Case studies of resource systems of French biology teachers

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What French biology high school teachers say about teaching resources?

- Preliminary studies- First steps of inquiry
- Way to enter smoothly into the ReVEA project
- Set-up research questions
- Study’s aims:
  - Resources overview/inventory
  - Insights on teachers’ conceptions, opinions, concerns about teaching resources
Survey methodology

- Semi-structured interviews
- Audio recording
- Thematic analysis

- 6 high school biology teachers
- SVT (Sciences de la vie et de la terre) Life and earth sciences
- “Seconde” level
- Various
  - Formation level
  - Teaching experience
  - Teaching context
## French Biology teachers

<table>
<thead>
<tr>
<th>Teacher (♀)</th>
<th>High School</th>
<th>Académie</th>
<th>Initial training</th>
<th>Seniority (yrs)</th>
<th>Place</th>
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<td>Agrég + PhD</td>
<td>6</td>
<td>Home</td>
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<tr>
<td>2</td>
<td>B</td>
<td>Versailles</td>
<td>Capes + Agrég</td>
<td>6</td>
<td>Biology classroom</td>
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<td>3a</td>
<td>C</td>
<td>Paris</td>
<td>?</td>
<td>? &gt;10</td>
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<tr>
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<td>C</td>
<td>?</td>
<td>? &gt;10</td>
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<td>Agrégation</td>
<td>25</td>
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Data analysis Methodology

**Individual analysis**
- Deep reading
- Lexicometry

➢ *Word-cloud profiling*

**Global thematic analysis**
- Inventory
- Selection process
- Uses
- Pooling and sharing between colleagues
Tag cloud

generated by tagcrowd using written transcripts
(http://tagcrowd.com/)

Interview 1

anglais (19) ans (19) choix (17) choses (20) classes (19) collegues (19) cours (14) deje (9) documents (14) donne (13) eleves (27) evolution (19) exemple (15) faut (21) forcentment (16) globalement (12) internet (11) jamais (6) juste (9) livres (20) lycée (18) lycées (9) mal (9) parfois (13) partie (13) parties (10) pense (21) poly (8) premiere (14) pris (9) profs (11) programme (17) programmes (9) ressources (11) sais (20) schemas (11) seconde (13) souvent (20) temps (20) these (6) tp (19) trouve (12) trucs (6) utilise (13) veux (12)

Interview 2

academie (16) aller (10) ans (9) bac (16) base (16) cas (9) chose (19) choses (11) complique (11) construire (14) cours (26) deja (13) demarche (8) diaprona (9) differents (8) document (11) documents (20) eleves (19) ensuite (8) exemple (24) fonctionne (16) formation (10) livres (8) lycée (9) mal (10) niveau (10) notamment (8) notion (10) nouveau (8) nouveaux (12) parfois (16) pense (11) petit (10) plutot (15) pratique (9) premiere (13) programme (17) programmes (11) seconde (14) temps (15) terminale (17) tp (11) travaille (15) utilise (9) utiliser (17)

Interview 3

activite (6) activites (11) aller (6) ans (5) chose (7) choses (11) college (12) comptes (6) cours (11) documents (9) donne (7) eleve (16) eleves (39) essaye (7) evolution (7) exemple (10) fais (6) faut (9) fin (6) formation (7) grande (6) groupe (6) journee (6) lycée (6) museum (7) niveau (24) partie (13) peti (6) prend (9) probleme (9) programme (11) resource (6) ressources (8) sais (7) sciences (8) seconde (7) section (6) stages (10) svt (6) tableau (6) temps (8) travail (10) utilise (10) utiliser (6) vacations (6)
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Resources Inventory

• Resource base or core
  – Official decrees, Textbooks, Initial training

• Resources for illustrative purposes
  – Internet
    Wikipedia, academic sites,
    Scientific research websites (CNRS, INRA, INSERM)
  – video (youtube, vimeo)
  – Teachers’ blog, websites
    (newspapers)
Resources Inventory

- **Hidden Core**
  - Colleagues files (paper or digital format)
  - continuing education (PAF)

- **Pet projects**
  - School outing/field-trip (travel, museum, pedagogical in-house garden)
  - Custom: Garden, Pupils, Scientific models
Specific strategies of research & selection

• Searching resources can be « overwhelming »
  • To dig into (« piocher »)
  • To target (« cibler »)

• Selection criteria
  • “know how to separate the good from the bad”
  • « relevant » « adapted » with a « bit of breathing room » and « lot of scope »
  • Reliability non explicit
  • Diversify support
  • Practicality: digital format « copy & paste in powerpoint »
Elaboration process of a practical teaching sequence by a beginning teacher: Cell observation using a microscope.
Tradition

• Discipline level
  • Tried and true experimental models (elodea; sheep heart & fish head, dissection)

• Teaching Tradition- experimental approach vs document analysis

• School level
  • lab culture, equipment & props
Freedom/constraints

• Tensions
  - Between tradition & innovation
    Swinging between following institutional requirement and initiative
    Finding her personal style
  - Practical constraints on experimental work

➢ Collective organisation on a small scale, usually a duo
  ➢ « Sharing class » « activities exchanges »
  ➢ «someone like me » «we work the same way »
  ➢ « openness » «trust each other»
In these interviews, teachers make no clear distinction

- External resources/internal resources/
- External/internal Knowledge (Bécu-Robinault, 2007) - Memory
- Resources for their different teaching activities: lecture, experimental work, examination tests
- Resources for themselves or for students
  - « same thing »
  - « adequate resources » « simplification »
Conclusion - leads to follow

- Certification levels
- Novice/expert teachers
- Teaching style: content-oriented or student-oriented
- What they say and what they do?
- Analysis of specific teaching sequences, lesson plans & student handout. Clarifying interview and class observation.