DESIRE

Disseminating Educational Science, Innovation and Research in Europe

How do funded science education projects disseminate their outcomes to target audiences? Analysis of the current status and recommendations for more effective dissemination

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What do we understand by dissemination?

- Dissemination of results understood as the diffusion of innovations are envisaged as “the process in which an innovation is communicated through certain channels over time among the members of a social system”, undergoing different phases, such as awareness, understanding, persuading, adopting (or rejecting), and re-inventing (Rogers, 1983 – On social sciences)

- We will refer to dissemination as the process by which, using certain strategies and channels, outcomes of a project are made **available**, **comprehensible** and **usable** to be adopted by potential users (Harmsworth et al., 2001 – On educational development projects)

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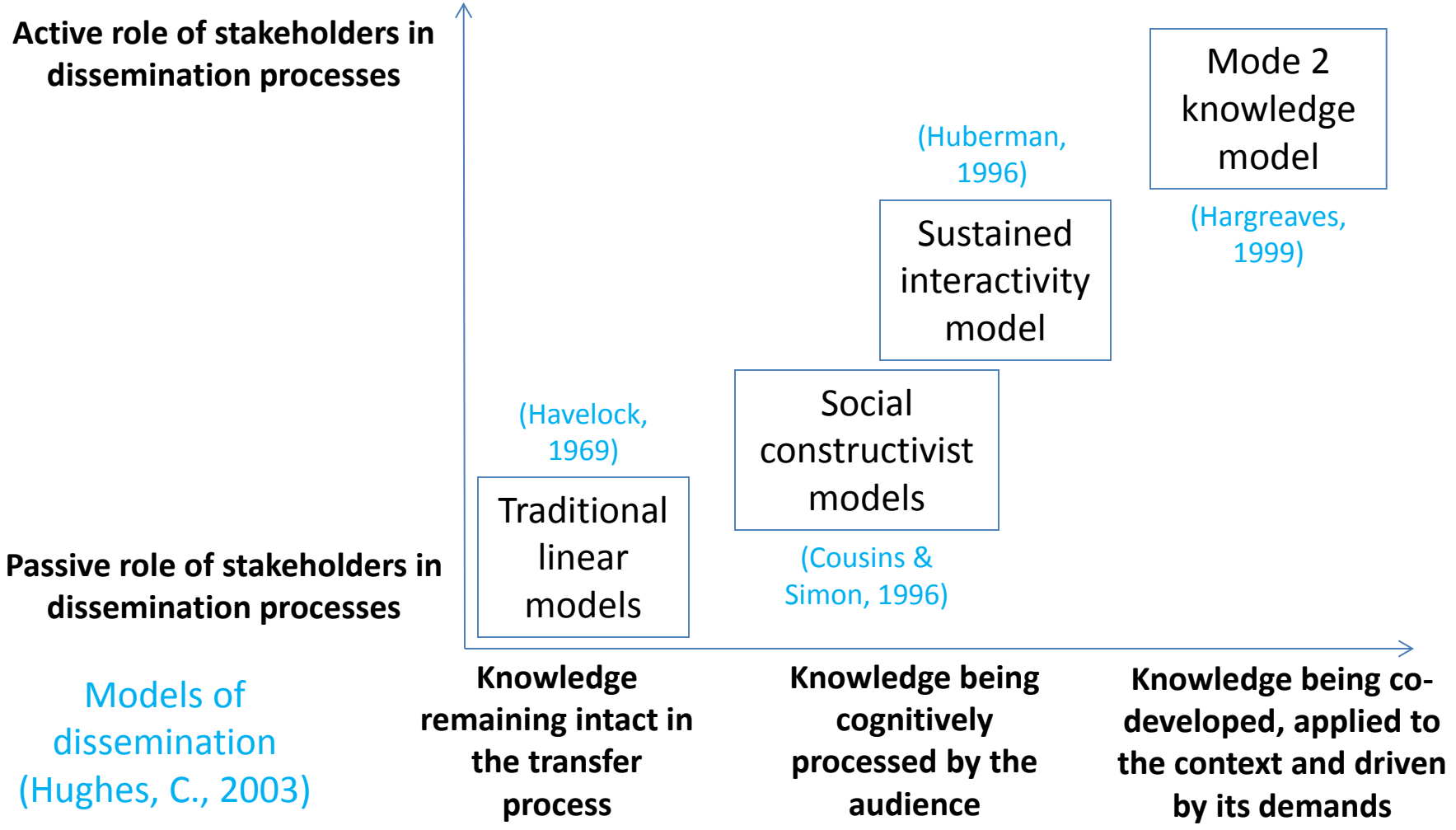
What models of dissemination have been described to bridge the academic-practitioner gap?



Models of dissemination (Hughes, C., 2003)

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http://desire.eun.org/

Problem and Research Questions

"The dissemination of research findings has been given increasing emphasis in recent years, particularly in the wake of critiques of educational research for failing to have an impact on policy-making and practice“ (Hammersley, 2000)

What are we looking for?

- How are the outcome from science education projects disseminated to target audiences? – **Current status**
- What recommendations do different target groups suggest to improve the dissemination strategies used in science education projects? - **Recommendations**

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Methodology

INSTRUMENTS OF DATA COLLECTION

Survey for **project managers**
Survey for **teachers**
Survey for **policy-makers**

Closed-ended (Multiple choice, matrix of choices, 5-points Likert scale)
Open-ended questions

Pilot test of the surveys

CONTACTED SAMPLE: 46 FUNDED R+D SCIENCE EDUCATION PROJECTS

20 projects funded within **7th FP**
18 projects funded within **LLP**
6 projects funded by **national institutions**
2 projects funded by **other organisms**

COLLECTED DATA

26 responses from project managers about 26 projects
105 responses from teachers about 21 projects
15 responses from policy-makers about 10 projects

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Methodology

INSTRUMENTS OF DATA COLLECTION

Survey for **project managers**
Survey for **teachers**
Survey for **policy-makers**

Online discussion events (ODE) (DESIRE platform or Google Hangouts)

ODE for **project managers**
ODE for **teachers**
ODE for **policy-makers**
ODE for **science centre / museum professionals**
ODE for **science event organisers**

DATA ANALYSIS

Qualitative analysis intended:

- To interpret connections among dissemination strategies and outcomes to be disseminated or target audiences
- To identify possible differences among projects funded by different funding sources
- To identify target audiences' needs regarding dissemination

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Results

On the channels / strategies to disseminate project outcomes

Paper-based channels
Web-based channels
Face-to-face events

The dissemination channels / strategies used by project managers depend on the type of project outcome intended to be disseminated

Teaching and learning materials

Theoretical or empirical research findings

Network of people

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Results

On the dissemination channels to reach each target audience

Most project managers recognise that the way project outcomes are communicated is adapted for different stakeholders.

Teachers

Policy-makers

Project managers / Researchers

All target audiences recognise that other channels through which they usually get informed are e-mails, brief documents and social media, although it does not seem that project managers prioritize it.

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Results

On the language and length of dissemination channels

- **Language**
- **Public reports and specialized journals** are dissemination channels through which project outcomes are usually presented in **English** (in EU projects).
- **Brief documents, email lists, websites, and conferences** tend to use **English as well as other languages**, depending on the countries that the project involves.
- **Mass media and face-to-face participatory techniques** usually choose the **native languages** of participants or main target audience of the project.

- **Length**
- From project managers' perspective, most of the dissemination strategies they use in funded projects do not require too much time to make project outcomes known and understood by target audiences, except for **project reports** and **face-to-face strategies**, which **require more time** to disseminate project outcomes.
- However, from teachers' and policy makers' perspective, **websites** also require quite a lot of time to be consulted in order to reach projects' outcomes.

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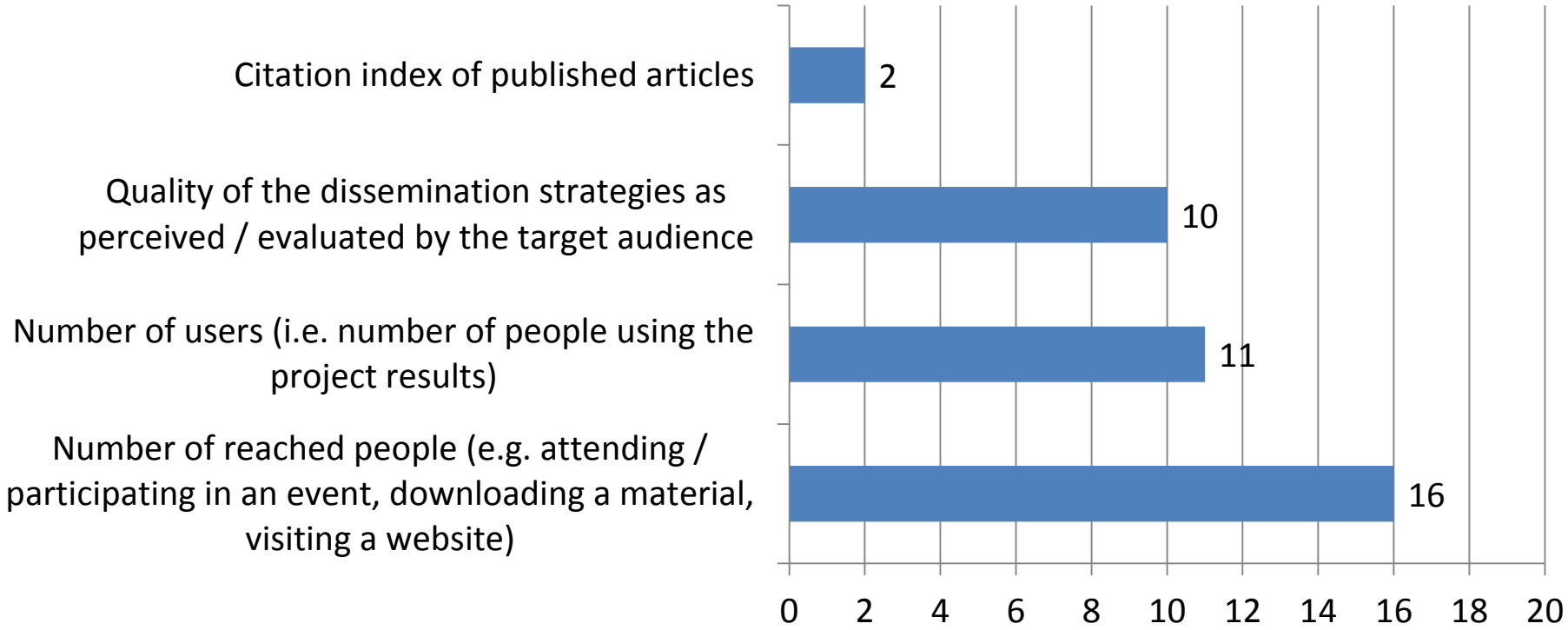
Results

On the evaluation of the effectiveness of dissemination actions



The criteria for evaluating the effectiveness of dissemination actions highlight the dilemma between quality and quantity. Whereas some project managers express their worries about scaling up and reaching a larger audience, other researchers are more concerned about the quality of their relationships with teachers and policy makers rather than about the quantity of stakeholders reached.

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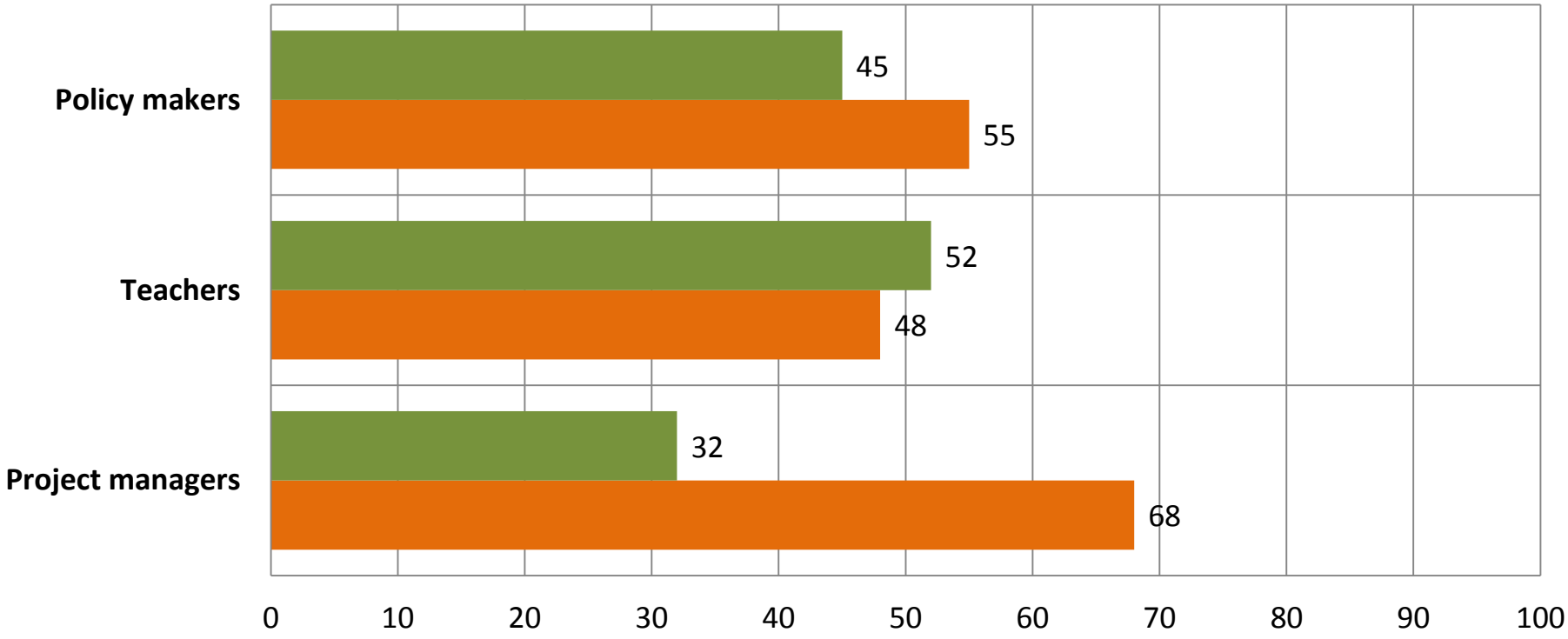
Results

Stakeholders' perception of the amount of information reached from science education projects



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Results

On the needs or difficulties to disseminate / reach science education projects' outcomes

Specific needs for dissemination	Project managers	Teachers	Policy makers
Time constraints	25%	34%	40%
Resource constraints (e.g. funding, technology, human)	11%	22%	20%
Lack of active involvement of the target audience	35%	38%	36%
Underuse of already existing resources or networks	34%	50%	18%
Low reach of the target audience (i.e. number or variety)	14%	25%	30%
Language barriers	-	26%	50%
Barriers related to the style of dissemination channels	-	26%	20%
Lack of support from partners in the project	-	18%	-
Lack of support from colleagues in one's own context	-	44%	-

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Recommendations from stakeholders on how to improve dissemination strategies

Stakeholders' needs	Recommendations
Time constraints	Projects devoted to **produce outcomes** might be **followed** by projects specifically addressed to **disseminate and exploit those results**
Resource constraints (e.g. funding, technology, human)	**Incentives** (e.g. remuneration, recognition, training, equipment for school) should be provided to teachers and other stakeholders so that they engage in reaching and using projects' outcomes
Lack of active involvement of the target audience	Stakeholders should be involved as **intermediaries**, ambassadors or members of an steering committee from the beginning of a project to act as multipliers at a regional/national level
Underuse of already existing resources or networks	Strong contact and cooperation should be established with **local teacher training institutions** and **programmes**, **reference centres**, **databases** (e.g. Scientix), and **networks** addressed to similar topics (e.g. ProCoNet). New teachers' networks should be potentiated after the end of a project for scaling up
Low reach of the target audience (i.e. number or variety)	**Mass media** (e.g. newspapers) and **social networks** (e.g. local and international) should be used more often in order to have a larger impact among teachers. **Conferences**, **seminars** and **workshops** are one of the best ways to gain new knowledge and inform teachers and policy makers about projects.
Language barriers	Dissemination materials should be provided in **other languages than English** and more dissemination initiatives (e.g. **conferences**) should be organised **at a local or regional level**
Barriers related to the style of dissemination channels	Projects should **document experiences** and present them in a **flexible way** (e.g. case studies, scripts for teachers, movies of educational activities, evidence-based books for teachers) in order to spread good practice and generate adaptive processes so that stakeholders can learn from past experiences. **Brief and concise messages** may facilitate the communication between researchers and other stakeholders. The **usability** of some dissemination channels (e.g. websites) should be improved so that people do not get lost
Lack of support from partners in the project	Guidelines and support should be provided to stakeholders so that they can use what has been disseminated. These guidelines should **take account of the curriculum, school organization, teachers' current practices**, etc.
Lack of support from colleagues in one's own context	**Local consulting commissions** should be developed involving teachers, researchers, students' families, school principals and administrators, and other relevant actors

Conclusions

- Most of the **models of dissemination currently used** in funded projects on science education seem to combine channels and strategies characteristic of ***traditional linear models*** and ***social constructivist models*** (e.g. wide use of reports, websites and conferences as dissemination channels, face to face participatory techniques to interact with stakeholders).

- **Recommendations** from stakeholders tend to advocate for dissemination models which assume wider involvement of stakeholders and already existing institutions and networks as intermediaries with an active role in dissemination actions, which is characteristic of the ***sustained interactivity model***. At the same time, stakeholders recommend to take account of contextual factors influencing dissemination, stressing the need for overcoming language barriers, aligning the outcomes with curriculum, school organization, and teachers' current practices, organising local consulting commissions, etc. These recommendations are also consistent with the ***Mode 2 knowledge model***.

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THANK YOU VERY MUCH FOR YOUR ATTENTION

For further information:

http://desire.eun.org (Publications → Analysis Framework Definition
Catalogue of Key Results
DESIRE draft Reach Out ToolKit)

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