

SOURCING AND RE-SOURCING TEACHERS ACTIVITY

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Profusion of online resources

New ways of doing, learning, teaching mathematics...


3,35*5,7 - Recherche Google

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 **3,35 * 5,7 = 19,09500**
[Plus d'infos sur la fonction calculatrice.](#)

Rechercher les documents contenant les expressions [3,35*5,7.](#)

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New forms of teachers collective work

Example of Sésamath (<http://www.sesamath.net/>, a French online mathematics teachers association (2001)...

... very rapid growth of the association (100 members, 5000 teachers participating in online collaborating working groups, 100000 connections, each day, on its website for downloading resources)...

... a philosophy of sharing, helping together (Sabra 2009)



Needing a new theoretical approach

Previous work about *ICT integration*, building on the *instrumental approach* (Guin *et al.* 2005)

A context of generalized availability of digital resources for teachers

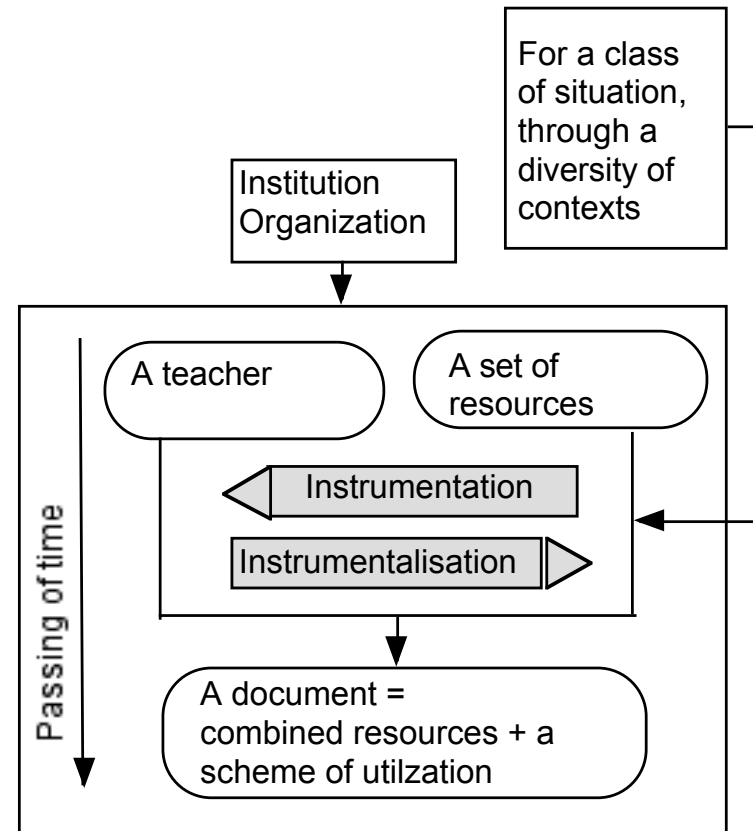
A general notion of *resource*, wider than ICT: « Our conception of a *re-sourced teacher* then becomes a teacher acting with material and socio-cultural resources » (Adler 2000)

A new perspective on teachers' *professional development*

A focus on teachers' *documentation work*, out of class and in class

A *documentational approach of didactics*

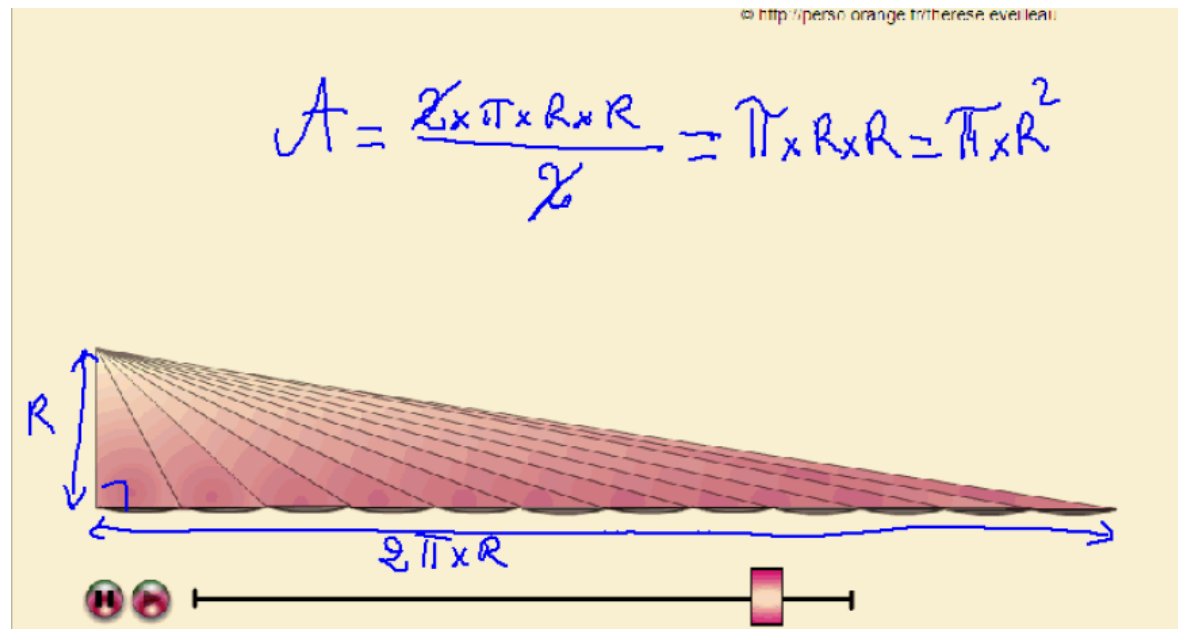
(Gueudet et Trouche 2009)



Documentational genesis:

- a teacher develops a document from a set of resources;
- the *document* associates resources, and a cognitive structure, professional knowledge;
- a double *instrumentalization/instrumentation* movement: the teacher shapes the resources, and the resources frame the teacher's choices and craft knowledge

An example

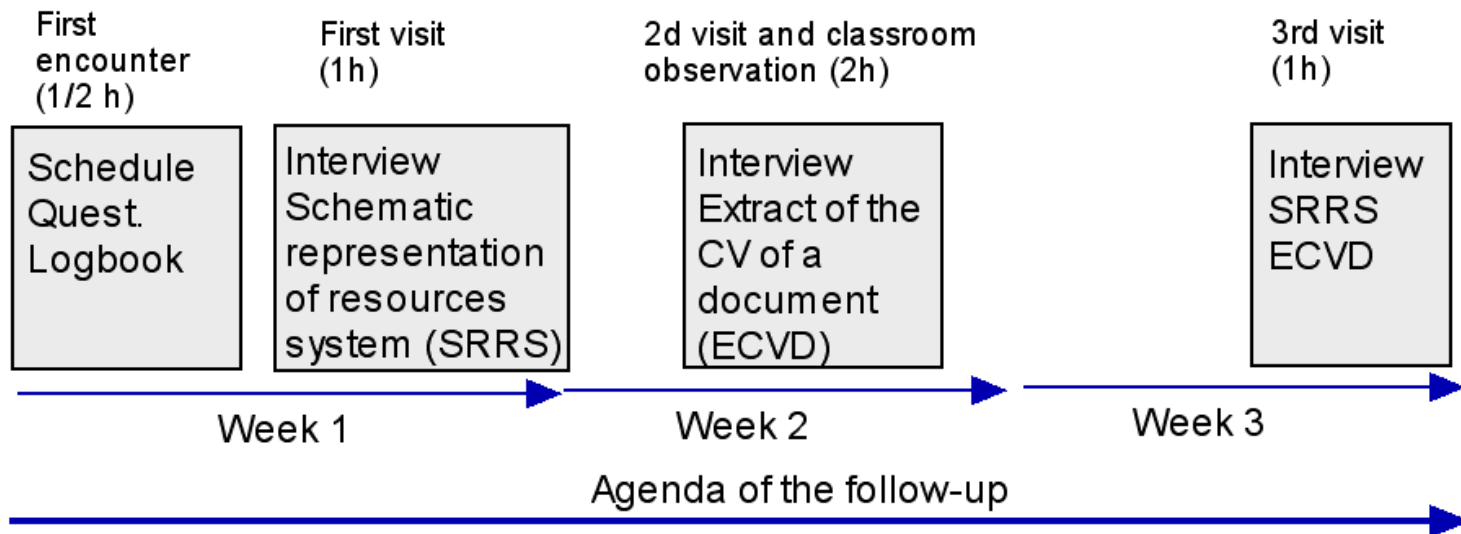
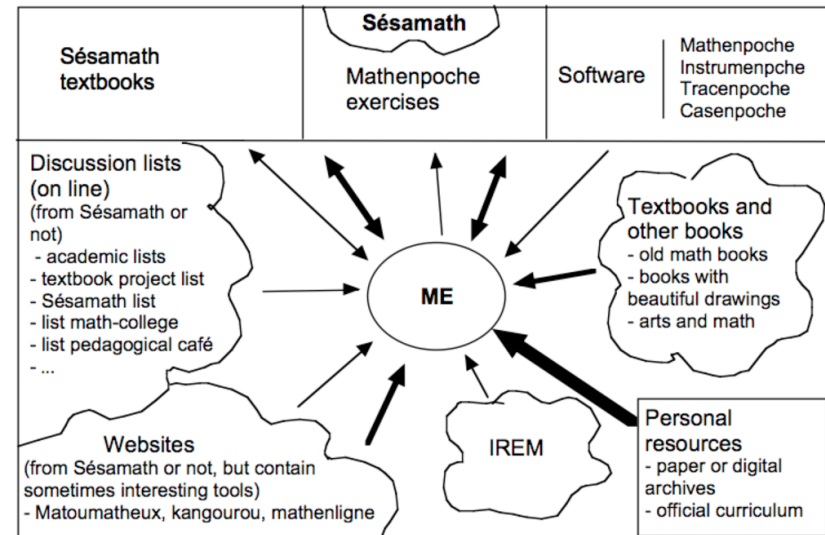


Various resources: a website, an IWB...

Marie-Pierre selects pieces of these resources, recombines them, sets up the course in class, writes on the IWB and records a paperboard for her students.

Professional knowledge (example!) that could be involved in this document: “a new area formula must be justified by a cutting and recombining of the pieces to form a figure whose area is known”

About methodology



Investigating teachers collective work

The case of teachers associations (as Sesamath in France)

Monitoring of “natural” collective documentation work (mainly in high schools)

Using the support of existing project, as laboratories

Intergeo: lived resources, enriched and validated by the uses of teachers' communities

The Intergeo project

<http://i2geo.net>

(Trgalova *et al.* 2009)

The screenshot shows the I2G website interface. At the top, the logo 'I2G' is followed by the text 'Interoperable Interactive Geometry for Europe'. Below the logo is a search bar with the text 'pesquisa...' and a 'Go' button. To the right of the search bar is a 'Faça-se Membro' (Join Member) button. Below the search bar is a 'Remember Me' checkbox and a 'Forgot Login' link. The main content area is divided into several sections: 'HOME' with a list of links (PESQUISAR, CONTRIBUIR, COLABORAÇÃO, AJUDA, PROJECTO INTERGEO), 'TABLE OF CONTENTS' with a 'WebHome' link, and 'WATCH I2GEO GROW' with statistics: Recursos: 2531, Membros: 794, Grupos: 17, and a link 'Associe-se!'. The central section is titled 'THE INTERGEO EU PROJECT' and contains the text 'Interoperable Interactive Geometry for Europe' and 'saiba mais acerca do projecto europeu INTERGEO'. Below this text are two bullet points: 'O que é o Intergeo?' and 'Quem é quem no Intergeo?'. To the right of this text is a small image of a landscape. Below the central section is a 'GRUPOS EM DESTAQUE' section with a link to 'IREM-INRP Academie de Lyon'. At the bottom of the page is an 'I2GEO NEWS' section.

A work in progress...



A French-Brazilian project CAPES-COFECUB (2009-2011), involving 4 universities (UFPE Recife, UNIBAN Sao Paulo, Universités de Lyon et de Paris): *From the study of the teacher and her activity in classroom towards the design of resources for and by the teachers*

Coordinators MAIA Lícia de Souza Leão (Brazil) et TROUCHE Luc (France)

<http://educmath.inrp.fr/Educmath/recherche/projets/capes-cofecub/>

Another presentation of this project at PME:

A comparative study of the secondary-tertiary transition

M. Alves Dias, M. Artigue, A. P. Jahn, & T. M. Campos

22 July, 11h-11h40, room 2014

References

- Adler, J. (2000), Conceptualising resources as a theme for teacher education. *Journal of Mathematics Teacher Education*, 3, 205–224.
- Gueudet, G., & Trouche, L. (2009). Towards new documentation systems for mathematics teachers? *Educational Studies in Mathematics*, 71(3), 199-218. <http://springerlink.metapress.com/content/6600hx1254664n74/>
- Guin, D., Ruthven, K., & Trouche, L. (Eds.). (2005). *The didactical challenge of symbolic calculators: turning a computational device into a mathematical instrument*. New York: Springer.
- Sabra, H. (2009). Entre monde du professeur et monde du collectif : réflexion sur la dynamique de l'association Sésamath. *Petit x*, 81, 55-78.
- Trgalova, J., Jahn, A.P, Soury-Lavergne, S. (2009). Quality process for dynamic geometry resources: the Intergeo project, in V. Durand-Guerrier, S. Soury-Lavergne & F. Arzarello, *Proceedings of CERME 6*, 1161-1170, INRP, <http://www.inrp.fr/editions/editions-electroniques/cerme6/working-group-7>
- A website dedicated to the documentational approach of didactics
http://educmath.inrp.fr/Educmath/recherche/approche_documentaire

