

Framework for the Specification of Collaboration Scripts



Problem Background

- What problems were we dealing with?
 - Impediment of knowledge accumulation because of
 - Diversity in appearance
 - Diffusion of terms and concepts
 - Idiosyncratic description of scripts
 - Redundancy in the development of scripted CSCL environments



Goals of the Framework

- What were we aiming for?
 - use of common terminology in research
 - unified description of scripts for better comparability
 - identification of central components and mechanisms for systematic exploration
 - preparation of a machine-readable description (formalization)



Specification Process

- How did we begin to build a framework?
 - Comparative review of approaches to the specification of scripts



Review of Approaches to the Specification of Collaboration Scripts

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|---|--|
| <ul style="list-style-type: none"> ▪ O'Donnell & Dansereau (1999) <ul style="list-style-type: none"> ▫ specification of activities ▫ role distribution ▫ timing of activities ▪ Dillenbourg (2002) <ul style="list-style-type: none"> ▫ task definition ▫ group definition ▫ distribution of activities, roles & resources ▫ mode of interaction ▫ timing | <ul style="list-style-type: none"> ▪ Kollar, Fischer & Hesse (in press) <ul style="list-style-type: none"> ▫ learning objective ▫ learning activities ▫ role distribution ▫ type of representation ▪ Dillenbourg & Jermann (in press) <ul style="list-style-type: none"> ▫ time structure ▫ social structure ▫ pre- & post-structuring activities |
|---|--|



Specification Process

- How did we proceed to build a framework?
 - Abstraction of the general idea behind the concrete implementation of scripts
 - Discrimination between components and mechanisms
 - Identification of the core components and mechanisms
 - Condensation of the essential information for a economic and precise description of scripts
 - Unification of the way scripts are described



The Framework

- Components
 - Participants
 - Groups
 - Roles
 - Activities
 - Resources
- Mechanisms
 - Group formation
 - Component distribution
 - Sequencing



The „Social Script“ Components

- Resources & Participants
 - An equal amount of at least 2 case descriptions and participants.
- Groups
 - Case groups.
- Roles
 - An analyst and a critic.
- Activities
 1. applying theoretical concepts to cases, constructing arguments
 2. critiquing in the sequence of eliciting clarification, identifying conflicts and constructing (counter-)arguments

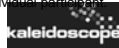


The „Social Script“ Mechanisms

- Group Formation & Component Distribution
 - For each case description one “case group” is formed, composed of all available participants. All case descriptions are distributed evenly among all case groups. Roles are distributed among all participants and among all groups in a way that each participant assumes the role of analyst in one group and the role of critic in all other groups.

	Group 1	Group 2	Group 3
Participant 1	1. Analyst	2. Critic	3. Critic
Participant 2	3. Critic	1. Analyst	2. Critic
Participant 3	2. Critic	3. Critic	1. Analyst

Table 1. Role distribution in the social script. The number before each role signals the sequence in which these roles are to be assumed by the individual participant.



The „Social Script“ Mechanisms

- Sequencing
 - Within each case group, ...
 - ... the analyst writes a case analysis
 - wait for all case group analysts to be done --
 - ... each critic in turn writes a first critique of the case analysis
 - wait for all case group critics to be done --
 - ... the analyst considers each critique and writes a reply to each in turn
 - wait for all case group analysts to be done --
 - ... each critic in turn reads the reply and writes a second critique
 - wait for all case group critics to be done --
 - ... the analyst considers all critiques and writes a new case analysis



Conclusions

- Achievements of the framework
 - common terminology
 - > cornerstone for knowledge exchange and accumulation
 - identification of central components and mechanisms
 - > call for systematic exploration
 - semi-formal representation of scripts
 - > facilitates the process of formalization
 - economic and precise description
 - > allows for reproducibility and comparison of scripts
 - helpful for researchers as well as practitioners



Open Questions

- Do we lose any vital information in the abstraction process?
- How much does the interplay of components and mechanisms explain about the actual interaction of participants?



Thank you!

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Kobbe, Weinberger & Fischer (2005)



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