



Planspiel-Autorensystem

Bezeichnung	Mnemonic	Gruppe	änderbar	Startwert	unteres Limit	oberes Limit	Einheit
Luchs	Luchs	Räuber		1	0	10	Tiere
Hase	Hase	Beute	ja	8	0	15	Tiere

neue Zustandsgröße

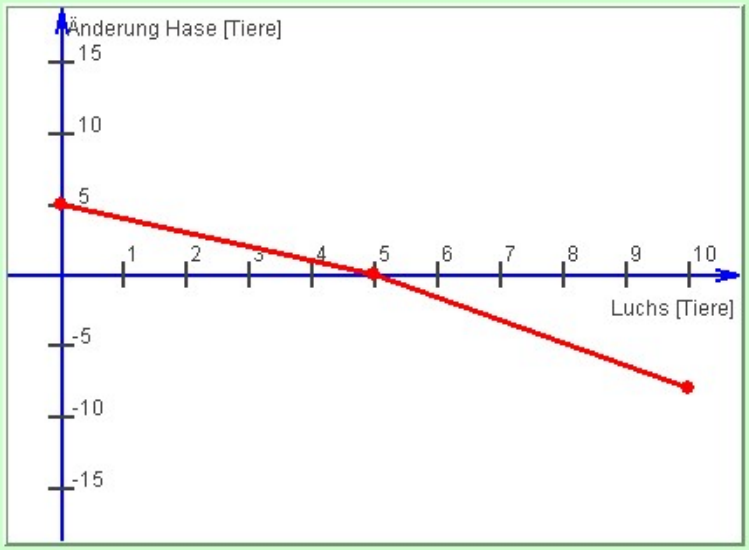
Planspiel-Autorensystem

Einfluß von Luchs auf Hase

übernehme lösche

Beschreibung

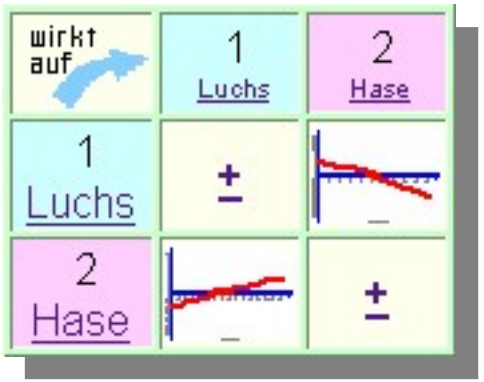
Je mehr Luchse desto weniger Hasen.



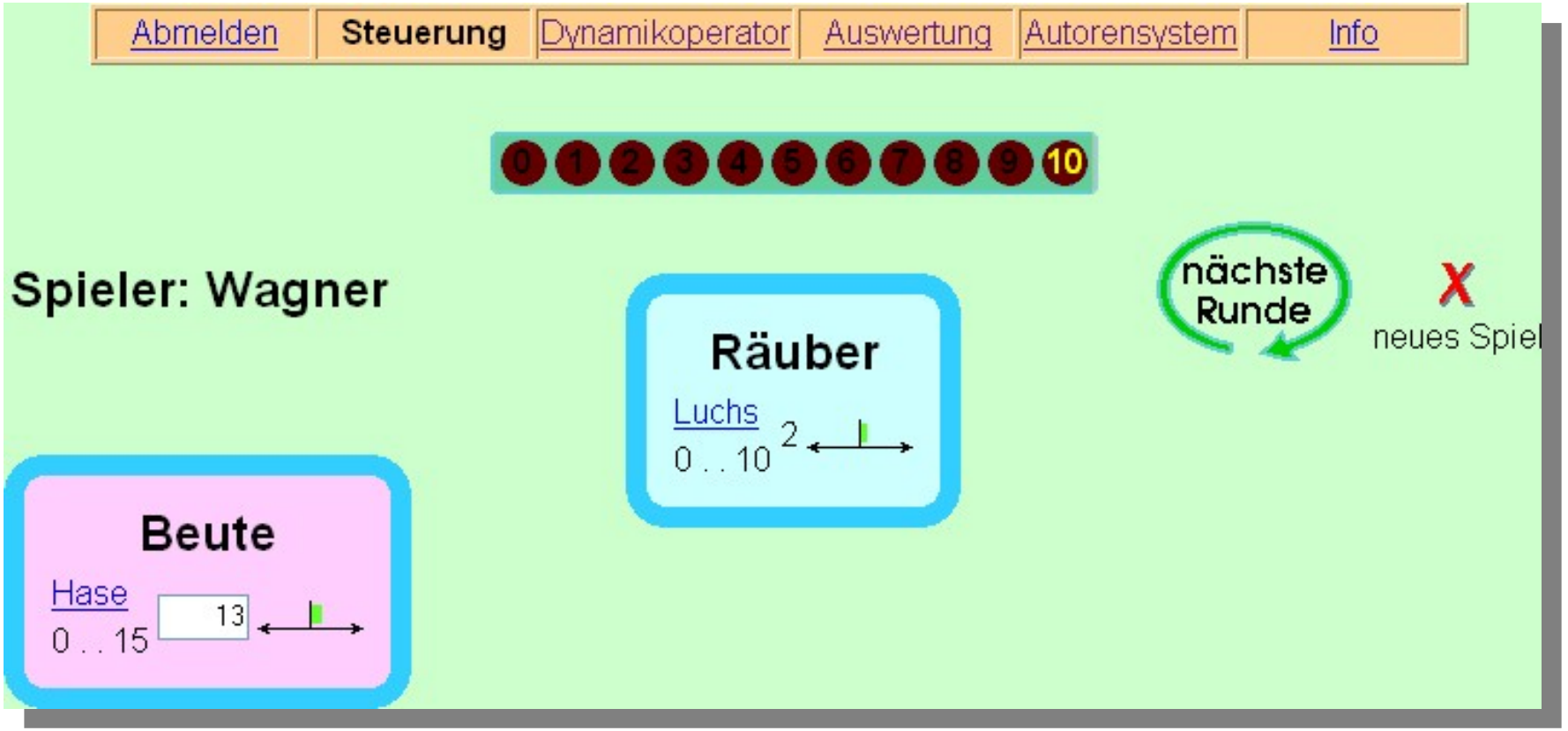
Erklärung

Vermehrung der Hasen vs. Beute der Luchse

Planspiel-Autorensystem

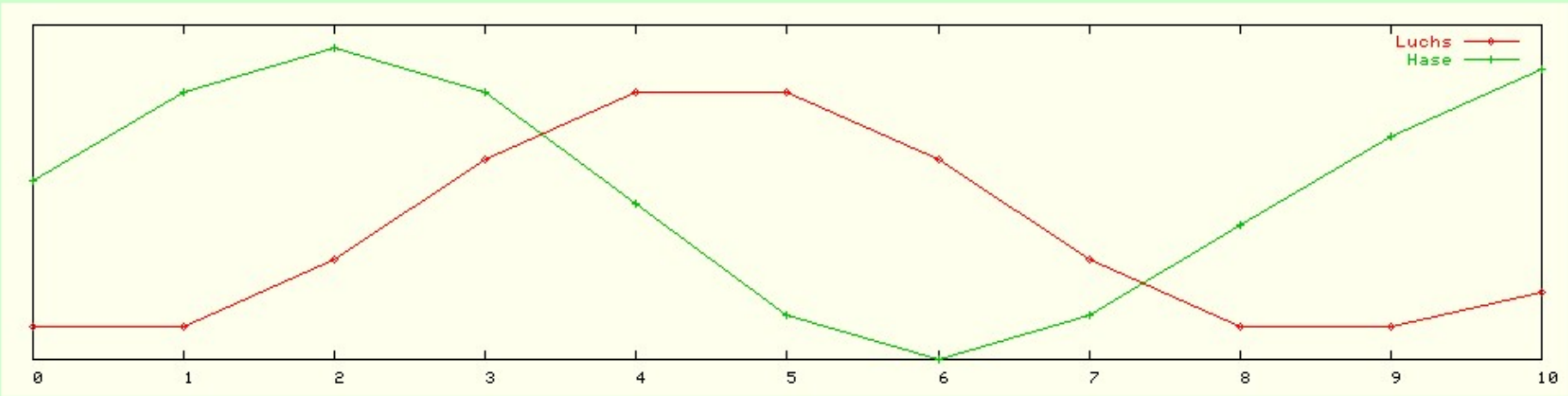


Generisches Planspiel

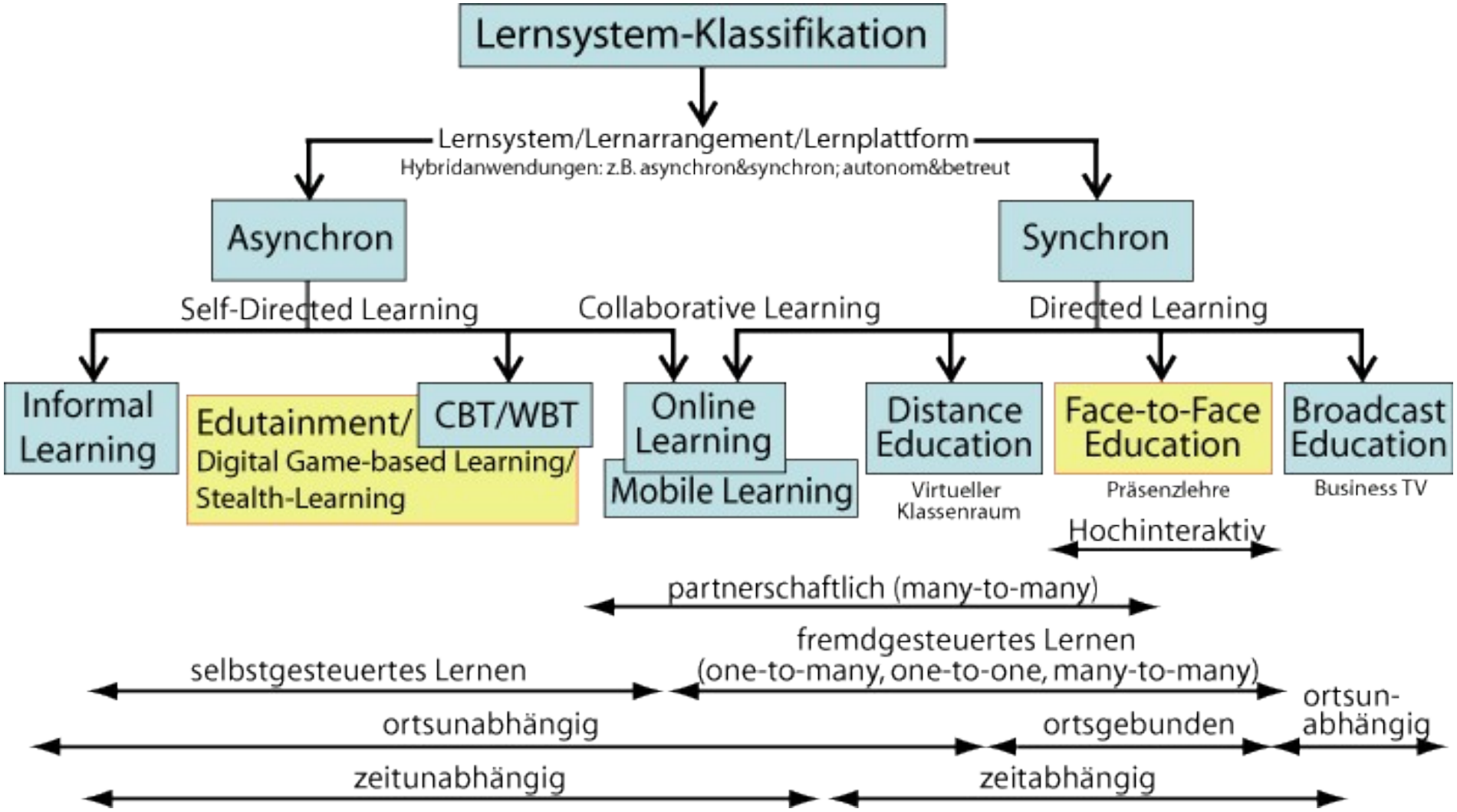


Generisches Planspiel

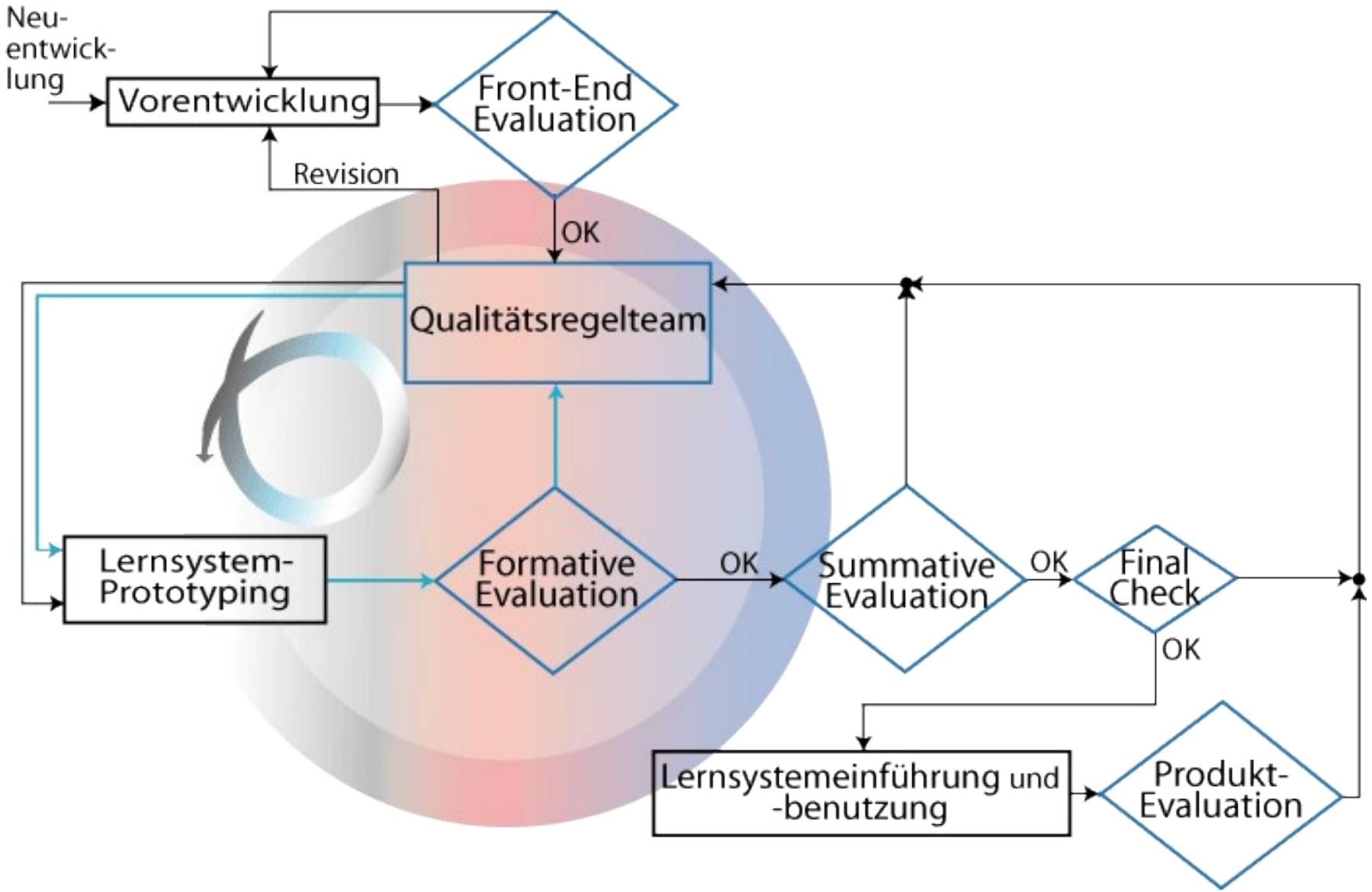
	Runde										
Zustandsgröße	0	1	2	3	4	5	6	7	8	9	10
Luchs	1	1	3	6	8	8	6	3	1	1	2
Hase	8	12	14	12	7	2	0	2	6	10	13



Lernsystem-Klassifikation

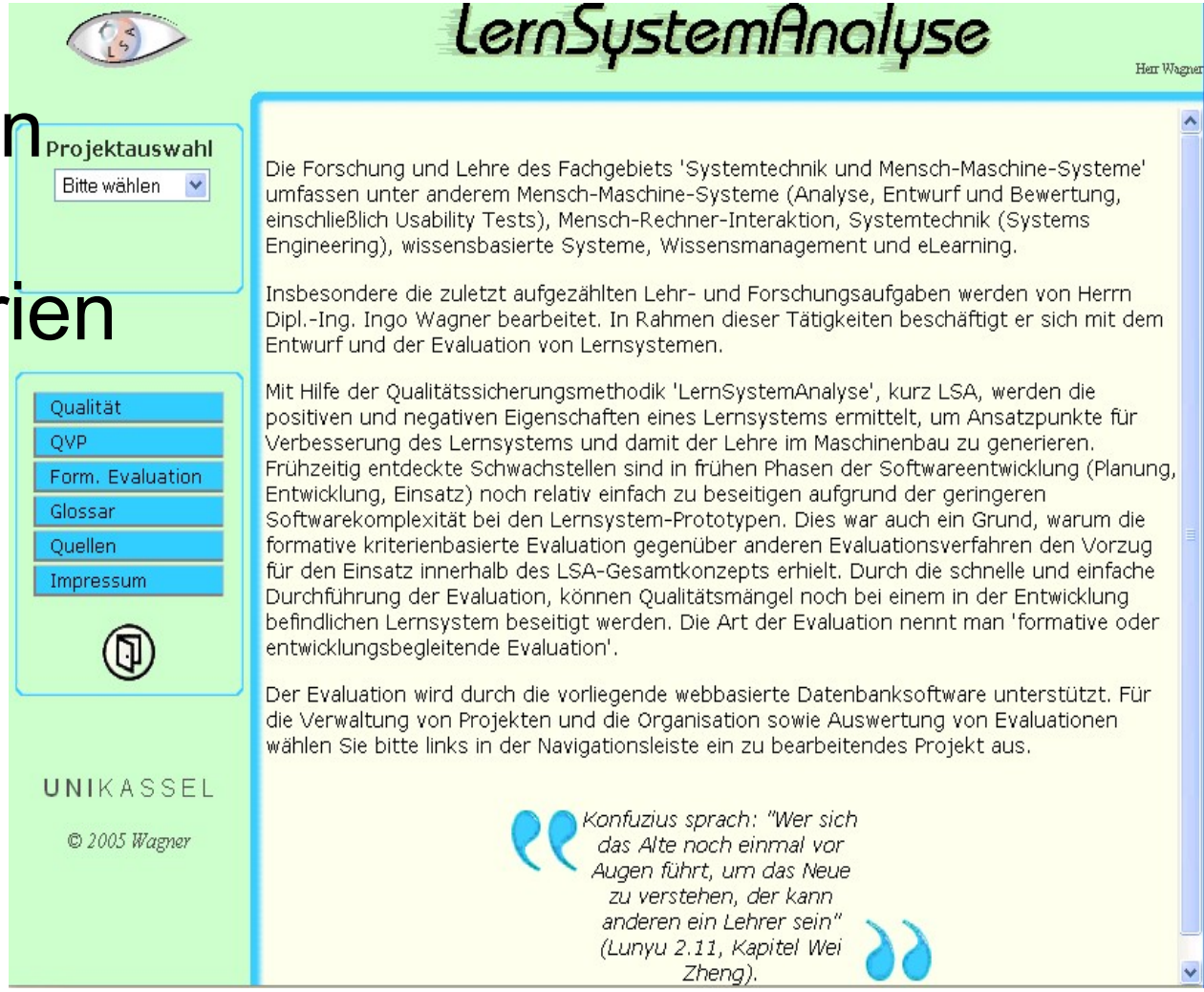


Qualitätsverbesserungsprozess

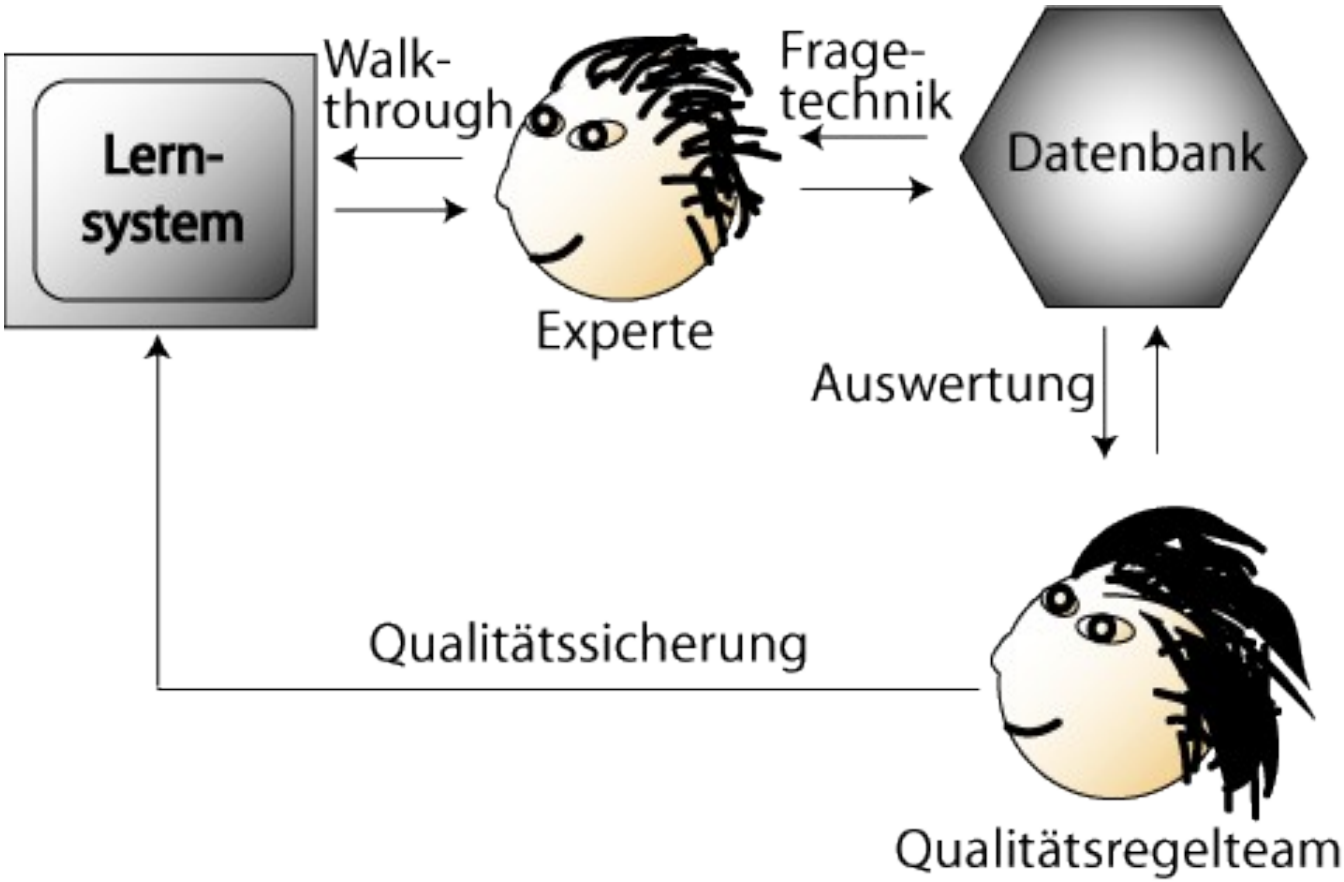


Softwareunterstützung

- Schnell, einfach und kostengünstig?!
- LernSystemAnalyse-Software
  - Projekt
  - Anforderungen
  - Personen
  - Qualitätskriterien
  - Evaluation

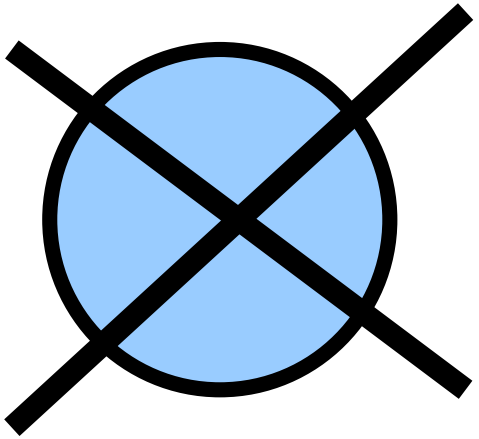


Expertenbefragung

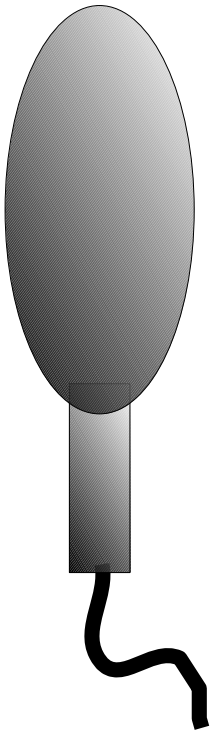


Qualitätskriterien?

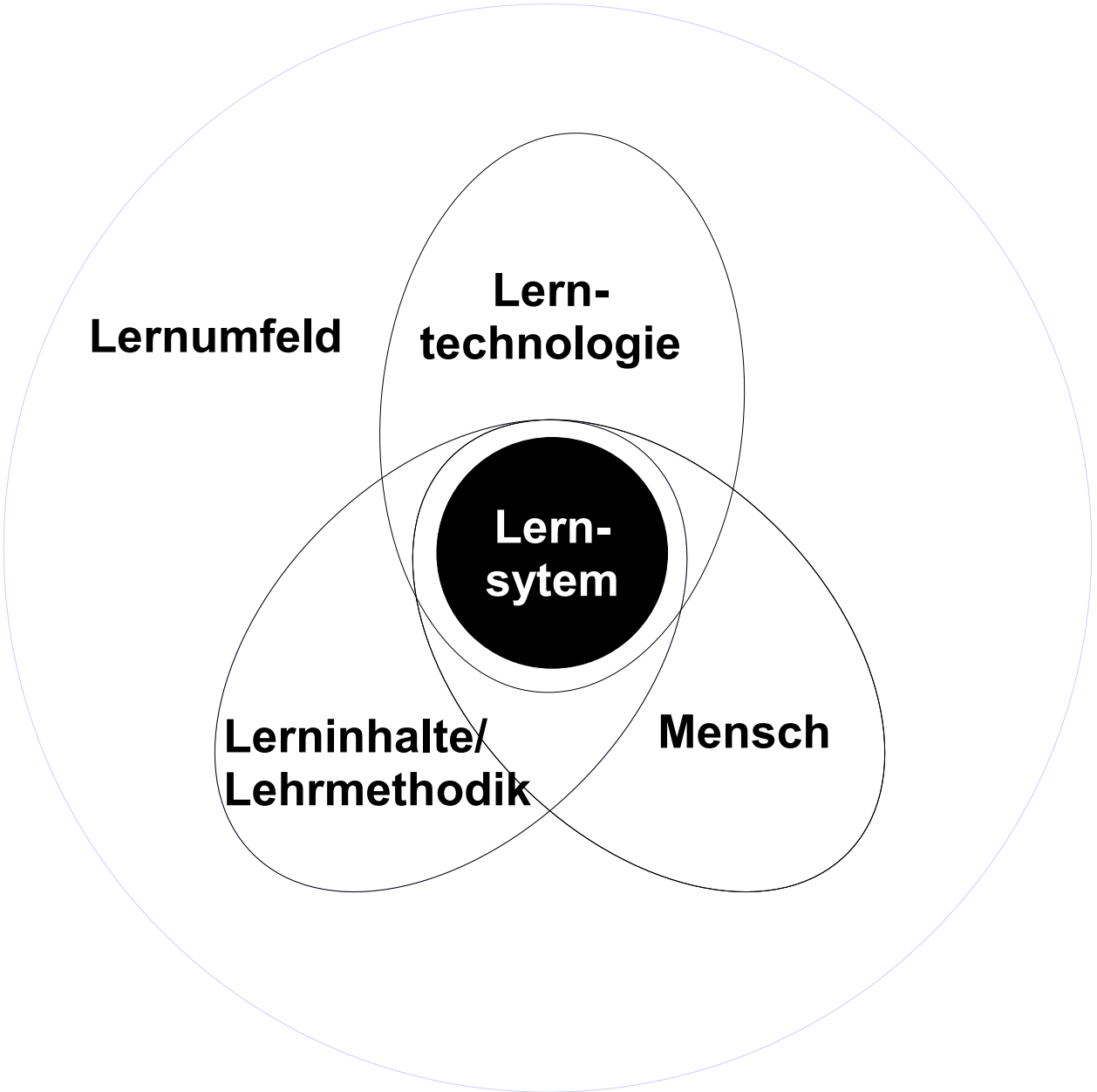
Checkliste



Fragenkatalog



Blickwinkel der Evaluation



Fragebogen

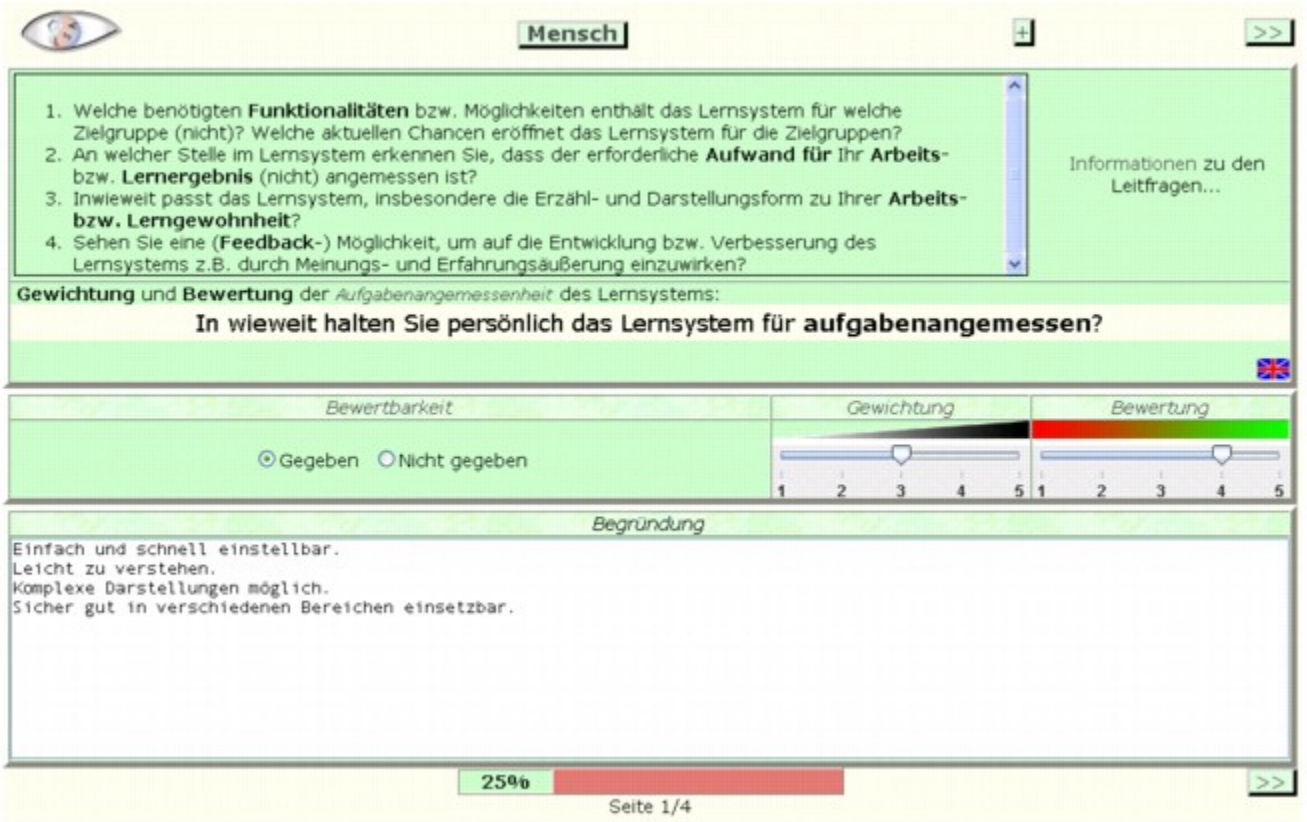
Qualitätskriterium

Leitfragen

Hauptfrage

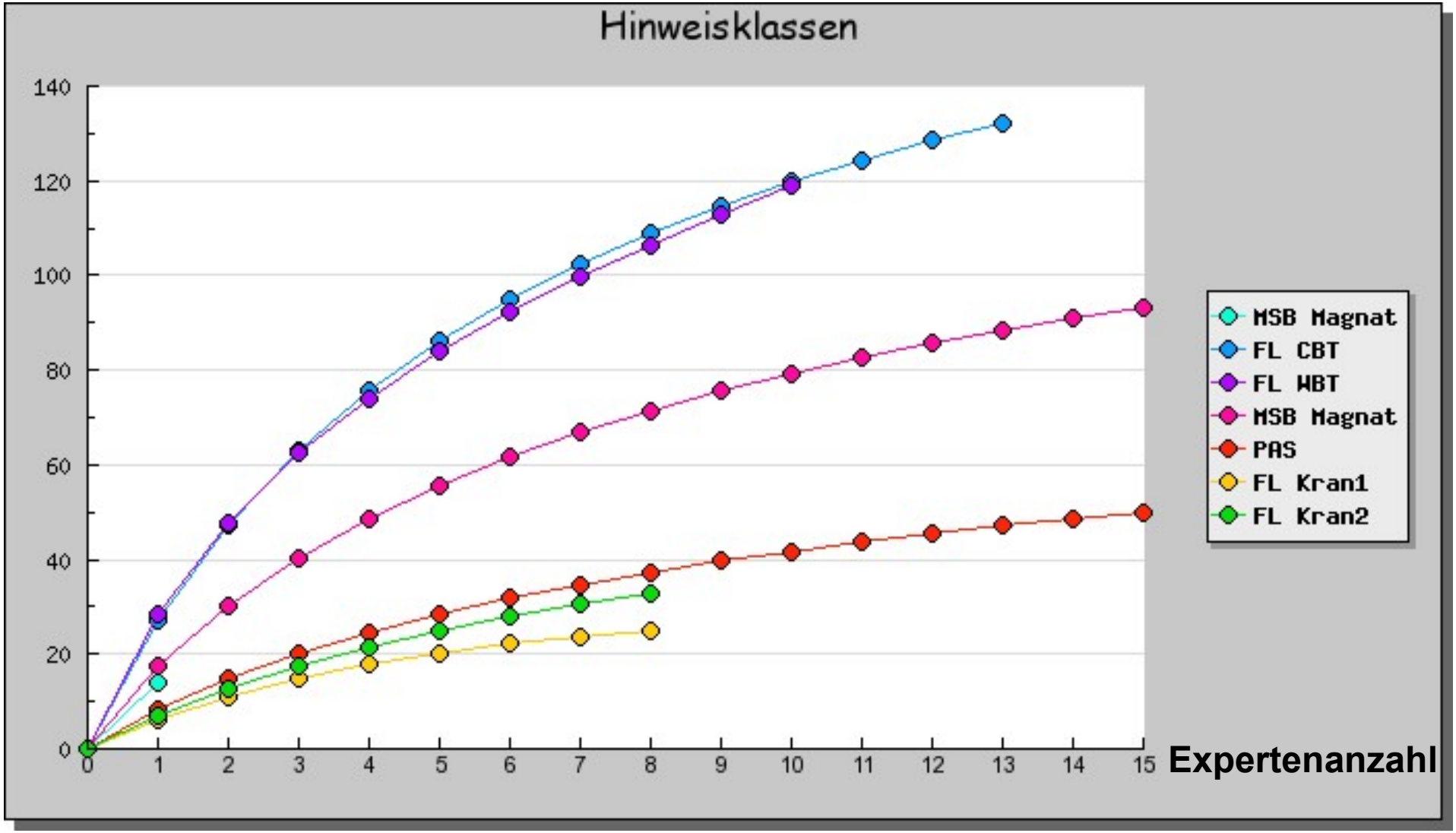
Bewertbarkeitsoption, Bewertungs- und Gewichtungsskala

Begründung

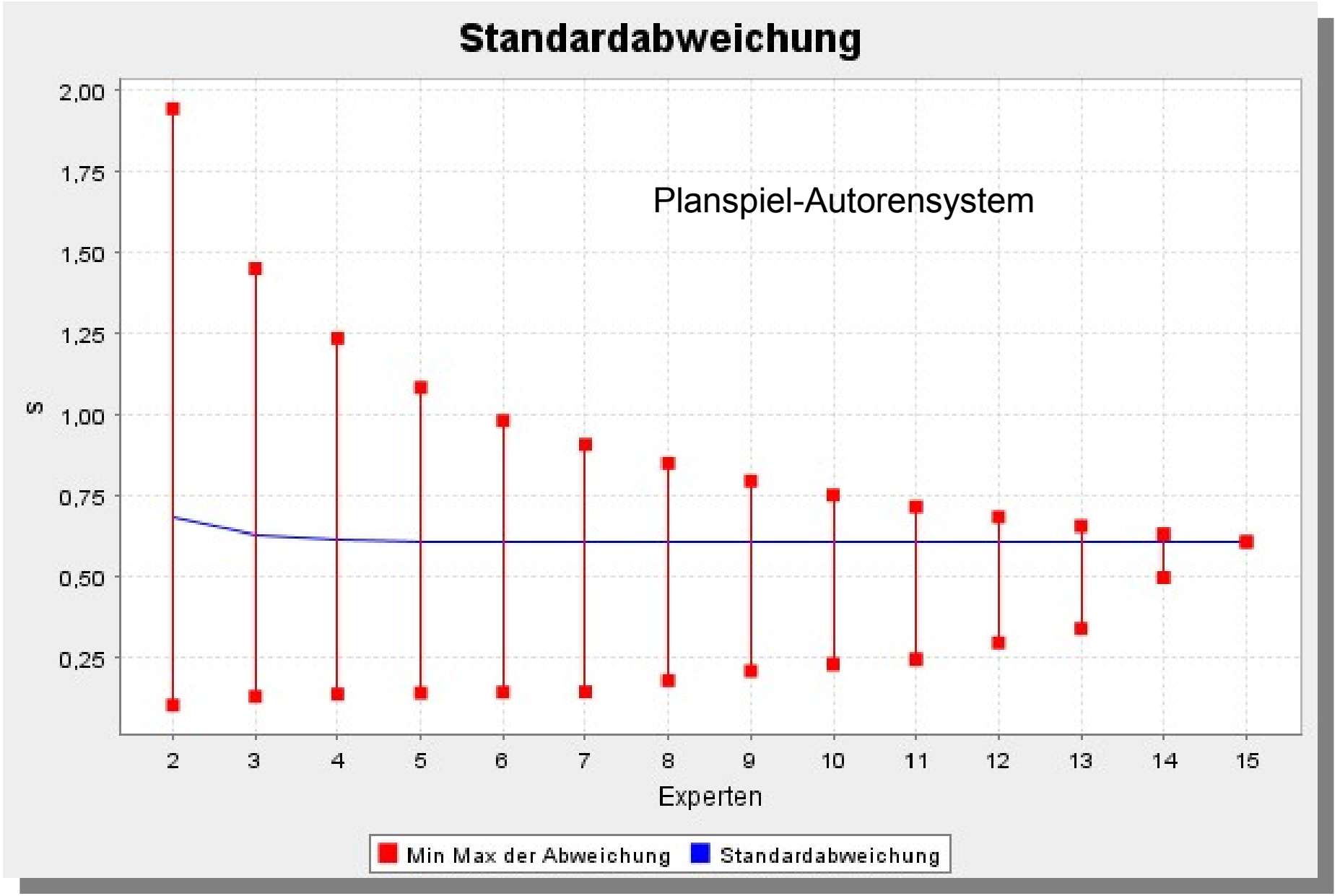


Lernumfeld:
Inwieweit liegt eine Passung des Lernsystems zum gegebenen Lernumfeld vor?
Lerntechnologie:
Wie beurteilen Sie die technische Umsetzung und die Benutzbarkeit (Usability) des Lernsystems?
Lerninhalte/Lehrmethode:
Wie bewerten Sie die Lerninhalte innerhalb des Lernsystems und die mit dem Lernsystem verbundene Lehrmethode?

Hinweisklassen



Bewertung


Standardabweichung
Planspiel-Autorensystem
s
2,00
1,75
1,50
1,25
1,00
0,75
0,50
0,25
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Experten
Min Max der Abweichung
Standardabweichung

Zeitaufwand

	Fragenanzahl (MW)	Spannweite (Stunden)	Min (Stunden)	Max (Stunden)	Median (Stunden)	MW (Stunden)
FL CBT	15,8	8	1	9	4	3,85
FL WBT	20,1	3	1	4	2	2,44
FL Kran	4	2	1	3	1	1,25
Planspiel	15,7	3	1	4	2	2,27
PAS	4	2	1	3	1	1,53

Bewertung

	gew. PN	HA	gew. B.	MW
FL CBT	28%	48%	59%	45%
FL WBT	38%	60%	69%	55%
FL Kran	35%	84%	78%	65%
Planspiel	61%	83%	69%	72%
PAS	57%	82%	69%	69%

Kontakt

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http://141.51.50.8/~wagner/Planspiel-Autorensystem/
E-Mail: I.Wagner@uni-kassel.de