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Title:

Storytelling in L2 English-medium engineering lectures: A typology

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**Francis Picavet:** Conceptualization, Investigation, Resources, Data Curation, Writing - Original Draft

**Alice Henderson:** Methodology, Validation, Writing - Review & Editing, Supervision

**Erica de Vries:** Methodology, Writing - Review & Editing, Visualization, Supervision

### **Highlights**

- A framework for identifying and categorizing instances of storytelling was designed
- Stories were found in English lingua franca (ELF) English Medium Instruction (EMI) engineering lectures
- The findings contribute to a deeper understanding of the role played by storytelling in EMI-ELF courses

# 1           **Storytelling in L2 English-medium engineering lectures: A typology**

## 2    ABSTRACT

3           This paper presents a framework for identifying and categorizing instances of  
4    storytelling in English lingua franca (ELF) higher education situations, based on a corpus of  
5    English Medium Instruction (EMI) engineering lectures in France. The lectures were  
6    delivered to international students at Master's level, by L2-English lecturers of mixed  
7    nationalities. This research draws on previous studies of oral narratives in general, and in  
8    similar academic contexts, to analyze the 60 hours of video and audio recordings of the  
9    corpus. The framework outlines the identification, categorization and description of stories,  
10   with transcribed extracts from the corpus illustrating the categories. The findings contribute to  
11   a better understanding of the role played by storytelling in EMI-ELF courses and could  
12   benefit lecturers themselves, but also students, institutions and their professional development  
13   policies.

14  
15   Keywords: Storytelling; English-medium instruction (EMI); English as a Lingua Franca  
16   (ELF); Engineering lectures; Pragmatic annotation; Corpus analysis

## 17           **1. Introduction**

18           In higher education institutes of technology, lecturers of content courses (i.e., all  
19    courses other than foreign language courses) commonly have professional experience in  
20    industry or research. To unpack what engineers truly do and think, many lecturers use  
21    narratives based on personal background and professional experience to complement or  
22    illustrate more traditional, bookish, or formalistic content. Thus, stories are a sign of  
23    professional competence (Dyer & Keller-Cohen, 2000).

24 In the wake of the Bologna Process of the late '90s and the creation of the European  
25 Higher Education Area, most European universities engaged in a large-scale  
26 internationalization of their curricula. As a consequence, many institutions moved from using  
27 a national language to a foreign language, mostly English, in course delivery. Such teaching is  
28 commonly referred to as English-medium instruction (EMI) and is done primarily by non-L1-  
29 English lecturers. Since the 2000s, the vehicular language of EMI, or academic English as a  
30 Lingua Franca (ELF), has become a major subject of research, allowing progress toward  
31 descriptive rather than prescriptive approaches (Jenkins, 2013, 2018). ELF is characterized by  
32 its divergence from the L1-English norm in the related linguistic fields of phonology, form,  
33 syntax, communication effectiveness. Moreover, the concept of a 'native speaker' is seriously  
34 challenged by both everyday usage and modern ELF research (Davies, 2003). Divergence is  
35 becoming legitimized, as ELF is gaining its own idiomaticity (Björkman, 2013, pp. 57, 60–  
36 61), and this development impacts EMI in terms of learning outcomes as well as teaching  
37 practices.

### 38 *1.1. EMI, engineering lectures and storytelling*

39 When communicating science to nonexperts, Dahlstrom (2014) recommends the use  
40 of storytelling. A good story contextualizes content and encourages emotional connections,  
41 which may favor learning (McNett, 2016). Landrum et al. (2019) also emphasize 'the  
42 pedagogical power of storytelling' and advise implementing storytelling as an educational  
43 approach, praising its virtue in achieving desired learning outcomes. Finally, Nesi et al. (2021,  
44 p. 25) found more frequent storytelling in experienced lecturers' discourse, in both EMI and  
45 L1 contexts, when content was more complex and abstract. Further, they argue that stories  
46 help lecturers to make sense of their experience, and that narration meets psychological and  
47 cognitive needs, such as breaking from routine or building rapport.

48           Research addresses aspects of storytelling which are pertinent for EMI. For example,  
49   Alterio and McDrury (2003) promote it as a teaching and learning tool and encourage a  
50   ‘storytelling culture’ in higher education. Andrews et al. (2009) go into more detail,  
51   identifying four story-based instructional methods: case-based (learner as an outside  
52   observer), narrative-based (learner within the narrator’s context), scenario-based (learner in an  
53   interactive, real-time experience) and problem-based (learner as the director of learning  
54   activities). Considering the learner’s perspective is also important for Abrahamson (1998),  
55   who stresses the role of stories in reducing depersonalization and promoting critical thinking,  
56   and refers to them as the ‘foundation of the teaching profession’. This may partly be due, as  
57   argued by Gibbs (2014), to the way narratives give force to evidence, anchor experience in  
58   time, enable inferences, and favor appropriation of knowledge. Moreover, Gibbs highlights  
59   the way narratives contribute to “the social transmission of experience” (2014, p. 4). Finally,  
60   Martin observes the social dimension, noting that “both discourses are social ones. They form  
61   community.” (Martin, 2008, p. 53) and explains that storytelling complements traditional  
62   scientific lecture discourse.

### 63           1.2. *Defining the terms ‘story’ and ‘storytelling’*

64           What is a story? According to Genette (1983), a story is an act or an event reported  
65   in text; it relates a transformation through time, or the passage from a previous state to a  
66   resulting subsequent state. Labov and Waletzky’s seminal work (1967) presents an analytical  
67   framework for the analysis of oral narratives of personal experience, defines the basic units of  
68   a narrative, and outlines its ‘normal structure’. What do stories do? For Bruner (1990), a story  
69   organizes experience and is rooted in our ancient heritage. It appeals to the human  
70   organizational predisposition for the narrative form. We will use ‘story’ as an umbrella term  
71   to designate story types and retain the following basic definition of ‘story’: “a description of

72 how something happened, [will happen, or could happen], that is intended to entertain people,  
73 and may be true or imaginary”<sup>1</sup>. The term ‘storytelling’ will designate the act of telling a  
74 story. Finally, a ‘narrative’ is one of the six sub-categories of story types. All the stories  
75 referred to belong only to spoken discourse.

### 76 *1.3. Building an analytical framework for studying storytelling*

77 In this section, we build an analytical framework enabling the identification and  
78 categorization of potential stories. Alsop and Nesi explored storytelling extensively in their  
79 multinational Engineering Lecture Corpus (ELC) (Alsop et al., 2013; Alsop & Nesi, 2014;  
80 Nesi et al., 2014; Alsop, 2015), highlighting the fact that several classifications exist. These  
81 range from ‘classical’ Labovian Narratives (Labov & Waletzky, 1967), to Recounts, Exempla,  
82 Anecdotes (Martin, 2008), Story-Likes (Alsop, 2015), or Scenarios (Nesi & Alsop, 2021).  
83 Labov and Waletzky’s definition of a narrative requires it to include a strict temporal  
84 sequence that can “recapitulate past experience in the same order as the original events”.  
85 However, some researchers have found Labov’s approach too narrow or somewhat selective,  
86 and “an extremely problematic one” (Martin, 2008, p. 44). Martin proposes an extension of  
87 the notion of a single narrative structure by identifying four types of stories: 1. Recount, 2.  
88 Anecdote, 3. Exemplum, and 4. Narrative. Alsop (2015) concurs that Labov’s model is not  
89 fully satisfactory and readily adopts Martin’s approach (2013, pp. 8–9). Nonetheless, to  
90 accommodate field data, Alsop added ‘Story-likes’, and Nesi and Alsop (2021) further added  
91 ‘Scenarios’ (see Figure 1). These story types will now be defined.

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<sup>1</sup> Definition adapted, with additional information between square brackets, from the Longman Dictionary of Contemporary English (online) [accessed June 2022]: <https://www.ldoceonline.com/dictionary/story>

92 Narratives, in the typical Labovian sequence, involve disturbed and restored  
93 equilibrium, and are broken down into six phases: an optional abstract, an orientation, a  
94 complication, a floating evaluation, a resolution and an optional coda. The Labovian analysis  
95 highlights how Narratives are constructed and the functions they perform. It also informs how  
96 narrators perceive, react to, or give shape to events, how they make a point; how they perceive  
97 themselves, or whether they recognize the conventions of storytelling. The evaluation element  
98 plays a major role: it tells the audience what the narrator feels about the events. It can add  
99 more evidence to the overall story and provide moral elements.

100 Three other types of stories (Anecdote, Exemplum and Recount) were proposed by  
101 Martin as an improvement to Labov's classification. Martin argues that Labov standardized  
102 his corpus, narrowing the range of narrative functions and formats, by orienting participants to  
103 relate stories on a single theme and sometimes asking them at the end about what happened  
104 next (2008, p. 44). In Martin's classification, Recounts narrate unproblematic events and take  
105 the form of running commentary. Anecdotes and Exempla narrate problematic events which  
106 are not resolved. Anecdotes tell of unexpected disruption generating emotional empathy,  
107 whereas Exempla deal with a noteworthy incident leading to moral judgement.

108 Alsop's 'Story-likes' deal with events that do not systematically belong to the past,  
109 often having a present-continuous, or permanent character, yet are presented by the lecturer in  
110 a similar fashion to a Narrative (Alsop, 2015).

111 Finally, 'Scenarios' are defined as hypothetical events, when lecturers invite their  
112 audiences "to imagine a fantastic hypothetical situation", in sequences in which they stray  
113 away from the delivery of facts "into the realms of fantasy" (Nesi & Alsop, 2021, p. 25).  
114 These authors report that "scenario-telling is part of the experienced lecturer's repertoire and  
115 is an engaging way of elaborating abstract technical terms, concepts, or arguments central to a

116 disciplinary topic”. Our acceptance of the term ‘scenario’ is broader than that of Nesi and  
117 Alsop, as it includes hypothetical events that are not fantastic.

#### 118 *1.4. Research questions*

119 In response to Jablonkai’s (2021) call for more EMI corpus research, notably using  
120 corpus linguistics methods to analyze educational and professional discourse in EMI contexts,  
121 we aim to build our own corpus to study storytelling. The objective is to find, delineate and  
122 categorize the stories that we hypothesize exist in engineering lectures delivered in English to  
123 international student audiences, by non-L1-English lecturers in an institute of technology in  
124 France. Our study context is pedagogical situations specific to a master’s degree in  
125 Engineering (MEng). Therefore, we address the following research questions:

- 126 (1) How can stories and their boundaries be identified in EMI pedagogical  
127 situations?
- 128 (2) How can the stories, once found, be categorized?

## 129 **2. Method**

### 130 *2.1. Setting*

131 Data was collected in an institute of technology in France because of its variety of  
132 international undergraduate programs. The institute comprises seven colleges of various  
133 engineering branches and a graduate school of management. In 2021-2022, the institute  
134 enrolled 9,000 students, 23% of whom came from abroad. All lecturers in the current study  
135 work in one of these colleges, on degree programs in energy, civil and environmental  
136 engineering. In particular, these lecturers teach in three international MEng courses:

137 Hydraulic and Civil Engineering, Electrical Engineering, Fluid Mechanics and Energy  
138 Systems. The lectures are delivered in English, so the context can be categorized as EMI.

## 139 *2.2. Participants*

140 Fourteen MEng lecturers volunteered to participate in the study. Twenty-eight  
141 lectures were recorded in 12 different engineering subjects (60 hours). The lecturers span both  
142 sexes (three female and eleven male) and all categories of ages and experiences, from  
143 fledgling postdoctoral researchers and assistant professors, to accomplished associate  
144 professors or seasoned full professors. Apart from two Italians and one Romanian, they were  
145 L1 speakers of French.

## 146 *2.3. Data collection and transcription*

147 This study examines storytelling instances found in the Corpus of French  
148 Engineering Lectures (CoFEL), which comprises videos, sound recordings and annotated  
149 transcripts from ELF-EMI engineering lectures delivered to international MEng students,  
150 between fall 2019 and fall 2021. Initially, the lectures were recorded using high-definition  
151 video cameras and sound recorders. However, from March 2020 on, due to the outbreak of the  
152 COVID pandemic in France, most courses were conducted via online platforms. Thus, the  
153 recording of lectures was done online, via the recording function available on those platforms.  
154 The consent of participants was always collected, both from teachers and students.

155 The ELAN annotation software (2022) was used to transcribe and annotate the audio  
156 and video recordings, mixing pragmatic annotation and discourse analysis methods. The video  
157 data helped to disambiguate some unclear audio passages, with accompanying gestures, facial  
158 expressions, chalk-board text, drawings, or slide-shows. The term ‘annotation’ is used for the  
159 identification of pragmatic categories, including storytelling. The transcription of the

160 utterances into written text was done using the VOICE conventions (VOICE, 2007). Below is  
 161 a list of the main VOICE codes used for the CoFEL excerpts.

| Mark-up convention  | Meaning  |
|---------------------|--|
| er                  | Hesitation   |
| the: / the::        | Sustained syllable: 1 second / 2 seconds or more   |
| many MANY years ago | Capitals show insistence / higher voice volume   |
| (ok?)               | Text in brackets: uncertain transcription  |
| on roads- railways  | Hyphen + space: fragment; change of focus in text; enumeration   |
| (4)                 | Number in brackets: pause or elapsing silence, in seconds  |
| @ @ @               | Indicates laughter: one "@" corresponds to moderate laughter (approx. 1 syllable); "@ @ @" corresponds to big laughter |
| {erases chalkboard} | Added contextual information / Transcriber's comments  |
| SS                  | Students (e.g., when reacting noticeably to the lecturer's speech)   |

162

163 Table 1 – Key to abbreviations and codes used in CoFEL (VOICE, 2007).

### 164 3. Identifying storytelling instances in CoFEL

165 Identifying storytelling instances in CoFEL involved three stages: (1) detecting  
 166 typical morphosyntactic story markers in lexis, tenses or personal pronouns; (2) locating shifts  
 167 in stance, in the linguistic register or the pragmatic function; (3) determining the boundaries  
 168 of a story, i.e., where a story begins and where it ends. Based on examples of stories in the  
 169 literature, we selected search terms to identify passages in CoFEL that could potentially  
 170 function as stories (Alsop et al., 2013; Alsop, 2015; Nesi & Alsop, 2021).

171 Firstly, a word search was carried out of sixteen terms likely to be found in the six  
 172 story types:

|         |          |          |             |
|---------|----------|----------|-------------|
| analogy | anecdote | example  | happen      |
| if you  | imagine  | let me   | let's say   |
| picture | say you  | scenario | story       |
| suppose | tell     | what if  | you know if |

173

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Table 2 – Selected search terms to identify potential story passages in CoFEL.

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In addition, we searched for words relating to incidents or accidents in the field of engineering. Items from this lexical field are frequently found in engineering stories (Alsop, 2015). The canonical form of words (lemma) was used in the search, with a tolerance for all inflections of a given word (e.g., ‘catastrophic’, from ‘catastrophe’). The search terms were:

|          |             |            |             |
|----------|-------------|------------|-------------|
| accident | awful       | casualties | catastrophe |
| cause    | consequence | damage     | death       |
| disaster | hurt        | incident   | injury      |
| lives    | problem     | terrible   | tragic      |

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180

Table 3 – Selected search terms relating to incidents or accidents in engineering.

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Tenses other than the various present forms are strong indicators of the presence of a story in a lecture (Alsop et al., 2013; Nesi & Alsop, 2021). Thus, CoFEL was searched for the nine past, future and conditional auxiliaries listed below, including two contracted forms frequently found in oral texts:

|       |      |        |
|-------|------|--------|
| did   | had  | should |
| was   | were | will   |
| would | —’d  | —’ll   |

185

186

Table 4 – Selected search terms relating to tenses other than the present.

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188

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Moreover, by using personal pronouns lecturers address their student audiences directly, and therefore, may indicate the presence of stories. For Luukka, the ‘I’ pronoun signals the presence of the lecturer; the collective ‘you’ indicates the presence of the

190 audience; ‘we’ marks the presence of both; all of these are “signals of interactional attitudes”  
191 (1992, pp. 79–80). Thus, CoFEL was searched for the three pronouns ‘I’, ‘you’ and ‘we’.  
192 When the searches for lexis, tenses and pronouns pointed to the same passage, it was  
193 considered to be a candidate story for further analysis.

194           Secondly, we used Martin’s model (2008, pp. 53-54) to locate shifts in stance,  
195 register or pragmatic function. Building on Bernstein’s work on vertical and horizontal  
196 discourse (1999), the model lists types of shifts within discourse: from scientific to artistic,  
197 technical to accessible, logical to rhetorical, rational to humane, objective to subjective or  
198 institutional to local. A typical shift from exposition to narration is when lecturers move from  
199 presenting rational scientific data to an experienced real-life situation. Such a shift can be  
200 characterized by changes in physical, attitudinal or moral positioning (e.g., moving closer to  
201 the audience, looking for eye contact) and in type of discourse (e.g., from lecturing to building  
202 rapport, entertaining, telling historical facts or anecdotes, or attempting humor). Likewise,  
203 lecturers may interrupt the exposition of scientific content in order to invite students to  
204 imagine themselves in a real-life engineering situation. The first author searched through  
205 CoFEL (video, sound and transcripts) and identified such shifts from scientific discourse to  
206 discourse directly addressing the students.

207           Thirdly, we established the boundaries of the stories. We decided to include the lead  
208 of a story when it was essential to understanding the overall story. In case of rater  
209 disagreement, we decided to set the boundaries so as to include the longer version of the  
210 story. Moreover, some stories contained one or several sub-plots. When a sub-plot was self-  
211 contained, we considered it a separate story. On the contrary, when several sub-plots were  
212 interrelated, they were taken together as one complex story. Some candidate stories were  
213 rejected outright, such as Example 1 which presents a condition (‘if you have’), but lacks even  
214 the rudiments of a plot:

so that's the correct idea. it doesn't really make sense to study the cases corresponding to:  
 velocity which are beyond the: divergent velocity- right- because if you have already  
 broken your: structure then you don't really matter- you don't really focus on the vibration  
 of it. [20200117\_FAC\_SCEN\_10]

215

216

Example 1 – A candidate story (with a condition) that was rejected.

217

To conclude, decisions about the inclusion of a candidate story were made by

218

combining the three steps above. The next section examines how those instances of

219

storytelling were categorized.

220

#### 4. Categorizing storytelling instances into story types

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An analysis grid was developed based on the literature and six types of stories were

222

retained for their likely presence in EMI engineering lectures (Labov & Waletzky, 1967;

223

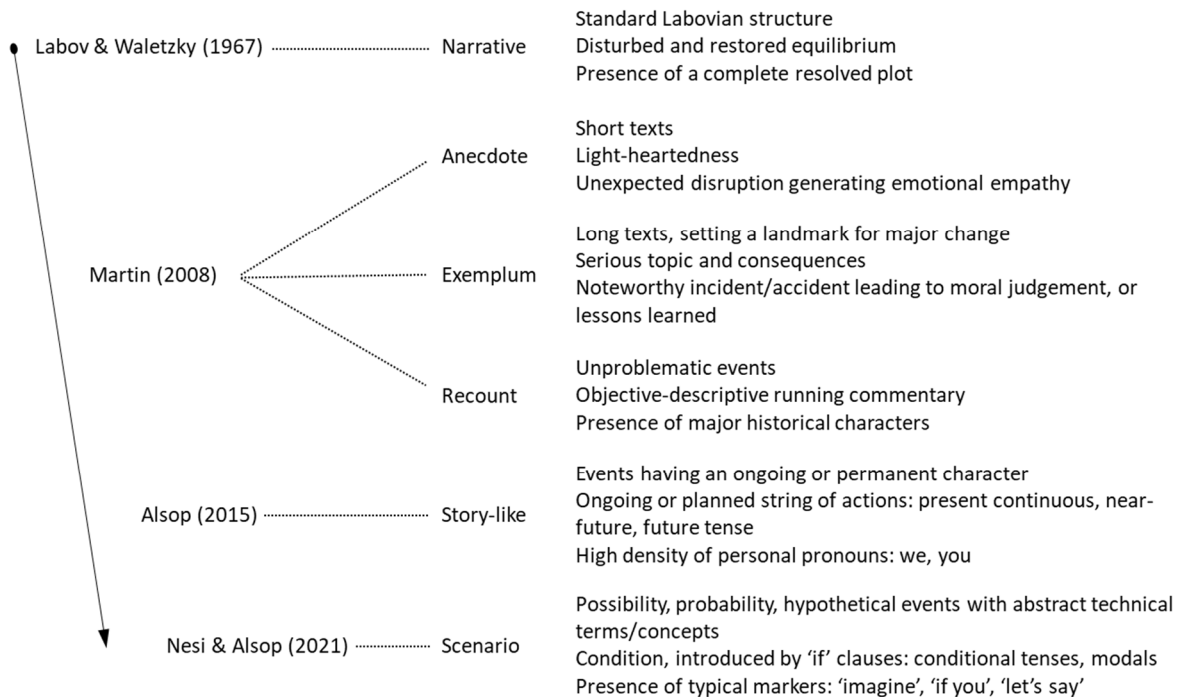
Martin, 2008; Alsop, 2015; Nesi & Alsop, 2021). Figure 1 presents the grid, with specific

224

features for each type, and shows how researchers have built on each other's work to enrich

225

the story typology.



226

227

Figure 1 – The six story types and their features.

228           The three authors/raters independently categorized the twenty lecture passages  
229 containing candidate stories, and then they compared the results in a series of four rounds.  
230 Firstly, two more candidate stories were eliminated. Although they did contain some typical  
231 story markers for a Scenario as in the example below ('we can imagine', 2<sup>nd</sup> line), the topic  
232 did not develop into a plot:

233           the sedimentary rock comes from deposits er of different materials, so we have er layers  
er: so: we can imagine that- that if we: load the layers er: er: perpendicular to the layers or  
on the axis of the layers we don't have the same characteristics, ok?  
[20200213\_ELO2\_SCEN\_10]

234           Example 2 – A candidate story (containing a Scenario marker) that was rejected.

235           Secondly, the raters agreed on eight of the eighteen remaining candidate stories:  
236 three Exempla, two Anecdotes, two Recounts and one Scenario. Two types were absent from  
237 this first list: Narratives and Story-likes. Thirdly, seven candidate stories on which two out of  
238 the three raters agreed were discussed. In most cases, these candidate stories contained  
239 linguistic or semantic inaccuracies due to the use of a foreign language or to weak storytelling  
240 abilities. In some other cases, the decision involved discussing the application of the category  
241 definitions. For example, for one story, we decided that an object (an old farmhouse), rather  
242 than a person, could be the main character of a Narrative. After discussion, full agreement  
243 was reached on three Story-likes, two Anecdotes, one Narrative and one Scenario. Finally, the  
244 remaining three candidate stories were discussed. These cases also involved interpretation of  
245 the category definitions. For example, for one story, we decided that the UK government was  
246 the main historical character in a Recount. The final decisions were: one Exemplum, one  
247 Recount and one Story-like.

248           Thus, the corpus contains 18 stories: four Anecdotes, four Exempla, four Story-likes,  
249 three Recounts, two Scenarios and one Narrative. In the next section, selected storytelling  
250 excerpts from CoFEL will illustrate each of the six story types.

251 **5. Exemplification of the typology: stories found in CoFEL**

252 In this part, we comment upon sample stories found in CoFEL. The lecture  
253 recordings were transcribed orthographically without modifying divergent morphosyntactic  
254 forms. The sign ‘[...]’ indicates non-essential passages (repetitions, hesitations, etc.) that have  
255 been abridged for the reader’s convenience and lack of space. Titles have been given to  
256 stories for easier reference.

257 *5.1. Narratives – The Drôme Farmhouse*

258 A Narrative is defined by Martin (2008, p. 43) as “the relations between events and  
259 feelings”: this is the foundation of the structure, and function, of stories. A typical Labovian-  
260 Martinian ‘narrative’ comprises six stages: Abstract (optional), Orientation, Complication,  
261 Evaluation (floating), Resolution, Coda (optional). We will use this first sample from CoFEL  
262 to describe in detail each of these stages. All the excerpts in this part belong to the same  
263 corpus transcript (2020026\_CAM2\_NAR\_10).

264 **ABSTRACT**

265 This Narrative starts with an Abstract, answering the question ‘What is/was this  
266 about?’ (Gibbs, 2014). This provides a summary of the events or makes a general proposition,  
267 which the Narrative will exemplify. Although optional, this stage is present in the Soil &  
268 Rock Mechanics story below, as well as in most stories in CoFEL. The topic of this excerpt is  
269 the presence of water in soils, whether saturated or submerged, and its consequences:

a soil which is under the groundwater level do not have the same weight as the soil which  
on the top of the groundwater level. [...] i call it effective specific weight because it's  
something which [...] is equal to the saturated volumic weight minus the volumic weight  
of water. [...] ok? i'm going to give you a short example of why it is super important. (8)  
270 {lecturer is erasing chalkboard}.

271 Excerpt 1 – Labovian Abstract example.

272 The lecturer stresses the importance of considering the presence of water in soils for  
273 the construction of houses or buildings, setting the theoretical backdrop for the ‘short  
274 example’ mentioned at the end of this first transcript, the story to come.

275 ORIENTATION

276 The next stage, the Orientation, is indispensable and provides key information about  
277 the time, place, situation and participants of the Narrative. In the next excerpt, the date of the  
278 event is given, “in August 2003”, as well as the location at various levels of granularity, “in  
279 France”, “in the *département* (French for ‘county’ or ‘district’) called ‘la Drôme’”  
280 (southeastern France) and “close to here”. As for the participants, there is “a friend” of the  
281 lecturer, but the real object of the Narrative, a house, also becomes a character in itself, with  
282 “an old house” and “a farmer(’s) house”, the farmhouse. However, most of this Orientation is  
283 dedicated to the description of the event, of ‘what’ happened there, while the lecturer is  
284 drawing a rough cross-section sketch of the scene on the chalkboard. This part of the  
285 Narrative prepares the audience for the Complication that is to come, by building tension or  
286 expectation.

ok well i should tell you a story that i know because it took place where i have a friend  
which is living there. {lecturer is drawing on chalkboard} there are mountains. this is the  
bedrock. ok? and here this is filled with some (sediment) soil. ok? it's close to here. it's er  
in the department called la drôme. ok? and here there is a house. it's an old house made of  
stone. [...]er then if you have a motion there is no resistance to tensile (in fact). so this is  
why we can see a lot of old houses made of stone with big crack- vertical (crack). [...] this  
was a lake in many- (well) many years ago. there is still (2) a groundwater (2) table here.  
ok? and you know what happened in august two thousand and three in france? (you're)  
maybe a bit too young.

288 Excerpt 2 – Labovian Orientation stage example.

289 COMPLICATION

290 Following the Orientation comes the Complication –or Complicating Action– stage.  
291 This stage is also essential and represents the climax of the Narrative, as it introduces the

292 series of events that build the action itself, the problem. It can involve cycles, turning points,  
293 crises or problems, and shows how they were dealt with. In Excerpt 5 below, the lecturer  
294 describes the heat-induced drought of that summer 2003 period ('a climate situation where the  
295 temperatures were too high'), which provoked large cracks in many houses ('you have cracks  
296 of twenty centimeters'), due to the evaporation of the groundwater contained in sedimentary  
297 soils ('the groundwater level moved down'), presumably under the influence of climate  
298 change: 'it was probably the first time in the history of this field'.

there was a climate er situation where the (standard) temperature were too high. ok? during  
all august. ok? so all the groundwater level moved down. ok? [...] er we don't know exactly  
maybe one meter something like that. ok? so what happened? what is the vertical stress that  
compress the soil which is here? it's the stress due to that soil which is let's say wet with a  
given specific weight and that soil which is saturated. [...] so let's say it is- it was here  
twenty kilo newton per meter cube and here it was er ten er kilo newton per meter cube.  
ok? [...] so the weight of this column of soil was higher due to the fact that the groundwater  
level moved down. so the soil which is under here was compressed by the weight that was  
higher. ok? so here it opened. and here {lecturer is pointing to the top of the farmhouse}  
299 you have cracks of twenty centimeters. ok? so the house was very close to- to crash.

300 Excerpt 3 – Labovian Complication stage example.

301 RESOLUTION

302 The Evaluation, Resolution and optional Coda stages come next. The location of the  
303 Evaluation is not fixed: it can come before, after or coincide with the Resolution. In the  
304 excerpts below, it comes after. As for the Resolution stage, it answers the question 'What  
305 finally happened?' (Gibbs, 2014), thus describing the outcome of the events related in the  
306 Complication, or the solution of the problem. It serves as a conclusion to the Narrative. In  
307 Excerpt 7, the Resolution details the rather far-reaching course of actions taken to deal with  
308 the issue at stake: the roof and part of the walls of the farmhouse had to be removed.

so to do that in fact they unbuild the roof. they removed half of the high of the- of the walls  
309 to reduce the weight. ok? and to- to preserve the- the farm.

310 Excerpt 4 – Labovian Resolution stage example.

311 EVALUATION

312 The purpose of the floating Evaluation stage is to highlight the significance, the  
313 meaning or point of the Narrative. Here, the lecturer broadens the picture to the rest of the  
314 country, as the historical drought that year provoked a general, nation-wide lowering of the  
315 level of groundwater tables and aquifers. The consequence for houses in many French regions  
316 was the appearance of sometimes serious structural cracks, when water evaporated and soils  
317 dried out and lowered.

318 but this was- there was a lot of situation like that in france in fact. there was a lot of houses  
where there was a lot of cracks that appears due to this specific er increase in the  
temperature due to the fact that the groundwater table moved down. ok?

319 Excerpt 5 – Labovian Evaluation stage example.

320 CODA

321 As in music, an optional Coda can adorn the end of the Narrative, matching the  
322 question ‘And now?’. Its purpose is to mark the end of the Narrative and to connect the text to  
323 the present or some other Narrative. Here the lecturer finishes by recalling earlier references  
324 in the lecture to Archimedes’ principle (more commonly referred to as ‘buoyancy’ in  
325 English).

326 so this is due to the archimede(s) variation let's say of er the volumetric weight that changes  
due to archimede(s) force.

327 Excerpt 6 – Labovian Coda stage example.

328 This extended, six-stage Narrative fits the “familiar equilibrium disturbed, then  
329 equilibrium restored motif” (Martin, 2008, p. 43) rather well: the events are resolved at the  
330 end of the ‘plot’ and the old, seriously endangered farmhouse is salvaged, albeit at great labor  
331 and cost, in the Resolution stage. The pedagogical potential of this story is high, as a cracked  
332 old farmhouse can be rather easily pictured by students. As successive stages of the story

333 unfold, they may become slightly worried about the outcome: will the house eventually  
334 collapse? Some might even sympathize with the “poor, old house”, and be happy with the  
335 favorable outcome, especially if they experienced a similar situation themselves. The  
336 reference at the beginning to a ‘friend’ of the lecturer anchors the story in reality. The  
337 lecturer’s appeal to the (too) young audience’s own memory about the 2003 drought, in  
338 France, may work in a similar fashion. There is some tension-building when the lecturer  
339 points at the gable end of the house on his drawing and evokes the enormous 20-centimeter  
340 cracks threatening its integrity. The lecturer-narrator gives shape to the event and sees himself  
341 as an expert in the domain, inviting his audience to do the same. The rhetorical style may  
342 persuade current and future engineers of the need to take into consideration the nature of the  
343 soil in relation to climate change.

344           The next sample stories will be described using Labovian terminology, but none of  
345 them will be considered a Narrative, as explained.

## 346           5.2. Anecdotes – *The Untimely Airbag*

347           Martin (2008, p. 44) maintains that Anecdotes and Exempla are stories that contain  
348 an event that is problematized, but not resolved. Alsop (2015) specifies that the distinction is  
349 made at the level of reaction: Anecdotes elicit emotional empathy, whereas Exempla elicit a  
350 moral judgment. From a cultural viewpoint, Alsop found that UK-L1 speakers of English in  
351 the ELC often have recourse to the type, more than L2 speakers. Moreover, although  
352 Anecdotes may have quite serious topics, “the costs of the described complications are not  
353 grim and/or do not have serious/negative consequences” and they “introduce concepts in an  
354 entertaining and memorable way, rather than in elaborate or technical detail” (2015, p. 268).

355           The Anecdote reported below, from a Power Electronics lecture, corresponds to the  
356 above description: potentially serious incidents in a German car, due to the untimely inflating

357 of airbag cushions. We categorized it as an Anecdote, not an Exemplum, as although it could  
358 have had serious consequences (e.g., a car accident), none are reported. There is no ‘moral  
359 judgement’ either, contrary to the Exemplum about a burst dam described in the next part.

360 Abstract

ok er electromagnetic compatibility can be separated into emission and susceptibility. the  
emission represents the capability that the electrical device has to disturb some electrical  
equipments and this disturbance can be achieved through either the wires- that’s conducted  
emission- or through the air- through electromagnetic wave which is er radiated emission.  
on the other hand the electronic devices can be disturbed through either the wires- that’s  
conducted susceptibility or through the electromagnetic waves- that’s radiated  
361 susceptibility.

362 Orientation

so this er science of electromagnetic compatibility started in the late eighties er: or a bit  
earlier in the seventies er because of the first disturbance which were er encountered by  
363 people.

364 Complication

of course the world becomes more and more electrical and more and more electronics and  
we had a lot of er new issue er which (have) been er- er reported in the literature. er i told  
you already i think that er a german car had a lot of safety airbag(s) and when you turn your  
light(s) on er it generate(s) the- the starting of the airbags (@) which is of-obviously very  
365 er uncomfortable for the driver.

366 Evaluation

and that was er due to the proximity of two wires too close together. the wire of the sensors  
367 of the airbag and the wire of the light(s).

368 Excerpt 7 – Anecdote example (20210104\_SAJ\_NAR\_20).

369 This Anecdote opens with an abstract exposing general-purpose definitions and  
370 remarks on the electromagnetic compatibility (EMC) of electronic devices. It is delivered in a  
371 light-hearted manner, with a humorous twist to it (‘the starting of the airbags [...] is obviously  
372 very uncomfortable for the driver’), as a car cannot be driven with inflating airbags. This  
373 Anecdote example lacks a resolution stage, a shared feature with Exempla. Like the preceding  
374 Recount, it illustrates the pedagogical potential of stories rather well: it is anchored in time  
375 (‘in the seventies’); it relates to commonly shared objects and knowledge (a ‘car’ as a vehicle

376 and ‘airbags’ as standard equipment in all modern cars); it inserts situational humor into the  
377 lecture, perhaps to provide a brief, light-hearted interlude during an otherwise serious lecture.

### 378 *5.3. Exempla – The Malpasset Dam Disaster*

379 Exemplum is one of Martin’s four story types (2008), reporting on noteworthy  
380 incidents and entailing a moral judgement. In both the ELC and CoFEL corpora, that notion  
381 of judgement extends to matters which are scientific. In this type of story, lecturers tend to use  
382 longer strings of text, giving a greater wealth of detail, perhaps driven by the compelling  
383 concluding judgment of a serious incident or catastrophic disaster. The events reported in the  
384 type contain complex or far-reaching ‘complicating action’ stages. Moreover, such events  
385 spur major changes in engineering techniques or approaches. Classical themes developed in  
386 those stories include financial or health-and-safety responsibility. A keyword analysis shows  
387 that Exempla are located where engineering structures are built or operated, staging “scenes in  
388 which the themes of death and mutilation are strongly linked to situations in which students  
389 may find themselves during their future careers” (Alsop, 2015, p. 264). It could be argued that  
390 lecturers use the Exemplum type of story to help students to picture themselves in a  
391 professional position, with great responsibility for themselves, their teams, or populations in  
392 general.

393 The lecture excerpt below is about the catastrophic dam burst at Malpasset, in  
394 southeastern France. The Malpasset Dam was an arch dam on the Reyran River, located a few  
395 kilometers north of Fréjus, on the French Riviera. It collapsed in December 1959, killing over  
396 400 people in the resulting flood and causing damage estimated at €56 million (US\$68  
397 million). This lengthy story is presented using the standard Labovian breakdown to make it  
398 easier for the reader to grasp. However, its dramatic content, the fact that it set a landmark for

399 major changes in rock mechanics approaches and led to the learning of lessons for future  
400 engineering projects does categorize it as an Exemplum.

401 Abstract

so rock mechanics is a quite young science and er: events in the sixties er highlight the lack  
of knowledge on rock mechanics and er because of a lot of large works that was built in  
402 the post war investment plan. [...] so one of the event is the malpasset dam failure.

403 Orientation

so mal- malpasset dam is an arc(h) dam that was built er by er andré coyne which was a  
famous engineer in the dam design. [...] so at this period er it was because a lot of dams  
that was built. it was a period of improvement on the design method and the arc(h) dam  
was thinner and thinner and the malpasset dam was really thin. [...] the aim of this dam is  
the water supply of fréjus and saint raphaël- the two towns in the south east of france. [...] the  
end of the building of malpasset dam was in nineteen fifty four. [...] one of the problem  
yes was that there weren't rains enough and really less than the one that was expected when  
404 they designed the volume of the water storage. so the level of the lake was quite low. [...]

405 Complication

and during december nineteen fifty nine er there were a lot of intense rainfalls and so the  
level grew up really fast and er: reached the: highest level of the dam. and unfortunately er:  
with this high level of water er the dam collapsed and especially on the left part of the dam.  
and millions of cube meter flew on the downstream of the dam and er: there were a lot of  
406 damage on roads- railways- building(s)- and there were more than four hundred er deaths  
in fréjus and saint raphaël.

407 Resolution

er after this failure er there were a lot of studies to: explain what happened. and the  
conclusion of this study was that there were a problem on the: foundation on the rock mass  
on the left bank of the dam. er there was a large fault that was not expected when the dam  
was built. [...] so then er the block on which the dam was er founded er slid and then  
408 failed. so all the water could er get out of the dam on the downstream part of the dam.

409 Evaluation

so at this period techniques to er: investigate the rock mass before building any dam were  
not really developed and er: the focus was more on the structural design of the dam than  
410 on the foundation characteristic of the rock mass.

411 Coda

412 so after this disaster er: there were a lot of studies on the rock mass characteristics and a lot  
of improvement in the investigation techniques er especially to know the characteristic of  
deep part of the rock mass. and today er in such situation the fault of malpasset would have  
413 been known before building the dam.

413 Excerpt 8 – Exemplum example (20210210\_ELO\_NAR\_20).

414 In recounting the dreadful Malpasset disaster at length, the civil-engineering lecturer  
415 may be attempting to impress an ingenuous student audience and to convey a powerful sense  
416 of responsibility for the future decisions and actions. There is a clear moralizing intention, as  
417 the engineers of the time did not have the knowledge necessary to detect the presence of an  
418 underground rock fault, with dramatic, far-reaching complicating consequences and hundreds  
419 of casualties ('today [...] the fault of Malpasset would have been known before building the  
420 dam'). The lecturer highlights the potentially horrific consequences of a lack of expertise or  
421 preparation on the part of professionals. The story also insists on the rock mechanics  
422 experience acquired in the aftermath of the disaster ('after this disaster, there were a lot of  
423 studies on the rock mass characteristics and a lot of improvement in the investigation  
424 techniques'). This is another typical feature of Exempla: explaining how dramatic events may  
425 trigger major changes in the field.

#### 426 *5.4. Recounts – The Seven Bridges of Königsberg*

427 Recounts tend to be straightforward and rather concise, usually containing neither  
428 complication nor resolution. This story type is meant to be informative, chronological and  
429 merely descriptive of a series of events with which the lecturer will usually keep a distance.  
430 Martin states that the Recount type depicts 'unproblematic events', in a 'running commentary'  
431 (Martin, 2008). In Alsop's definition (2015, p. 259), the lecturer-engineer "conveys  
432 information about events in the past in chronological order". The type is characterized by any

433 combination of the three basic components (places: Where? – people: Who? – engineering  
434 structures: What?) and Alsop insists on the frequent presence of renowned historical  
435 personalities.

436 Excerpt 9 is a clear example of the Recount category, as it matches the criteria above  
437 perfectly. It invokes the famous 18th-century Swiss polymath, Leonhard Euler. Euler made  
438 influential discoveries in many branches of mathematics, such as infinitesimal calculus or  
439 graph theory. As such, Euler fits rather well in the ‘major historical name’ (Who?) category.  
440 Likewise, engineering structures are referred to, here the “Königsberg Bridges” (What? –  
441 Where?). They are invoked more as a well-known mathematical problem (known as “The  
442 Seven Bridges of Königsberg”) than for their structural design. The city of Königsberg in  
443 Prussia (Kaliningrad, in today’s Russia) was established on the Pregel River over two large  
444 islands. These were connected to each other and to the mainland portions of the city by seven  
445 bridges. The problem is to devise a pathway through the city that crosses each of those  
446 bridges once and only once. In the example below, the lecturer addresses the issue of the  
447 complex management of the electrical-power grid through modern computer science, a  
448 metaphor derived from Euler’s graph theory. This is acknowledged in the second paragraph.

449 complex networks is an evolution of the graph theory. er all of you know er graph theory  
er that is starting from leonhard euler when he had to solve the problem of königsberg  
bridges. er: is he able to go to every part of the city er going through one bridge only. in  
fact he built a mathematical theory around it just to prove that it was impossible. this is  
what we did use er till nineteen sixty with random graph theory. somehow we had a lack  
of er- interest in graph theory just because the problem were becoming larger and larger  
and we didn't have the er- let's say- the computation ability to solve them.

450 and so in parallel we need to add a new field that is computer. and thanks to the er big  
database the er processing power that was increasing more and more. in fact complex  
network theory appears er in the late nineties with small world networks and scale free  
networks. and this complex network theory er was really helpful for instance to study er  
typically social medias and pandemic situation.

451 Excerpt 9 – Recount example (20200820\_PAC\_NAR\_30).

452 Excerpt 9 illustrates the didactic value and pedagogical potential of stories for three  
453 reasons: a) it provides chronological anchoring ('till 1960'); b) it contextualizes knowledge  
454 and experience (Euler's graph theory evolving into modern complex networks, with the  
455 development of computer science); c) the metaphor (bridge route / complex networks) is  
456 likely to stick with the students, to favor new knowledge appropriation, with an emphasis on  
457 problem-solving.

#### 458 *5.5. Story-likes – The Bubbles (a cable-car)*

459 According to Alsop (2015, Chapter 7.4.5), the pertinence of Story-likes to  
460 engineering domains is that they directly orient towards the future: these quasi-stories act as  
461 an invitation to learn and join the engineering community. Dealing with unreal events like  
462 Scenarios, they differ from them by using hypotheses or plausible predictions, not purely  
463 imaginary, fantastic conceptions. Lecturers do this with caution, awareness and scientific  
464 judgement, considering the huge responsibility that designing and building a dam, a nuclear-  
465 power plant or a cantilever bridge represents. Alsop argues that Story-likes enable lecturers to  
466 embrace their expert roles vicariously, acting as mediators between the lay and professional  
467 worlds. Scientific and engineering knowledge is made accessible and young aspiring  
468 professionals are more likely to remember the content.

469 This excerpt does not qualify as a Narrative, because of its dominant present and  
470 future tenses, permanent character, and direct-address to audience style, with numerous  
471 personal pronouns (the transcript below maps the distribution of personal pronouns 'I', 'you'  
472 and 'we', showing their rather high density). Yet, the excerpt breaks down – imperfectly –  
473 into a Labovian structure and is thus a legitimate Story-like. We segmented parts of the  
474 excerpt using the Labovian approach, for the reader's convenience. We also introduced three

475 extraneous stages, Questioning, Humor and Exemplifying, to describe non-Labovian strings  
476 of text.

477 Abstract

er so one thing that can be interesting when [you] make surveys is to extract the soil to  
identify the different soils. [...] also because depending on the distance between the ground  
and the bedrock [you] can then select the kind of foundation that [you] can use for er- for [your]  
478 building.

479 Questioning

480 do [you] have an idea of the distance between our feet and the bedrock?

481 Orientation

[...] here [we] have two river(s). [we] have drac over there [we] have isere over there. the level  
is not the same. so drac is higher than isere. so there is a flux of water from one river to  
another one. this clean everything. ok? [...] [we] have some er- [we] have some clean gravel  
482 and after in fact [we] have big layers of silt and (clays). ok?

483 Questioning

484 do [you] have an idea of what there was here in that valley many many MANY years ago?  
[...]

485 Complication

yes there was some ice (4) it dig the rocks ok? [...] after everything melt there was some  
lakes and so on ok? so there was a deposit of sediment ok? this is why [we] have a lot of clay  
486 ok?

487 Questioning

488 do [you] have an idea of what [we] have here under our feet?

489 Humor

so [i] would suggest something. if [you] don't like sport [you] go to bastille with the bubbles  
{lecturer imitates sound of cable car going up} [you] climb up and [you] move down by  
490 walking. it's more easy than the opposite (actually). {SS: @@@}

491 Resolution

and when you will move down you will see that there are big panels that explain the geological context of the site. ok? and you will see that in the eighties they make a big survey close to the campus to see where is the bedrock. six hundred meters. ok? so we have something four hundred meters- or maybe more- five hundred meters of clay- silt and after-  
492 the last meters- it's gravel and so on. ok?

493 Exemplifying

so for example when they built the synchrotron [...] this is typically a building that you don't want any motion of the soil because if the electrons at three thousand kilometers go outside the ring we can have problems. so they made a very important survey concerning the soil and studying everything and they- in fact all the building is build on jack [...] to correct everything to be sure that if it moves [...] all the electrons are going in the good direction.  
494

495 Evaluation

so it's very important to identify everything and to have a first idea of what is the site. [...]  
496 ok?

497 Excerpt 10 – a) Illustration of similarity of some non-Narrative text strings to the

498 Labovian structure. b) Mapping of personal pronouns 'I', 'you' and 'we'.

499 (20200206\_CAM\_NAR\_10).

500 Using a finer-grained analysis, it becomes apparent that by using the present or  
501 future tenses, the lecturer seems to relate content directly to the students' own knowledge,  
502 interests or environment. Analogy or direct reference are used, rather than hypothesizing or  
503 theorizing, e.g., the passage “and when you will move down [sic], you will see that...” found  
504 in the Resolution section of the transcript. Like for Alsop (2015), in CoFEL sub-plots or sub-  
505 stories are sometimes embedded in the larger self-contained Story-like, as in this example.  
506 These can even be shorter, ‘real’ stories in which past tenses are used, such as in the  
507 Questioning-Complication, or Exemplifying, stages.

508 The strong interactional appeal is also evident in how the lecturer addresses the  
509 students in a very direct manner. For example, within the 681-word excerpt the lecturer uses  
510 the personal pronouns ‘you’ (20 occurrences) and ‘we’ (15). The ‘you’ pronoun is only found

511 in its plural form here. It is much more frequent in the Story-likes than in the previous types.  
512 The ‘you’ set can be divided into two subsets corresponding to two distinct functions of the  
513 pronoun: the first one is the generic form, close to the indefinite pronoun ‘one’ (“when you  
514 make surveys”); the second serves as a direct address to the student audience, collectively  
515 (“do you have an idea of...”). A limited number of the ‘I’ pronoun is found here (6  
516 occurrences), signaling the “presence of the lecturer”, whereas the collective ‘you’ indicates  
517 the “presence of the audience” and ‘we’ marks the “presence of both”. All of these are,  
518 according to Luukka, “signals of interactional attitudes” in interpersonal metadiscourse (1992,  
519 pp. 79–80). That ‘metadiscourse’ describes elements that are used for interactional  
520 management and textual organization, in oral or written texts. Ädel reinforces this point: ‘you’  
521 “clearly refers to the audience, and the units are used to direct the audience’s attention and  
522 influence their interpretation of the ongoing discourse.” (2010, p. 81). This density of personal  
523 pronouns suggests a strong desire on the part of the lecturers to involve their students in the  
524 actual delivery of content, to make them feel that they belong to the community of engineers.  
525 The tentative use of humor serves a similar purpose, providing cognitive respite from  
526 concentrating on otherwise serious content.

## 527 *5.6. Scenarios – The behavior of unsaturated soil & electromagnetic interference*

528 According to Nesi and Alsop (2021), when lecturers have recourse to Scenarios, they  
529 choose to describe ‘imagined contexts’. They link the lecture subject matter to imaginary or  
530 surprising situations, inviting their audience to visualize scenes or actions. They argue that  
531 Scenarios engage the lecturers and their student audiences in the construction of mostly  
532 imaginary dialogues (ibid.), via the use of imperatives, personal pronouns, conditionals and  
533 imagined direct speech. Imperatives like ‘imagine’, ‘suppose’, ‘let’s say’ involve the  
534 audience, as do first- and second-person pronouns like the non-generic ‘you’ or the inclusive

535 ‘we’. If-clause conditionals, which may co-occur with ‘so’ or ‘due to’, guide listeners through  
536 a thought experiment. We emphasize that our acceptance of the term ‘scenario’ is not  
537 restricted to ‘fantastic’ events, and is thus broader than that of Nesi and Alsop.

538 Two samples of Scenarios from CoFEL are presented below. The first comes from a  
539 Soil Mechanics lecture on ‘soil moisture’ – the water content of a soil – and ‘capillary action’  
540 – the behavior of a liquid flowing in narrow spaces, also called ‘capillary bridges’. Here the  
541 lecturer asks his students to use their imagination and picture the scene, the ‘hypothetical  
542 event’: the presence of some soil and the interstitial water it contains. The lecturer supports  
543 his depiction with a drawing on the chalkboard. The last three sentences constitute the  
544 necessary coda, “functioning as a commentary on its current relevance” (2021, p. 11). In this  
545 first example, almost all of the content and morphosyntactic Scenario markers enumerated  
546 above are present and have been boxed, for easier reference.

concerning the behavior of unsaturated soil it's something which is very complex. if you  
imagine that you have a soil. ok? {lecturer is drawing on chalkboard} this is the level of  
the soil. at a given depth you have groundwater. ok? so here you have the grains  
everywhere- ok? er this part of the soil will be said to be saturated. ok? here we have a zone  
of the soil that will be wet but unsaturated. ok? and maybe part of the soil that will be more  
or less dry if you assume that there wasn't any rain. while you have these in fact you have  
a kind of transition zone here due to the capillarity. [...] the- first specific point is that er  
when you have a soil which is saturated the water can flow and is free to move. when you  
have drains with a soil that is not saturated then you will have some capillarity effect and  
you will have liquid bridges- let's say. ok? <FRENCH> des ponts liquides </FRENCH>  
547 and this water in fact will be glued to the grain and will not be free to move. ok?

548 Coda

so this is why when we have a soil that is saturated we say there is some free water. and  
549 when you have a soil which is not saturated then you have some absorbed water- ok?

550 Excerpt 11 – First Scenario example (20200206\_CAM1\_SCEN\_10).

551 The second sample of a Scenario from CoFEL comes from a Power Electronics  
552 lecture on ‘electromagnetic interference’ (here divergently referred to as ‘diaphony’ after the  
553 French term *diaphonie*). The lecturer is questioning his audience about the relevance of

554 'shielding' a circuit by asking them to "imagine" the potential use and effect of a metal shield.  
555 Here, the Scenario markers are 'imagine', the non-generic 'you' and recourse to the epistemic  
556 modals 'may' and conditional 'could', which reinforces the 'hypothetical' situation. The  
557 necessary coda can be found in the lecturer's question and its potential resolution by the  
558 students.

in general application you have power routes which are generating a high (electric field)  
and to have signal routes which are sensitive to the capacitive diaphony. so very often (you)  
find some (cabling) rules which impose to separate power and signal routes- of course. if  
you cannot separate the routes- so here you have again the first (signal) line which is  
excited by disturbance voltage and here it's your victim. what about shielding? you could  
imagine put a metal shield between the two lines because er from maybe your basic  
(remembrance) of maxwell('s) equations you may imagine that it may be interesting for  
you to have a kind of shield which would prevent the electrical field er (from) flowing from  
559 the line one to line two. [...]

560 Coda

so the question is this one. is the metal shield effective in the situation here? and you will  
561 be asked to answer by yes or no.

562 Excerpt 12 – Second Scenario example (20201016\_SAJ\_SCEN\_10).

563 By linking the lecture topic to imaginary or surprising situations, encouraging their  
564 audience to visualize scenes or actions, lecturers may be seeking to help learners to engage  
565 with the information and retain it (Nesi & Alsop, 2021, p. 24). Scenarios are also used to  
566 explain or illustrate technical vocabulary, or to introduce key complex, or highly abstract  
567 concepts of the discipline. Their pedagogical potential is therefore very high. As Malmström  
568 et al. remark, highlighting the role of terminology in content courses, "what content teachers  
569 teach is in a way the concepts underlying the terminology of the field" (2017, p. 4). Yet, they  
570 also add that, in the fundamental field of terminology, the EMI lecturers they observed had "a  
571 limited repertoire" of strategies for drawing attention to new terminology (2017, p. 12).

572           **6. Conclusion and perspectives**

573           This study of storytelling in French EMI lectures shows that some lecturers do  
574 explore the realm of storytelling, albeit infrequently, straying occasionally from authoritative  
575 facts or established findings in their lecture content. Using proven story markers, twenty  
576 candidate stories were found in CoFEL and eighteen of them were identified as stories. Then,  
577 those stories were delineated and categorized by three raters into the six story types retained  
578 from the literature, with at least one representative for each type: Narrative, Anecdote,  
579 Exemplum, Recount, Story-like and Scenario. This typology could serve as a paradigm for  
580 more comprehensive data mining of CoFEL as well as other corpora, which would facilitate  
581 the comparison of stories in L1 and L2 lecturing contexts.

582           The excerpts which were analyzed illustrate how the lecturers strive to involve their  
583 audiences, for instance by using interactional language, exploiting direct-address personal  
584 pronouns, integrating engaging imperatives, like ‘imagine’ or ‘suppose’, and evoking personal  
585 or professional experiences. Additionally, divergent ELF lexical or morphosyntactic forms  
586 were found in the discourse of some of the lecturers. While this might abate the effect that a  
587 good plot, a captivating topic or a humorous account can have on listeners, we nonetheless  
588 would argue that the use of stories in a lecture does not depend on perfect mastery of the  
589 language.

590           This exploratory study has its limitations, perhaps most notably the fact that  
591 switching to massive online teaching because of the 2020 pandemic may have impacted the  
592 use of stories in virtual classes, because of the loss of proximity and, therefore, lowered  
593 empathy. However, the primary goal has been met, as the results confirm the presence of  
594 several types of stories in the CoFEL corpus of EMI lectures. While the multimodal  
595 recordings have not yet been fully exploited, future analyses of audio and visual cues could  
596 provide more detail about when and how lecturers adapt their attitude, tone and speech rate to

597 tell a story. A finer analysis of the stories could inform a template for each story type, and this  
598 could be used by lecturers and their trainers to raise awareness of story types and to incite  
599 reflection on their pedagogical potential. The story templates could be adapted for specific  
600 subjects and be incorporated into lecturers' skill sets. Moreover, the divergent morphosyntax  
601 encountered in the story samples also merit analysis, as EMI lecturers and international  
602 students may be disoriented by idiomatic, cultural or idiosyncratic differences. There may  
603 also be a potential link between the lecturer's language level, or degree of experience, and  
604 their propensity to tell stories. Finally, the lecturers who participated could be interviewed to  
605 explore their awareness of the potential of storytelling. Those who do not use stories could be  
606 invited to try, and linguistic or pedagogical assistance could be offered.

607         Future research could focus on storytelling skills in different contexts. It could be  
608 useful to compare similar corpus data from other countries, to explore cultural differences,  
609 with either L1 or L2 lecturers. Exploring storytelling at other educational levels and  
610 examining disciplinary fields other than engineering could be valuable. In a comparative  
611 approach between nomothetic (sciences) and idiographic (humanities) disciplines, Björkman  
612 (2008, p. 120) suggests that, in the former "language is used to report results" whereas the  
613 latter "construct results through language". Moreover, training programs could be developed  
614 to support an intentional approach to stories. Together with Ege et al. (2022), who analyzed  
615 seven Turkish lecturers' "strategic discourse behaviors" and their functions, we found that  
616 lecturers "encountered many linguistic challenges due to a lack of fluency", especially  
617 concerning lexis, and that they could "adopt more conscious discourse strategies". The  
618 intentional recourse to storytelling could be one such strategy. Training programs could focus  
619 on difficult-to-explain terminology and concepts and consider stories to convey them more  
620 effectively. Such programs could be studied in engineering or broader higher education

621 contexts to see whether stories help to connect with an audience and build rapport through  
622 emotional and social experiences.

623 To conclude, in today's world of rapid communication and shared science,  
624 engineering lecture content is likely to be quite similar across countries, regardless of the  
625 lecturer's origin or country in which they work. If research confirms the pedagogical  
626 usefulness of storytelling in such instructional contexts, we would favor institutional support  
627 for professional development, so that lecturers could increase their awareness of the value of  
628 storytelling and exploit stories more frequently in their lectures. With some preparation and  
629 minimal practice, storytelling could be added to lecturers' skills, which could benefit students  
630 as well as lecturers.

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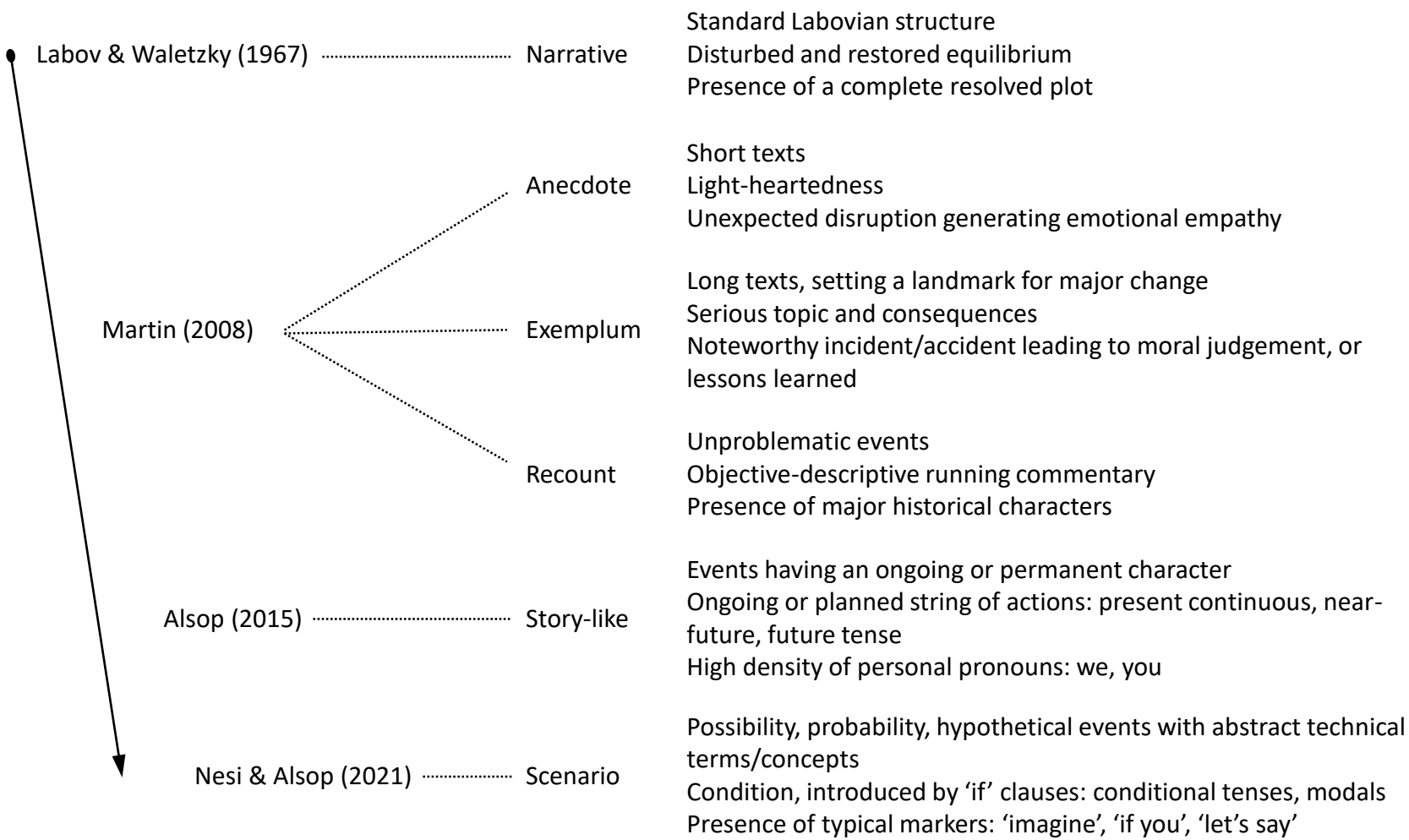
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| Mark-up convention  | Meaning  |
|---------------------|--|
| er                  | Hesitation   |
| the: / the::        | Sustained syllable: 1 second / 2 seconds or more   |
| many MANY years ago | Capitals show insistence / higher voice volume   |
| (ok?)               | Text in brackets: uncertain transcription  |
| on roads- railways  | Hyphen + space: fragment; change of focus in text; enumeration   |
| (4)                 | Number in brackets: pause or elapsing silence, in seconds  |
| @ @ @               | Indicates laughter: one "@" corresponds to moderate laughter (approx. 1 syllable); "@ @ @" corresponds to big laughter |
| {erases chalkboard} | Added contextual information / Transcriber's comments  |
| SS                  | Students (e.g., when reacting noticeably to the lecturer's speech)   |

Table 1 – Key to abbreviations and codes used in CoFEL (VOICE, 2007).

|         |          |          |             |
|---------|----------|----------|-------------|
| analogy | anecdote | example  | happen      |
| if you  | imagine  | let me   | let's say   |
| picture | say you  | scenario | story       |
| suppose | tell     | what if  | you know if |

Table 2 – Selected search terms to identify potential story passages in CoFEL.

|          |             |            |             |
|----------|-------------|------------|-------------|
| accident | awful       | casualties | catastrophe |
| cause    | consequence | damage     | death       |
| disaster | hurt        | incident   | injury      |
| lives    | problem     | terrible   | tragic      |

Table 3 – Selected search terms relating to incidents or accidents in engineering.

|       |      |        |
|-------|------|--------|
| did   | had  | should |
| was   | were | will   |
| would | —'d  | —'ll   |

Table 4 – Selected search terms relating to tenses other than the present.