

# Annotations, a key asset for video-based e-learning

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# Context - video-based e-learning



Credit: [Project 366 #59: 280212 Days Gone By...](#) by [comedynose](#) / [CC BY 2.0](#)

# Outline

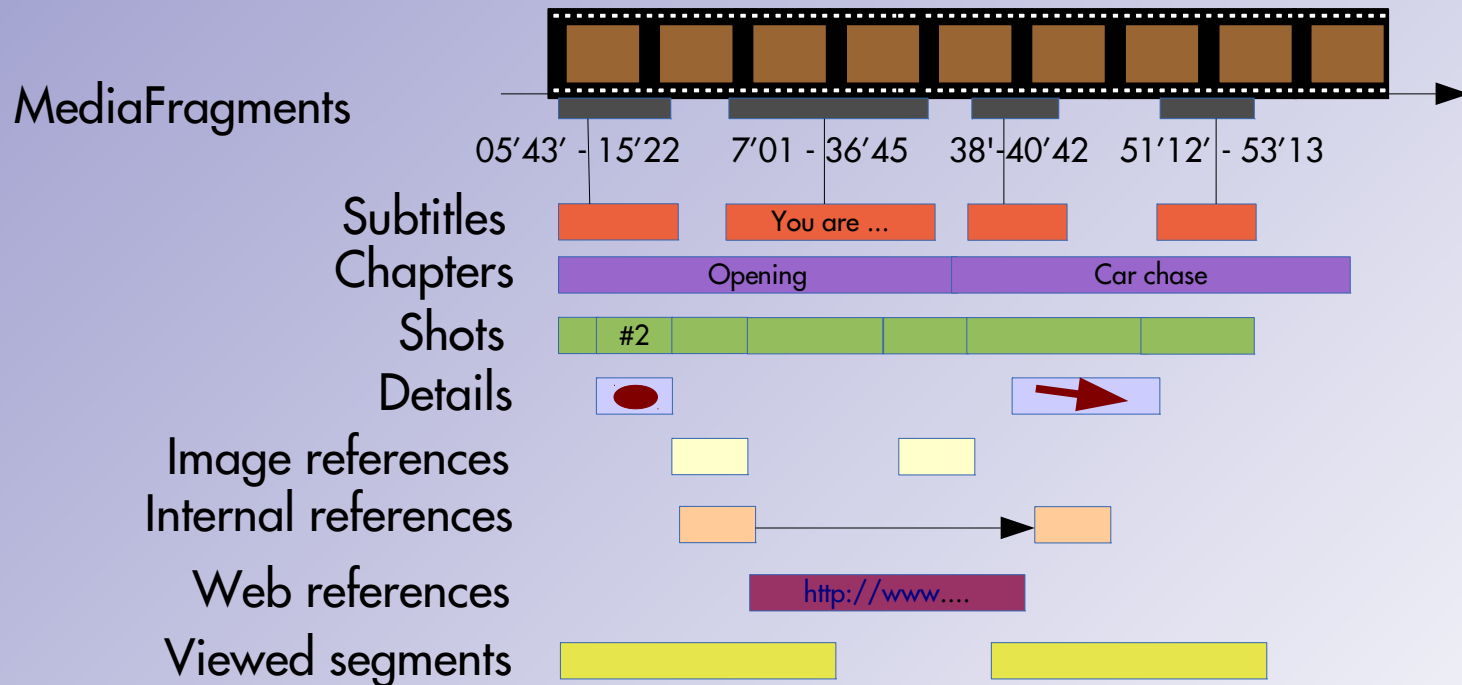
- **A primer on video annotations**
- Using annotations in video-based e-learning systems
- Annotation-related challenges
- Experiments to come in the COCo project

# Video active reading - a scenario

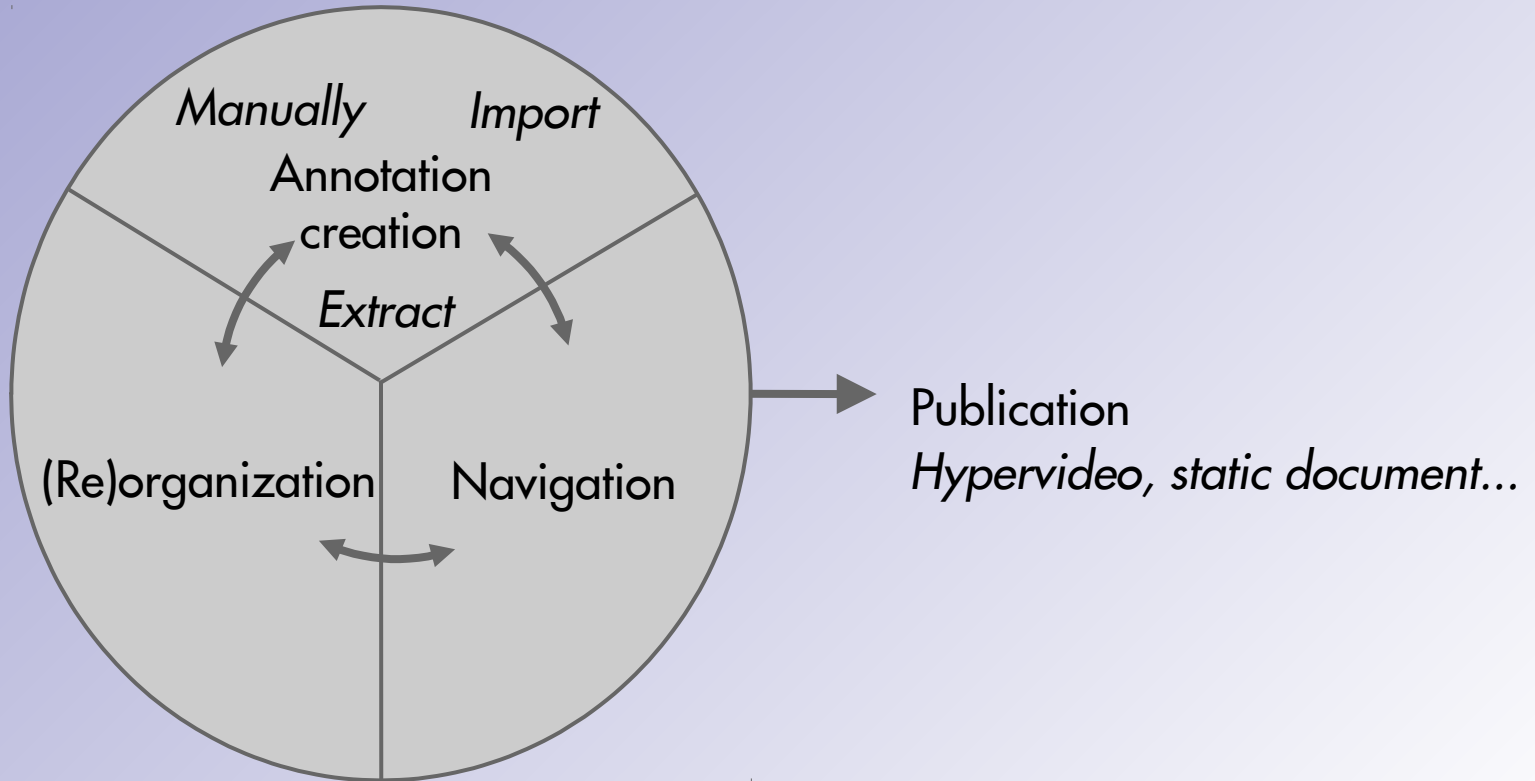


Credit: [Mulholland Drive](#) by [billgarrett-newagecrap](#) / [CC BY 2.0](#)

# Video annotation - definition



# Video active reading process



# Outline

- A primer on video annotations
- **Using annotations in video-based e-learning systems**
- Annotation-related challenges
- Experiments to come in the COCo project

# Video-based e-learning activities

Different activities based on

- the nature of the video document
- the status of the annotator
- the status of the recipient



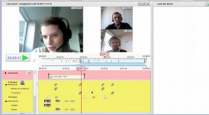
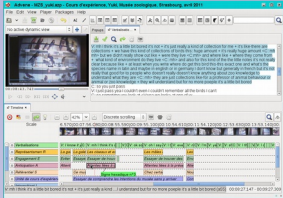
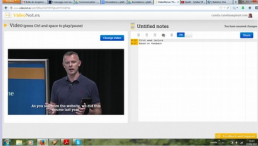


# Annotations created by learners

<i>Recipient Video nature</i>	<i>Self</i>	<i>Peer</i>	<i>Teacher</i>
<i>Learner performance</i>	Reflexivity	Feedback	Auto-evaluation
<i>Course</i>	Assimilation	Collaborative assimilation	Feedback Flipped classroom
<i>Other</i>			Course preparation Application of an analysis grid Summary Analysis

# Annotations created by teachers

<i>Recipient</i> <i>Video nature</i>	<i>Self</i>	<i>Peer</i>	<i>Learner</i>
<i>Learner performance</i>	Notes (for evaluation)	Professional training	Feedback / evaluation
<i>Own course</i>	Reflexivity	Counter-examples	Enrichments (additional material)
<i>Other courses</i>	<ul style="list-style-type: none"> <li>- Concept assimilation</li> <li>- Professional training</li> </ul>	<ul style="list-style-type: none"> <li>- Feedback</li> <li>- Comments / enrichments</li> </ul>	Comments / enrichments
<i>Other content</i>	Assimilation	Comments / enrichments	

# Annotations created by learners

<i>Recipient Video nature</i>	<i>Self</i>	<i>Peer</i>	<i>Teacher</i>
<i>Learner performance</i>	 Reflexivity	Feedback	Auto-evaluation
<i>Course</i>			 Feedback
<i>Other</i>	Assimilation	Collaborative assimilation	 Analysis

# Assimilation - example

Advène - MZS\_yuki.azp - Cours d'expérience, Yuki, Musée zoologique, Strasbourg, avril 2011

File Edit View Player Packages Help

No active dynamic view

Popups Verbalisatio...

V: mh I think it's a little bit bored it's not + it's just really a kind of collection for me + it's like there are collections + we have this kind of collections of birds this: huge amount + it's really huge amount <C: mh> but we didn't really show out like + were they live <C: mh> and where like + where they come from + what kind of environment do they live <C: mh> and also for this kind of the-the little notes it's not really clear because like + at least when you write where do get this bird this-this exact one and what's the species name in latin and maybe in english or in germany I don't know but generally in french but it's not really that good for to people who doesn't really-doesn't know anything about zoo knowledge to understand what they are <C: mh> they are just collections like for a professor of animal behaviour or animal or zoo knowledge + they will understand but for no more poeple it's a little bit bored

C: so you just pass

V: I just pass yea I couldn't even-I couldn't remember all the birds I can't

C: so sometime you look at <V> yes we look at one of <V>

Timeline

Scale 6.570|00:07:56.080|00:08:55.590|00:09:55.100|00:10:54.610|00:11:54.120|00:12:53.630|00:13:53.140|00:

Verbalisations V: I know it y C: V: mh I think it's a V: V: QV: ok so V: oh I say- V: I t V: eve V: n QV: I'm V: ye V: V: st C: V: I th V: V: I d V:

Représentamen R La gale Les oiseaux et es Les mâles Les

Engagement E Éviter Essaye Essayer de trouv Essayer de trouver des Env

Anticipation A Attent Attentes liées à d Attentes liées à la prése Atte

Référentiel S Ce mus Signe hexadique n°3 Chez certa Nou

Unité de cours d'expérien Essayer de comprendre les intentions du musée sans y arriver Cor

Interprétat I

V: mh I think it's a little bit bored it's not + it's just really a kind ... I understand but for no more poeple it's a little bit bored (a55) 00:08:27.147 - 00:09:27.309

# Collaborative assimilation example

The screenshot shows the VideoNot.es web application in a Firefox browser. The browser's address bar displays the URL `www.videonot.es/edit/0B0qrVZAFiy8TNjhreHVVVUdfYkk`. The page header includes the VideoNot.es logo, the user's email `camila.canellas@gmail.com`, and a notification that "You have unsaved changes".


The main interface is split into two panels. The left panel, titled "Video (press Ctrl and space to play/pause)", contains a video player with a "Change video" button. The video shows a man in a dark polo shirt speaking, with subtitles that read: "As you see from the website, we did this course last year." The right panel, titled "Untitled notes", features a list of notes with timestamps: "0:19 First week lecture" and "0:27 Based on feedback". Above the notes is a toolbar with icons for editing and a blue "Share" button.

At the bottom of the browser window, a taskbar shows various application icons, and the system tray displays the name "camila", the time "11:13", and the date "27/09/2013". A "Feedback and Support" button is located in the bottom right corner of the application interface.

VideoNot.es

# Feedback - example

# POLEMIC TWEET



Accueil

Programme

A propos

日本語

Français

English

## Annotations polémiques

Vous n'êtes pas connecté.  
Pour participer, veuillez vous identifier en cliquant ici.

??
==
--
++

Envoyer

Rechercher

1 min.

Cy @cybunk : #enmi ne pas épuisé la confiance en écrivant tout -- contrat assurance catastrophe transparence ...

@vincentpuig : #enmi André Orléan : l'empire de la valeur. La probabilité statistique se mue en certitude mais pas

@nicolasaret : @cybunk RT @GayaneAdourian: J'écoute, je twitte, je storifie, je discute... Manque plus que les

11:24:01 @NicolasLoubet (Nicolas LOUBET) #ENMI RT @PolemicTweet Positionner vos tweet avec -- pour désaccord, ++ accord, == référence, ?? questions #Live bit.ly/rU79fl

11:00


afficher tweet · répondre · retweeter · favori

@GayaneAdourian : J'écoute, je twitte, je storifie, je discute... Manque plus que les

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### Entretiens du nouveau monde industriel 2011

19 décembre 2011

SESSION 1 – HISTOIRE ET ANTHROPOLOGIE DE LA CONFIANCE


Etude des perspectives philosophiques, historiques, théologiques et anthropologiques sur la confiance, pensée dans le contexte contemporain du numérique et de la crise économico-politique, ou en relation avec le développement des processus de grammatisation et des

## PolemicalTweet



# App. of an analysis grid - example

Annotating Academic video - 1.0.0 RC Print Logout



**Annotate on My new Track** Layout Collapse

Write a free text annotation. Use »shift + return« keys to create a new line.

☐ Pause video during writing Insert

Mine ⌕ ⌕ + ☒ Edit mode

Landsc	Weather	Part of
Mt Mountain	Sny Sunny	Mrg Morning
Cty City	Cdy Cloudy	Mdy Midday
Vlg Village	Rai Rain	Aft After-no
Hls Hill	Snw Snow	Evn Evening

+ Create a label + Create a label + Create a label

**Timeline** Filter

	0	10	20	30	40	50
Default						
My New Track		Sr		MI		
		HI:			Fr	

Reset zoom < + - > + Add track

**List** Items visibility Filter Collapse

>	00:00:10	00:00:16	Hls	<span>🔊</span> <span>🔍</span> <span>✏</span> <span>🗑</span>
>	00:00:10		Sny	<span>🔊</span> <span>🔍</span> <span>✏</span> <span>🗑</span>
>	00:00:26		Mt	<span>🔊</span> <span>🔍</span> <span>✏</span> <span>🗑</span>
>	00:00:38		Fresh Salad!	<span>🔊</span> <span>🔍</span> <span>✏</span> <span>🗑</span>

Matterhorn Engage player

# Analysis - example

mediathread

User Name\_3 ▾ Tools ▾ Reports ▾ Help Contact Us

## Projecting American Empire on Film

Assignment ✕  
Class Responses (38)

### 01 Bullet Memo-Birth of a Nation

by User Name\_392, User Name\_619

In a focused paragraph of about 100 (but not more than 125) words, illustrated by at least one (but not more than two) clip(s), totaling no more than four minutes, respond to the following question:

**How can Barthes's *Mythologies* help us analyze Griffith's *Birth of a Nation* ?**

To fulfill this assignment:

1. Watch *Birth of a Nation* and make clips for your analysis (you may make more selections (clips) than you will use in this bullet memo).
2. From the Home page, scroll down to the assignment title "01 Bullet Memo-Birth of a Nation" and click the green "Respond to Assignment" button; or alternatively, return to this assignment window and click the "Respond" button, and write out your answer, incorporating your already-made selections (clips) using the "Add selection to composition" arrow icon in the top right corner of the selection.
3. Make sure you **save your response on the "Published to Whole Class"** level to submit it.

VIEW INSERTED SELECTIONS

COMPOSITION


Published to Class ✕  
Create Instructor Feedback

### Silent Stereotypes and Barthesian Myths

by User Name\_2972

In *Birth of a Nation*, a great deal of the film's spin and message derives from the characters' mythological body language. However, the film seeks to create myths of black men and women in order to create contrasts and further its ultimate message. In the **first extended portrayal of blacks** in the film, their actions and appearances are exaggerated; most of them walk with a hunchback or limp, and clap hyperbolically. This is a method meant to make physical and visual the myth of Black uncivility, a logic repeatedly employed throughout *Birth*. Women are also presented as exaggerated figures — here **lydia brown** Stoneman's housekeeper reacts to Stoneman's edict of equality in a sexual manner, suggesting a Barthesian myth of black female promiscuity and manipulation.

cameron meeting slaves  
from *Birth of a Nation*  
00:14:12/03:31:09



VIEW INSERTED SELECTIONS



# Reflexivity/Feedback - example

The screenshot displays the VISU software interface for a video conference. At the top, a navigation bar includes tabs for 'Accueil', 'Utilisateurs', 'Séances', 'Salon synchrone', and 'Bilans'. The current session is titled '"Les loisirs", enregistrée le 20-10-2011 à 15:14'. The language is set to 'Français', and the user 'S. Serguei' is logged in. The main area shows three video feeds: 'V. Caroline' (left), 'S. Serguei' (top right), and 'A. Belin' (bottom right). A timeline at the bottom indicates the session duration from 00:00:00 to 00:08:51. A red box highlights the timestamp '00:05:17' on the timeline. Below the timeline, a red bar contains the text 'vous voyer / voier'. The bottom section is a yellow workspace with various icons, including a key, a speech bubble, and a document. On the left side, there is a sidebar with 'Comments' and a list of 'Marqueurs' (Markers) for 'S. Serguei', 'V. Caroline', and 'Messages'. Below this, there are sections for 'Documents', 'Images', and 'Videos'.

Visu

# Course enrichment - example

The screenshot displays the LECTO player interface for a lecture titled "Važne teorije i tvrdnje - sažetak". The interface is divided into several sections:

- Top Bar:** Includes the LECTO logo, a "Player setup" tab, and navigation buttons like "Restart Lecture", "Create PSL file", "Create index", "Write notes", "Write links", "Write web", "Write quiz", and "Write FAQ".
- Main Content Area:**
  - Left Panel (Radna površina):** Displays the lecture title and a list of bullet points summarizing key concepts. A yellow arrow points to the word "shemama" in the text. A circled number 1 is next to the first bullet point.
  - Center Panel (Predavač):** Shows a video of a lecturer standing next to a whiteboard. A circled number 2 is next to the video.
  - Right Panel (Predavačeva bilješka):** Contains a text description of lectures. A circled number 3 is next to the text.
- Bottom Panel (Web sadržaj):** Displays a section titled "Meaningful learning" with a list of four points. A circled number 4 is next to the first point.
- Bottom Left Panel (Nastavnikova priprema):** Contains a list of lecture topics. A circled number 6 is next to the title "Važne teorije i tvrdnje - sažetak".
- Bottom Right Panel (Kao):** Contains a list of two points. A circled number 5 is next to the first point.
- Bottom Center Panel (Lisanci):** Contains a list of lecture topics. A circled number 7 is next to the title "Zaključci teorije učenja".

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- **Annotation-related challenges**
- Experiments to come in the COCo project

# Annotation model challenge

- Goals
  - Ensure interoperability
  - Ensure durability
- Support
  - Anchoring now normalized (MediaFragment)
  - From unstructured free-text annotations to semantic annotations

# Semi-automatic annotation challenge

- Many efforts to do automatic generation (Translectures, linkedTV) but not perfect yet
- Provide tools that combine automatic algorithms and correction interfaces

# Interfaces for manual annotation challenge

- Complex activity upon dynamic documents
  - exacerbated by collaboration features
- Device issues (mobile)
- Balance between genericity and specificity

# Hypervideo production challenge

- Authoring environments
- Guided hypervideo production
- Ergonomic (design and interactivity) guidelines

# Annotation-based analytics challenge

- Fine-grained analytics
  - Using explicit data from annotations
- For course re-engineering, reflexivity



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- **Experiments to come in the COCo project**

# COCo project

CominOpenCourseware



# COCo project - goals

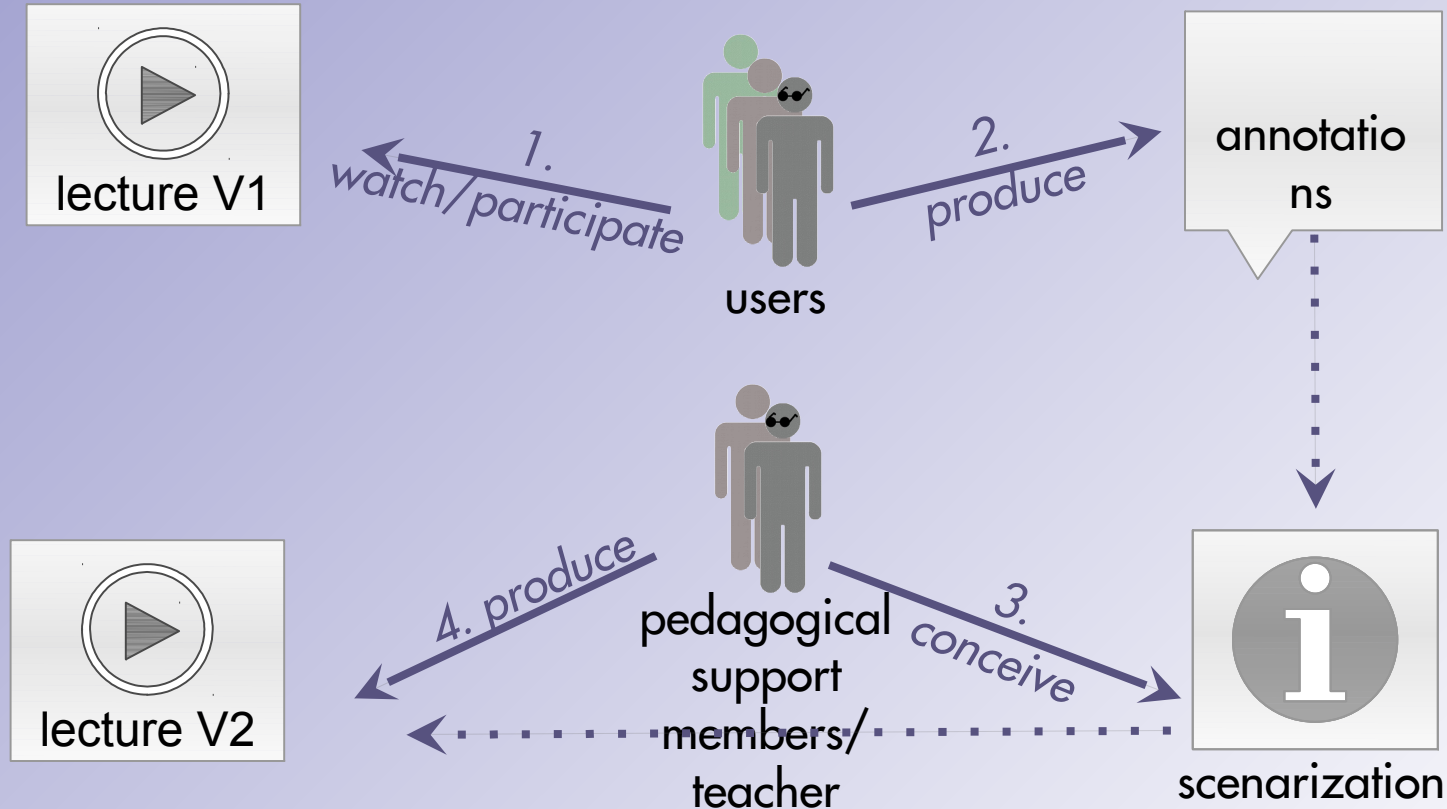
Creating open multimodal, video-centered contents for knowledge diffusion

Experimenting with new techniques for e-learning

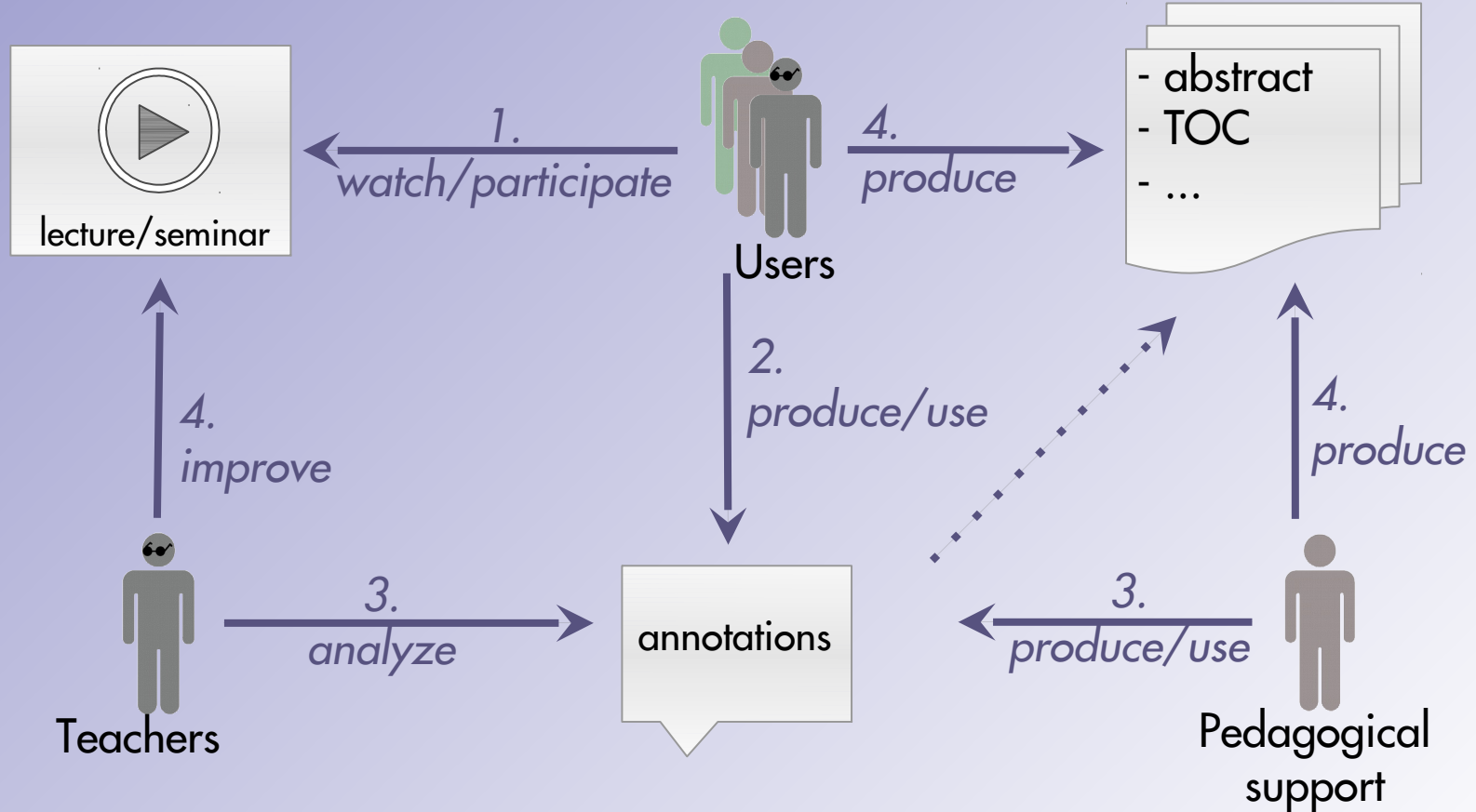
# COCo project - ongoing work

- Live annotation
- Iterative course conception
- Collaborative annotation of pedagogical capsules

# Iterative course conception



# Collaborative course enrichment



# Conclusion

- Many tools and experience on video annotation
- Great potential for promoting **learner engagement** in e-learning systems through a variety of **innovative pedagogical setups**