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Stories and scenarios: lecturers' use of fantastic hypothetical events

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Abstract

A number of studies have examined the occurrence of stories in lecture contexts, and have suggested that stories can encourage student engagement and the acquisition and retention of lecture information content. Some of these studies have analysed story structures in terms of Labov and Waletzky's model (1967) or the more elaborate model developed by Martin (2008). Such models work well for stories that recount events that took place in past time, but they do not capture another type of story, the hypothetical scenario, sufficiently well. Drawing on prior research into stories in lecture discourse, and 'Imagining Scenarios' (Ädel 2010, 2012), we identify and describe passages in lectures where listeners are invited to imagine a fantastic hypothetical situation. Scenario identification criteria were developed, and examples were extracted from the British Academic Spoken English (BASE) corpus, the Engineering Lecture Corpus (ELC), and the Michigan Corpus of Academic Spoken English (MICASE). Novice EMI lecturers may understandably be nervous about straying away from the delivery of facts and into the realms of fantasy, but our findings suggest that scenario-telling is part of the experienced lecturer's repertoire, and is an engaging way of elaborating abstract technical terms, concepts, or arguments central to a disciplinary topic.

Keywords

lecturer training; story; scenario; corpus analysis; EMI; lectures

1. Introduction

Why do we have lectures, rather than delivering syllabus content in written texts and using all contact sessions for practice and application? It is probably because lectures have additional pedagogical strengths that written course materials do not share. Their seemingly spontaneous nature makes lectures a more social activity, more open to the expression of the educator's own personal attitudes, and perhaps with greater power to engage. The British Academic Spoken English (BASE) corpus, for example, contains conversation-like behaviours such as gossip, found to encourage intra-organizational cooperation (see, for

example, Wittek et al. 2000). In lectures these kinds of behaviour are used to capture attention, establish disciplinary norms, and involve listeners in a shared endeavour (Nesi 2012); their presence is a strong indication that lectures fulfil a broader range of purposes than simply the transmission of information.

Humans are naturally disposed to interpret experiences in story form (Bruner 1990), and interpret the world through character, action and interaction (McNett 2016). Much of the research into story production in Higher Education has focussed on student retellings of personal experiences (e.g. Sherwood 2019), or interviews, blogs, and acknowledgements which provide details of academic lives (e.g. Hyland 2018). Stories produced by academics in their lectures are sometimes treated solely as entertaining interludes, for example by Berk (1996). However Simpson-Vlach and Leicher (2006) count storytelling as one of the pragmatic functions of lectures in the Michigan Corpus of Academic Spoken English (MICASE), and there have been a small number of studies of lecturers' use of stories, undertaken both from a genre and discourse analysis perspective (e.g. Dyer & Keller-Cohen 2000; Alsop et al. 2013; Easton 2016) and from an educational perspective (e.g. Andrews et al. 2009; Flanagan 2015; McNett 2016).

These studies point to the many advantages of story use, apart from the 'time-out' benefit which gives learners the chance to pause and reflect on the knowledge transmitted in other parts of the lecture (Flanagan 2015; Easton 2016). Stories are thought to help learners engage with and remember lecture content (Flanagan 2015; Easton 2016; McNett 2016), because references to familiar everyday contexts provide a 'hook' for new experiences, as pointed out by Easton (2016), and enable participants to see the connection between real-life practice and academic theory (Flanagan 2015; McNett 2016). Stories can also simulate social encounters and increase learners' empathy and compassion by offering interpretations of events from other people's perspectives (Easton 2016). Easton found that stories in medical science lectures helped learners to become "legitimate peripheral participants" in the professional medical community, in terms of Wenger's theory of communities of practice (Wenger 2008; Easton 2016: 7).

Various research methods have been used to examine the discourse of stories in lectures, drawing on conversation analysis (Dyer and Keller-Cohen 2000), Labovian story structure (Easton 2016), or genre

systems from Systemic Functional Linguistics (Alsop et al. 2013). Dyer and Keller-Cohen (2000) report on the way lecturers projected their own personal and professional identities in their stories, and achieved an uneasy balance between the expression of expertise and the expression of equality with their listeners. Easton (2016) pays particular attention to narratives of the kind described by Labov and Waletzky (1967) and Scholes (1982). In Labov and Waletzky's model, stories have an *orientation*, a *complicating action*, a *resolution*, an *evaluation*, and an optional *coda* which is "a functional device for returning the verbal perspective to the present moment" (Labov and Waletsky 1967: 100). Scholes (1982) presents a similar structure: stories must contain "at least three basic elements: 1) a situation involving some predicament, conflict or struggle, 2) an animate protagonist who engages with this situation for a purpose, 3) a plot during which the predicament is somehow resolved" (1982: 59).

Alsop et al. (2013) worked with Martin's genre system (2008) illustrated in

, which is a development of Labov and Waletzky's model. All four of Martin's story genres present sequences of events, but only the 'narrative' genre is associated with a complicating action and a resolution. Stories belonging to Martin's 'recount' category are not resolved and are not evaluated, and are simply strings of events without any complicating action. Anecdotes elicit emotional empathy, whereas exempla elicit a "moral judgment" (Martin 2008: 44), perhaps better understood in lecture discourse as a judgement on the protagonist's capacity (competence and ability) or propriety (appropriate behaviour), as described in Martin and White's Appraisal Framework (2005). When considering lecture discourse we might add the possibility that the evaluation is not of a person but of a concept, product or process (termed Appreciation in Martin and White's Appraisal Framework). Evaluations typically occur in codas to exempla.

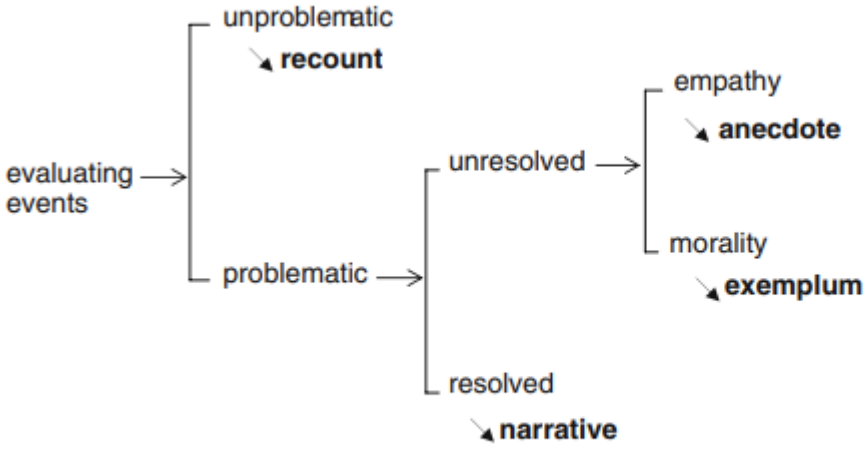

Figure 1: Comparing story genres - a choice network (Martin 2008: 45)

Of the 170 stories Alsop et al. (2013) identified in the half million word Engineering Lecture Corpus (ELC), narratives were the most frequent genre, followed by exempla, and then anecdotes. Recounts, which do nothing more than report a sequence of events, were the least frequent. In some cases the same pedagogical point was found to be made through a narrative in one lecture, and through an exemplum in another lecture delivered in another context. The narrative structure appeals to listeners' expectations for a story structure, while the exemplum places greater emphasis on the pedagogical purpose of the story.

In most discourse and corpus studies of story elements in lecture discourse, stories have been formally identified by the presence of a temporal sequence, which according to Labov and Waletzky (1967: 81, 84) is "the defining feature of narrative", because it can "recapitulate past experience in the same order as the original events". Martin (2008: 41) is less emphatic about this, but implies that temporal sequence is important: "I focus on how narrative genres organise time in relation to value, drawing on functional linguistic models of temporality and evaluation". When identifying stories in MICASE, Simpson-Vlach and Leicher looked for "two or more sequential clauses using the past tense or the historical present" (2006: 69). Deroey and Taverniers (2011: 6) looked for sections in lectures in the BASE corpus where "the lecturer presents information about past actions, events or situations".

However, some studies of lecture discourse have taken a much broader view of what identifies a stretch of discourse as a story. Sequences without consistent past tense progression were recognised as stories by Alsop et al. (2013), if they fitted into Martin's (2008) genre scheme. Example 1 from the ELC was counted as

an exemplum in their study, and has a judgement on bad engineering and bad captaincy in the coda which relates a hypothetical situation (the listeners' over-loading of a ship) to the present real-world situation ("these things have happened in the past and they do happen….").

1. if you're loading a ship up you do not want the centre of gravity to get above the metacentre in fact you don't even want to get it close if you get it above as that ships sails off it's going to turn over and these things have happened in the past and they do happen due to bad engineering and sometimes bad captaincy (ELC 3021)

Example 2 is a 'character-driven' story identified by Easton (2016) which recounts the different phases of sleep by means of an imagined everyday situation, expressed in the present tense and including a coda with a positive evaluation, summing up the current relevance:

2. So if you watch somebody on the tube, you'll see them start to lose that postural muscle activity as they fall asleep. And their head goes (lecturer pretends to nod off to sleep) and you'll also see them lose their ocular eye muscle activity and their eyes will start to roll—they'll do this (lecturer rolls eyes). But in Stage I sleep you're still responsive to sound, so when he gets to South Kensington you'll see them do this as they sit up and then as you go through the different stages of sleep and you become less responsive to sensory stimuli so when you get down here into deep sleep you're less responsive. So this is the one that you see slumped in the corner of the circle line then dribbling and all bets are off (audience laughter). And that's deep sleep and that's the stuff that makes you feel better—it is the deep sleep that makes you feel restored and vital and healthy.

The *if*-clauses in the two examples above, "if you're loading a ship up" and "if you watch somebody on the tube", are a typical linguistic feature of some passages which might be counted as stories. Warchał (2010: 140) regards the use of the conditional as "a rhetorical device for establishing a dialogue between the author and the reader of an academic text in search for shared understanding and consensus". She would consider these two if-clauses as 'content conditionals', because they convey "a condition which, if fulfilled, ensures the truth of the proposition in the main clause" (Warchał 2010: 143).

Ädel (2010, 2012) would probably class these two stories as 'Imagining Scenarios', a lecturer strategy she describes as "a mutual thought experiment between the addresser and the addressee, taking place in the shared world of discourse rather than in the 'real world'" (2010: 89). Ädel notes that scenarios often add "a narrative flavour" to the lecture (2012: 117), although many of the scenarios she identifies from MICASE data do not present a sequence of past events, and do not fit the organisational patterns identified by Labov

and Waletzky (1967), Scholes (1982) or Martin (2008). It is perhaps for this reason that Imagining Scenarios have been neglected in the literature, as noted by Ädel (2012:117). Ädel's work starts to redress this imbalance, but she focuses on metadiscoursal features rather than the structure of longer stretches of text. Her scenarios are limited to those containing explicit references to audience members, and they only form a small subcategory within her taxonomy of metadiscourse in academic English.

McNett (2016) considers the possibility that entire classes or even courses might revolve around an ongoing narrative, developing the idea of 'narrative-based instruction' proposed by Andrews et al. (2009). His teaching method includes injecting drama, conflict, characterisation and even theatrics into course materials. As examples of this method he recalls a lecturer in ecology "who calmly explained the complexities of thermoregulation while on all fours on a lecture table", and a lecturer who "dressed as a queen on the day she explained the complex topic of the Red Queen Hypothesis in evolutionary biology" (McNett 2016: 187). One of McNett's narrative genres is the 'fictional letter' written by various hypothetical insect authors who describe their anatomical and evolutionary predicaments in anthropomorphic terms. McNett argues that "[T]he letters provide an emotional element, engage the students, and provide my lectures with a framework that taps into the natural human disposition for story" (2016: 184):

> It was the second day of my insect biology class when I described to my students a letter I had received. The letter was signed "Twisted in Tallahassee," and the writer spoke of insufferable pain he had experienced from a lifelong identity crisis. He described feelings of isolation, low self-esteem, and a poor body image. He simply did not fit in with others of his kind, and to be perfectly honest, few could disagree. He was a very strange sight indeed. As a twisted-wing parasite, he is one of the most bizarre-looking insects one could imagine. (McNett 2016: 184)

McNett is not concerned with the generic structure or linguistic features of narratives, so he does not reproduce or analyse the language used in incidents such as these. However some of the content seems similar to that in examples identified by Ädel (2010, 2012) in MICASE, and by Alsop et al. (2013) in ELC and BASE, where lecturers develop a hypothetical scenario which seems designed to achieve the same sort of benefits as a conventional story genre, but belongs in the world of discourse rather than the 'real world'.

The aim of this paper is to provide a more complete account of the purposes and linguistic characteristics of these scenarios in lecture discourse, with a view to raising learners' awareness of their use and

supporting EMI lecturers who wish to use scenarios in their own teaching. When lecturing in a less-familiar language it is tempting to keep to the textbook facts, reserving fantasy talk (about unlikely hypothetical events) for time spent outside academia. Nevertheless, like more conventional story-telling, scenario-telling is a valuable skill for lecturers to acquire, as it has the potential to help learners engage with difficult concepts, and to help them respond to course content in discipline-appropriate ways.

Our research questions are:

1. What is the distribution of scenarios in lecture corpora compiled in different contexts?
2. What purposes do scenarios seem to serve?
3. What are the linguistic features of scenarios?

2. Methods

The datasets used for this study are the lecture component of the British Academic Spoken English (BASE) corpus (160 transcripts), the Engineering Lecture Corpus (ELC) (76 transcripts), and largely monologic lectures in the Michigan Corpus of Academic Spoken English (MICASE) (35 transcripts)[1]. The ELC lectures were delivered in three contexts, 30 in the in the UK, 28 in New Zealand, and 18 in an English-medium university in Malaysia (an EMI context). Lecture lengths vary, with BASE transcripts averaging 8469 words, MICASE transcripts averaging 10237 words and ELC transcripts averaging 6949 words. The BASE and MICASE lectures are distributed across four academic domains: Arts and Humanities, Life Sciences (including Health), Physical Sciences (including Engineering) and Social Sciences (including Education), while the ELC lectures all come from the field of Engineering (Civil, Electrical, Graphics, Mechanical, Fluid Mechanics and Solid Mechanics). All the lecturers were experienced, and volunteered their lectures for recording and transcription because they were confident of their lecturing skills.

For this study only lecture transcripts were examined. An analysis of the recordings might have revealed visual and aural features signalling the presence of scenarios in the lectures, but in the case of MICASE the

[1] BASE data can be queried via the SketchEngine platform (https://www.sketchengine.eu) and can be requested in full from the Oxford Text Archive (https://ota.bodleian.ox.ac.uk/repository/xmlui/handle/20.500.12024/2525). MICASE data is available to query and download from the MICASE website (https://quod.lib.umich.edu/cgi/c/corpus/corpus?c=micase;page=simple). Enquiries regarding use of ELC data for research purposes should be directed to the Authors

video / audio recordings were not available, and in the case of BASE and ELC recordings were not aligned with the transcripts. We therefore extracted scenarios from the corpora transcripts using the following criteria to identify each candidate passage:

- it must contain at least two clauses;
- it must refer to hypothetical events - ones that have not happened and are not likely to happen in the foreseeable future;
- it must make an analogy between essential lecture content and an extraneous topic;
- it must include some form of coda, functioning as a commentary on its current relevance;
- it must be able to stand alone – where the scenario is extended and referred to several times in the same lecture, separate instances are individuated by the presence of codas.

Drawing on our familiarity with the three corpora and the examples of scenarios we had already noted in the prior literature, we chose the following search terms to identify passages in the three corpora that might potentially function as scenarios:

- *analogy*
- *if you + modal (+/-3)*
- *imagine*
- *let's say*
- *picture*
- *say you*
- *scenario*
- *suppose*
- *what if*
- *you know if*

For the most part the searches were for simple unlemmatised word forms, but in the case of *if you + modal (+/-3)* query language was used to extract cases of *if you* followed by a modal verb within the space of up to three words. At least one scenario in our data did not include any of these search terms (see Example 38), but we are satisfied that the list is fairly complete, as it was gradually built up by examining the linguistic features of extended stretches of discourse containing references to hypothetical content. The list is also workable – searches simply for *you* or *if*, for example, would have resulted in too many returns.

When identifying scenarios we maintained Ädel's distinction between references to the audience "in their roles as discourse participants" and as "experiencers in the real world'" (2012: 105),

excluding passages containing *you* in connection with a likely real world event, as in Examples 3 and 4:

3. *you know if* you want to discuss the essays with me come along you know any time (BASE sslct009)
4. i think we'll carry on as normal and ignore what's going on over here and so that's where we are *if you can* carry on like that we'll work in a normal way (BASE pslct018)

However, unlike Ädel's Imagining Scenarios, we did not require that all our scenarios should be unambiguously audience-oriented, because our focus was not on metadiscourse, and it was possible that some scenarios would not be oriented in this way.

A further difference between our categorisation and Ädel's was our inclusion of scenarios containing words (spoken or written) borrowed from other sources, as in Example 5:

5. there's a famous parable by Saint-Simon in which he says imagine a Europe in which all the crowned heads all the princes and princesses and bishops and so forth and aristocrats are are called to a a wedding ….. (BASE ahlct025)

Such passages were excluded from Ädel's analyses because she was only interested in the lecturer's own words.

Our search terms were only taken as indicators of the possible presence of scenarios, and the retrieved passages had to be manually filtered in order to remove those that did not meet our criteria. For example in ELC we identified 102 instances of the search term *imagine,* within 36 lectures, but we only counted three of these (in three different lectures) as marking the presence of a scenario. Grounds for exclusion are illustrated in Example 6; in this passage *imagine* does not indicate the presence of a scenario because the audience are addressed as "experiencers in the real world'", the imagined event is likely, there is no analogy, and there is no coda:

6. so if you feel the need to copy that down that raises doubts in my head as to whether you've actually read the book before coming to class which is what I would *imagine* is why so many people are struggling with this topic (ELC 1002)

Search terms which occurred in passages which met our criteria for the identification of scenarios are referred to as 'scenario markers' (SMs) when reporting our results.

Ädel (2012:120) found that "the greatest difficulty in the analysis stage …. was deciding exactly where to draw the line between Imagining Scenarios and non-metadiscursive examples". In this study much detailed discussion was needed to decide on the extent to which examples met our inclusion criteria, and for this reason independent inter-rater testing was not possible. We did, however, undertake semi-independent inter-rater testing to improve the reliability of our analysis. This required one coder to extract from the three corpora all the passages containing our search terms (STs) and apply our pre-agreed criteria to identify instances of scenario markers (SMs). Following on from this the second coder independently reviewed all passages containing SMs. Both coders then discussed all borderline cases. Together both coders agreed on the final list of SMs, reaching an overall agreement level of 0.64, with little variation across corpora (0.61-0.68). Ideally independent agreement between pairs of coders should reach 0.7 to 0.9 (Lombard et al. 2006: 593), but we considered this level of agreement to be acceptable, given the exploratory nature of this study.

Example 7 is one of the borderline cases we discussed.

7. once you get certain stage ideas into the culture so people believe them, we develop stereotypes. uh if uh, you know if one of my colleagues falls in love with a student at age, forty or forty-five or something people say oh he's going through the mid-life crisis. so we we we lab- use these labels, and uh, kind of take it for granted (MICASE LES500JU136)

This is not a prototypical scenario because of the possibility that the hypothetical event might one day take place. However, after inter-rater discussion the passage was admitted into the scenario category because the topic is extraneous to the lecture content (the lecturer was teaching the concept of stereotypes, not the idea that middle-aged lecturers might fall in love with their students), and it contains a coda which explains the current relevance of the imagined scene "we …. use these labels, and uh, kind of take it for granted".

Note that this example also contains a form of imagined direct speech: “people say oh he's going through the mid-life crisis”. This is quite a common feature of our hypothetical scenarios, and can also be seen in Examples 3, 9, 10, 17 and 19.

On the other hand Example 8 was not counted as a scenario, because although it has scenario-like features (an appeal to the audience and a hypothetical situation) it is a straightforward illustration of the evolutionary process, one of the topics of the lecture:

8. evolution is really about reproductive success, so, some of these things will aid survival so*, if you're, a bird*, in the Galapagos Islands, and you have developed with the tough beak, relative to your neighbor, fragile Fred right? then if your d- if the diet on that island is in fact these tough nuts, your strong beak's gonna be an advantage to you. (MICASE LEL500JU034)

Example 8 is nevertheless of interest, as it shows a way in which lecturers try to “establish a dialogue” (Warchał 2010: 143) by using an *if* conditional and appealing to the imagination of their audiences.

We did not try to calculate the word length of scenarios, as there was often no clear way of deciding on the exact point where they start or end. Codas can occur at the end or at the beginning of a scenario, or both, and serve as a bridge between the scenario content and the content of the rest of the lecture, merging into the surrounding context.

3. Quantitative findings

Fifty-one scenarios were identified in the entire database. Roughly a third (29%) of the 35 MICASE lectures were found to contain at least one, but they were present in only 17% (13) of the 76 ELC lectures and 8% (13) of the 160 BASE lectures (see Table 2).

We used a z-score test to measure differences between two populations (or corpora). This showed that the difference between the occurrence of scenarios in both ELC and MICASE and in BASE and MICASE is significant at $p < 0.05$ (Table 1).

	z value	**p value**		**z value**	**p value**
ELC proportion: total number of scenarios (sample 1) = 13	-2.5364	0.01108	BASE proportion: total number of scenarios (sample 1) = 17	-5.2069	0.00001
ELC size: total number words in corpus (sample 1) = 528157			BASE size: total number words in corpus (sample 1) = 1354984		

MICASE proportion: total number of scenarios (sample 2) = 21			MICASE proportion: total number of scenarios (sample 2) = 21		
MICASE size: total number words in corpus (sample 2) = 358286			MICASE size: total number words in corpus (sample 2) = 358286		

Table 1: Z score test for significance of difference in occurrence of scenarios across lectures

ELC and BASE lectures that contained scenarios generally contain no more than one per lecture, but MICASE lectures are more likely to contain two scenarios or more, and two MICASE lectures are particularly scenario-loaded: LES495JU063 (Political Science) has four scenarios, and LEL485JU097 (Physics) has six.

	Scenarios (raw)	**Scenarios (pmw)**	**Lectures containing scenarios**	**Scenarios per lecture containing scenario (raw)**	**SMs (raw)**	**SMs (pmw)**	**SMs per scenario**
ELC	13	24.61	13/76	1.00	19	35.97	1.46
MICASE	21	58.61	10/35	2.10	45	125.60	4.50
BASE	17	12.55	13/160	1.31	28	20.66	2.15
Total	51	22.75	36/271	1.42	92	41.05	1.80

Table 2: Distribution of scenarios and scenario markers

As the three corpora are of different sizes the results were normalised per million words (pmw). The normalised results in Table 2 show that scenarios are far more likely to occur in MICASE, both in terms of frequency per lecture (MICASE=2.10, ELC=1, BASE=1.31) and in terms of occurrence per million words (MICASE=24.61, ELC=58.61, BASE = 12.55).

Unsurprisingly the normalised results in Figure 2 also show that scenario markers (SMs) are more frequent in MICASE (125.60 pmw), compared to ELC (35.97 pmw) and BASE (20.66 pmw). The most common SMs in MICASE are *let's say* (44.66 pmw) and *suppose* (27.91 pmw), followed by *you know if* (19.54 pmw) and *imagine* (13.96 pmw). Conversely, *let's say* is absent from both ELC and BASE, and *suppose* has a much lower occurrence in BASE (6.64 pmw) and is absent from ELC (Table 3).

Scenarios commonly contain more than one SM, and the total number of instances of SMs in the three corpora (92) is roughly double the total number of scenarios (51) (Table 2). The same SM can occur multiple times within a single scenario (*let's say* occurs six times in one scenario from LEL485JU097, and *suppose*

occurs five times in one scenario from ahlct034, for example) but generally the repetition of the same SM is rare, as shown in the average SM occurrence per scenario information in Table 3.

SM	SM occurrence			Scenarios containing SM			Average SM occurrence per scenario		
	ELC	MICASE	BASE	ELC	MICASE	BASE	ELC	MICASE	BASE
imagine	9.47	13.96	6.64	5.68	11.16	5.17	1.67	1.25	1.29
picture	0.57	8.37	0.00	5.68	8.37	0.00	1.00	1.00	0.00
let's say	0.00	44.66	0.00	0.00	16.75	0.00	0.00	2.67	0.00
say you	0.19	0.00	0.74	1.89	0.00	2.00	1.00	0.00	0.00
what if	0.19	2.79	2.21	1.89	2.79	4.00	1.00	1.00	1.50
if you + modal (+/-3)	0.57	2.79	1.48	5.68	2.79	3.00	1.00	1.00	2.00
you know if	0.38	19.54	1.48	3.79	13.96	5.00	1.00	1.40	1.00
suppose	0.00	27.91	6.64	0.00	16.75	4.00	0.00	1.67	2.25
scenario	0.19	2.79	0.74	1.89	2.79	1.00	1.00	1.00	1.00
analogy	0.57	2.79	0.74	3.79	2.79	3.00	1.50	1.00	1.00

Table 3: Occurrence of SMs per scenario, by corpus (raw)

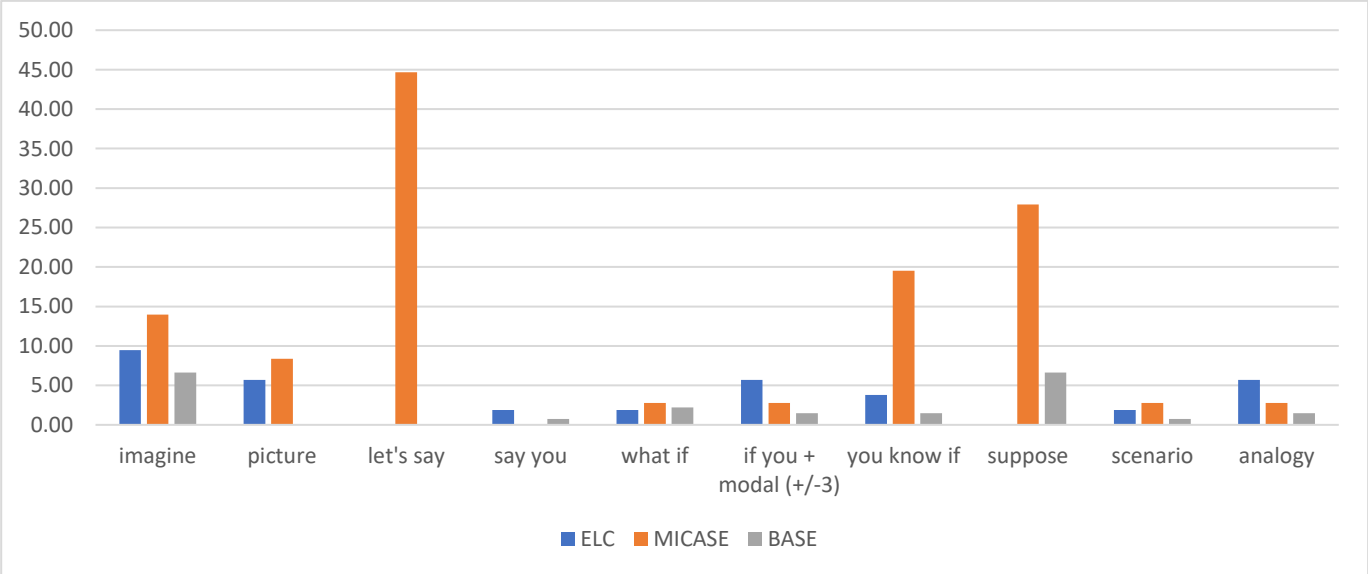

Figure 2: SMs in ELC, MICASE and BASE (pmw)

Figure shows that *imagine* and *suppose* are the most frequent SMs overall (8.48 pmw), followed by *let's say* (7.14 pmw) and *you know if* (4.91 pmw). *Say you* (0.89 pmw) and *scenario* (1.34 pmw) are the least frequent SMs.

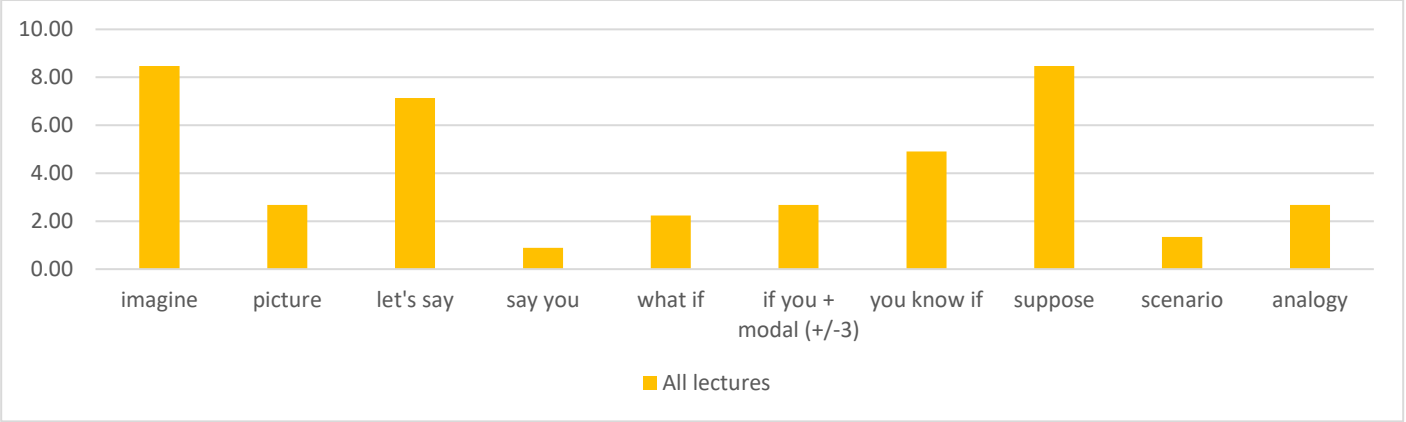

Figure 3: SMs in all lectures (pmw)

Scenarios occur across most disciplines represented in the corpora, as shown in Table 4.

	ELC	BASE	MICASE
Arts and Humanities		5 (Classics, History and Philosophy)	
Life Sciences / Biological and Health Sciences		2 (Animal and Microbial Sciences, Medicine)	4 (Biochemistry, Psychology, Biology)
Physical Sciences and Engineering	13 (Engineering)	4 (Chemistry, Meteorology, Philosophy/Formal Logic)	4 (Engineering, Physics Chemistry)
Social Sciences and Education		3 (Politics and International Studies, Medical Education, Psychology)	2 (Political Science, Psychology)

Table 4: Lectures containing scenarios in different corpora and disciplines

4. Qualitative findings and discussion

Although scenarios can be found in both pure and applied disciplines, they seem to be most common in lectures where highly abstract concepts are being explained. Words with abstract meanings, such as technical terms, are generally more difficult to learn than words with concrete meanings (Ellis & Beaton 1995), and in our data a scenario often seems to serve as a 'vocabulary elaboration' technique to help build

learners' familiarity with a technical term and its underlying concept, as can be seen from examples 9-16 below. The link between subject terminology and course content can be very close, as Malström et al. (2017) point out, and terminology can constitute a good part of what content lecturers teach.

Vocabulary elaboration was first described by Chaudron (1982) in his investigation of schoolchildren's L2 vocabulary acquisition, and was later observed in studies of university lectures, for example by Flowerdew (1992), Jackson and Bilton (1994), Lessard-Clouston (2009) and Malström et al. (2017). However Chaudron (1982) thought that too much emphasis on word meaning in terms of the content of the lesson might impede the learning of word forms, and prior studies of vocabulary elaboration in lectures have tended to concentrate on short stretches of discourse, containing only repetitions, definitions, synonyms, translations or paraphrases of the new word. They do not mention story-like scenarios, either because these escaped their notice, or because they did not occur in the EMI contexts where their data was recorded (although Jackson and Bilton (1994: 66) do note one instance of "an analogy far removed from the scientific context", where a geological conglomerate is compared to a business conglomerate).

In our data, the most extended use of elaboration to explain a complex technical term is in a MICASE *Intro to Physics* lecture: "today, we'll probably be talking mostly about the uh uh the space and time aspects of relativity and the basic ideas" (MICASE LEL485JU097). In this lecture there are six scenarios explaining relativity, as in Examples 9 and 10:

9. so, let's take a concrete example. you'll see what i mean. suppose i'm in oh you know a, a something coasting along like this at constant velocity, and i throw a ball. okay? now, uh what you see because i'm moving as i throw the ball in the air, and it comes down and i catch it. and of course from your point of view, the balls are passing you know like that. it obeys, Newton's second law, F equals M-A you know, downward force causes there to be an acceleration and has an initial, upward velocity this way. and so, applying Newton's law i should say well, (what i'm gonna) do is this. fine. but now from my point of view, in my reference frame, i'm at rest. you guys are moving that way. but i just throw the ball straight up. well once again you know, F equals M-A in my frame too, but i- in my frame, it has an initial velocity like that, but no, horizontal velocity, so it just it goes straight up and, straight down. but neither you, nor i, is especially entitled, to say, i'm the one who's at rest and you're moving. basically either one of us, can say, i'm at rest (MICASE LEL485JU097)

10. suppose you're floating out here in space and a light pulse goes past you. and you measure its speed and you say oh, three times ten-to-the-eighth meters per second. fine, that's what was right. but what if you have some friend, that is moving this way, at two-thirds C, two times ten-to-the-eighth meters per second, and he looks at the same light pulse. and he measures the speed of the light pulse with respect to him. would he get three times ten-to-the-eighth meters per second? well you'd say probably no because he's moving, and, you're at rest. but you see, if we wanted to apply this so-called principle of relativity, to the theory of light, we'd have to assume that neither one of you, could say that you're the one that's at rest and the other's moving, each person should be entitled to say he's the one that's at rest period. (MICASE LEL485JU097)

This topic is perhaps a special case, as it is hard to see how relativity can be explained except in terms of analogous examples, given its extremely abstract nature. However, in our data we also find the use of scenarios to explain technical terms in other disciplines such as Engineering, Meteorology and Biology. Example 11 uses a balloon scenario to explain *thermal advection* "a rather grand word for a rather simple concept" (BASE pslct031), while Example 12 (from an EMI Malaysian context) uses a driving/flying analogy to explain *vertical curve*, and Example 13 anthropomorphises a clump of cancer cells to explain *motility*. In all these examples the coda at the end shows the listener the relevance of the scenario, but there is no evaluation as would be the case in Martin's (2008) exempla; the lecturer is simply explaining the concept behind the established term.

11. suppose we attached ourselves to some sort of balloon which was wafted around by the winds in that case if we had a thermometer attached to that balloon we wouldn't see the Eulerian rate of change at all in fact if we designed the balloon very carefully we would actually see the rate of change of individual air parcels because our balloon would effectively be always embedded in the same lump of air as it moved around …… let's suppose we could do that so we have this other rate of change the rate of change following an individual fluid element and that in fact is identical to the rate of change that we mentioned earlier (BASE pslct031)

12. imagine yourself driving uphill and there'll be a point that you will have to go downhill okay so at that particular point where the uphill meets the downhill we need some kind of curve so that out journey or our ride along that road is comfortable okay now and i'm sure that you have experience various type of vertical curve okay imagine that a small vertical curve you are driving too fast what happen to you you will be momentarily flying like a superman or superwoman okay and you feel that your stomach coming out of your body okay now so that is some kind of a vertical curve (ELC 2009)

13. the second thing that cancer cells, exhibit that allows them to invade is increased motility and again picture yourself as part of a clump of cancer cells, if you were all,

holding hands if you let go, but you just stood there, again, you're not gonna invade, you're not gonna go anywhere. you gotta be able to walk you gotta be able to move. most cells in the body don't move. most cells are not motile there are some exceptions, some cells as part of their normal functions need to move (MICASE LEL175SU106).

Alongside technical terms such as *relativity, resistance, thermal advection, vertical curve* and *motility*, we also find semi-technical terms which might be half-understood by novices because they have a more common and less precise meaning in everyday language. In Example 14 the lecturer tries to explain the technical meaning of *resistance*, for example:

14. so you can compare a conductor to a crowded room if you have a crowded room and you want to walk across a crowded room it's very likely you're going to bump into somebody and the more crowded the room is the more collisions will occur and that's like high resistance you see high resistance is when the room is really crowded and you get heaps of collisions a low resistance is when there's not many people around and you can walk through with only very few collisions so tha- that's a sort of um er a very non physical physics people would hate what I've just said but I think it gives you an idea of what resistance actually is (ELC 3005)

Similarly Example 15 is concerned with the meaning of *magnetic field*, and Example 16 (from a Malaysian EMI context) tries to explain the notion of a *reversible process*.

15. imagine there's an arrow shooting away we fire an arrow you look at the back you can see the flights they're going away from you if you're unfortunate enough to be on the other side of the arrow and the arrow is coming towards you then what you see is the dot and the point of the arrow it's a good idea to move so that's current in there the current's going in clockwise anticlockwise (ELC 3010).

16. that means if I am you know if I wear nice perfume today and somebody smell you can just smell it and come back to me and I can reverse it back I don't think so (ELC 2018)

Finally, in addition to the elaboration of technical and semi-technical terms, scenarios in our data are used to lay out the arguments central to a disciplinary topic. Thus in Example 17 the lecturer sets out to explore "what might be meant by realism in the visual arts" (BASE ahlct034), while the lecturer in Example 18 justifies the use of project planning, and the lecturer in Example 19 attempts to "deal with some objections that are raised against this conception of what it is to be a morally good person" (BASE ahlct036).

17. suppose that we were in a house in Salisbury and suppose we got Constable's painting and suppose we put it at the end of a room and suppose we placed Constable's painting behind the leaded windows with curtains in front and suppose we arranged the lighting in the room such that you know when somebody came into the room and they looked down the end of the room they'll say oh i didn't realize you had a view of

the cathedral from here okay now there would be a situation where somebody was deceived into thinking they were in the presence of the object depicted (BASE ahlct034)

18. we need to monitor our progress against the plan because we need to take corrective action to get back on plan very simple analogy of this is a map on a journey I'm taking my daughter this weekend to Keele University well I've got a vague idea that Keele University is up the M6 Junction Fifteen or Sixteen but what I really need is to know well when have I gone too far up the M6 I know that Keele is now sixty-seven miles away from home so I've got an idea of where I should be and I've glanced at the map so I've got an idea that if I've been travelling up the M6 for two hours I've probably gone wrong and that's the purpose of a project plan to know whether you're ahead of schedule behind schedule can I stop for a coffee break is she going to make me stop for a coffee break perhaps or do we need to speed up to get there (ELC 1022)

19. the more skilled you are at driving the quicker you internalize those judgements they're still going on they're still being made but when you see somebody's brake lights come on in front of you you've not got to think to yourself ah you know is he braking or has he just turned his lights on ah hang on if he's both lights go on i've got to push this middle pedal down you know if you had all those thoughts you already hit him before you do anything you just react straight away but all of those judgements are going on all those complex judgements are going on (BASE ahlct036)

Again the codas at the end of these scenarios do not attempt to evaluate, but simply to draw attention to ways of thinking in the field. Some scenarios are however more like exempla, with (usually negative) evaluative language in their codas. Example 1 passes judgement on professional competence: “these things have happened in the past and they do happen due to bad engineering and sometimes bad captaincy”. Examples 25 and 26 also illustrate this coda feature, passing judgement on general human capacity:

25. isn't that pathetic when you think about it it's not very much is it the power we can generate and maintain for any time at all is about one kilowatt so that's the rating of a human being (ELC 3009)

26. what is the impact on Europe answer zilch these people are totally useless they're unproductive (BASE ahlct025)

As we have seen, scenarios describe a wide range of imagined contexts, and it seems that lecturers choose these to appeal to particular audiences. For example Engineering students are sometimes invited to imagine themselves in the role of a practitioner (not necessarily at engineering graduate level), as in the excerpts from scenario passages in Examples 27 and 28:

27. if you're running a little pre-cast yard (ELC 1013)
28. if you picture when you're out on site you've just got your site hut (ELC 1012)

Also active verbs referring to human activities (*drive, float, fly, jump, push, stretch, swim, walk*, etc. in many of our examples) may strike a chord with sedentary lecture attendees, and help them feel more physically alert and engaged. There are also some quite startling analogies which might shake bored listeners into a more receptive frame of mind (e.g. Examples 29, 30 and 31):

29. what if i'm to save a potential victim from a murderer (BASE ahlct038)
30. if you go to the beach or if you swim if you were bitten by this jelly fish (ELC 2010)
31. if you've been smashed to bits in a road traffic accident you've got five fractures and a ruptured spleen your head's come off and you've got no arms (BASE lslct033)

Example 31 is an instance of the sort of 'black humour' which Nesi (2012) found to be particularly common in medical lectures, perhaps with the purpose of helping students to develop a professional identity distinct from shockable non-medical members of the public. Certainly the more arresting analogies have an extra saliency, a characteristic found to aid the incidental learning of L2 vocabulary in oral contexts (Ellis 1994). Scenarios are often characterised by the same groups of linguistic features, such as *if*-clauses used as 'content conditionals' (Warchał 2010) at the beginning leading the listener towards the logical outcome at the end, as we saw in Example 1, and expressions of cause or effect such as *due to* (Example 1) or *so* (Examples 32 and 33) in the coda:

32. *so* even if you could accelerate a rocket ship up close to the speed of light, it would take five years to go there (MICASE LEL485JU097)
33. *so* i would have to stretch this stuff from here to Bristol to model the D-N-A inside each one of your cells so it's very long (BASE lslct007)

The markers *imagine*, *suppose*, *let's say*, and *you know if* are a particularly common means of signalling the beginning of a scenario. These forms involve the audience, and this audience involvement is reflected in the fact that scenarios typically contain imperatives and first and second person pronouns – non-generic *you,* inclusive *we,* or *one* in the case of Example 32.

34. one can imagine the scenario if for a consideration the official might be prevailed upon to take the grain into a local military stations …. (BASE ahlect005)

Several scenarios refer to both the lecturer (*I*/*me*) and the audience (*you*), as in Example 35.

35. so if you imagine the other strand being made what i do is to start here and make a little bit of D-N-A and then i jump back and i start here and make another little bit of D-N-A and then i jump back and start here and make another bit of D-N-A and so on a motion i've described and it will only mean something to the girls among you i guess as being something like blanket stitch okay in out round the back in out round the back (BASE lslct007)

It is much rarer to create a scenario solely from the lecturer's perspective, as in Example 36, or only with reference to imaginary characters, as in Example 37.

36. the way i think of cations is i picture a cat, two round circles for the eyes with, two, positive charges (MICASE LEL200JU105)

37. what if what if individuals were all like Robinson Crusoe every person had his own island and on that island he worked by himself he or she worked by themselves creating whatever they were creating building their tree houses or fishing (BASE sslct023)

All these examples show that scenarios generally centre around some form of human activity. Inanimate objects are sometimes anthropomorphised in order to achieve this, if the lecture topic makes it difficult to introduce a human element. For example cancer cells can be made to hold hands (Example 13) or vital organs can start to talk as in Example 38[2]:

38. in the liver your role is in producing glucose. you've got your glucose as a signal. so the liver is saying, okay, i'm in trouble, i wanna shut down glycolysis, which means my P-F-K-one has to be inhibited (MICASE LEL175SU098)

Although it is theoretically possible to refer to hypothetical events using past time referents, almost all our scenarios are expressed in the present tense – the 'eternal' present with no contrast with past or future time (Calver 1946). One or two scenarios invited the audience to picture a scene similar to one that had happened in the past, however, as in Examples 39 and 40.

39. about twenty years ago um the escalators at Kings Cross Station had a fire underneath which heated things up and the volatiles built up and a whopping great flash went right

[2] Note that this example does not contain any of our search terms, and only came to our attention by chance. It is not counted in the results reported in Section 3.

up the escalator and exploded in the ticket hall and there were um twenty thirty deaths something like that um it was crowded at the time and if you can just picture um a crowded tube station I expect you've all been on the tube from time to time in the rush hour um and an explosion like that happening it was horrendous um so flashover is a big problem (ELC 1010)

40. you see this almost similar to Highland Tower case in Malaysia where part of the buildings ok or the blocks yeah one of them suddenly collapse like this ok imagine K L C C suddenly collapse so it can go up to Kampung Baru ok when it collapse right goes up to Kampung Baru ok we cannot imagine building collapse like this right as an engineer because we don't design er building to collapse like this but things like this can happen ok so if I ask you is it possible K L C C to collapse like this the answer is yes because case like this happen already ok (ELC 2007)

It may have been noticed that the scenarios we have extracted from lectures delivered in an EMI context by L2 speakers (Examples 12, 16, 23,37 and 40) do not entirely conform to the conventions of standard English. It is possible that the Malaysian lecturers chose to use a local mesolect in order to lessen the social distance between themselves and their audiences. These scenarios are, however, comparable to the scenarios produced by the L1 speakers in other respects.

5. Conclusions and pedagogical implications

In this paper we set out to compare the distribution of scenarios in lecture corpora compiled in different contexts, and to examine their possible purposes and linguistic features. We found that although scenarios were significantly more prevalent in the US MICASE lectures than in BASE lectures from Britain, and ELC lectures from Britain, New Zealand and Malaysia, similar types of scenario occurred across all the contexts we examined, including in the Malaysian EMI component of ELC. Prior studies of the educational uses of storytelling (e.g. Bruner 1986; Andrews et al. 2009; Flanagan 2015; McNett 2016) suggest that linking lecture content to surprising, easy to visualise imaginary situations helps learners to engage with the information and retain it. In all three of our contexts, scenarios seem to be associated with the explanation of highly abstract concepts; they are used to elaborate on technical or semi-technical terms, or to introduce complex ideas that are central to the discipline. The scenarios typically signal lecturer-audience engagement through dialogic elements such as imperatives and first and second person pronouns (*imagine,*

let's say, *suppose* etc)*, if* conditionals and imagined direct speech. The use of action verbs, black humour and negative evaluation also make the content seem more exciting.

In her study of teacher training for EMI, Pérez Cañado (2020) notes that, although "language is a sine qua non for EMI training and development" (p.4), the lack of methodological training "conspicuously comes to the fore" as a research gap (p. 3). A certain reluctance on the part of novice lecturers to stray into the realms of fantasy would be very understandable, especially when they are deriving their lecture content from authoritative published sources which only present established facts and findings. We would argue, however, that scenario use is a teaching method that does not depend on high-level language skills, and that it is a strategy option relevant to all trainee lecturers.

Malström et al. (2017) found that the lecturers they observed working in partial EMI settings (where oral input was in the local language) had a limited repertoire of strategies for drawing attention to new terminology. They did not record any approaches approximating to story or scenario telling, although our study suggests that scenarios are used quite frequently by experienced lecturers working in both EMI and L1 contexts, especially when the syllabus content is complex and abstract. Elaboration through scenarios may have some benefits over other terminology teaching methods, because according to the Involvement Load Hypothesis (Hulstijn & Laufer 2001) listeners retain more input if they are motivationally and cognitively involved.

One method for introducing scenarios into a teacher training programme would be to invite trainees to identify concepts they find particularly hard to explain, and to discuss possible analogies, however fantastic and divorced from the lecture topic. Trainees could discuss the appeal of these analogies with reference to the interests of their students: space travel, or fast cars, for example. They might also consider including references to energetic activities such as dancing or flying, with the aim of (temporarily) satisfying an audience which is getting restless within the confines of the lecture theatre.

Participants could also be introduced to scenario examples taken from various sources, identified using the search queries described in our Methods section. It should be noted, however, that scenarios in lectures have particular characteristics, and the same search queries used with other types of corpora may not yield examples that are useful for lecturer training. For example although TED talks are sometimes used as a substitute for lectures in EAP contexts (Wingrove 2017), and although the TED Corpus (Hasebe 2015) contains many scenarios in the same fantastic vein as those we have identified for this study, there are fundamental differences between most lecture scenarios and most TED talk scenarios. The mission of the TED organisation is to spread ideas across communities, and it claims to "believe passionately in the power of ideas to change attitudes, lives and, ultimately, the world" (www.ted.com). Thus, because TED talks aim to inspire the general public, the hypothesising usually serves an entirely different purpose – to persuade listeners to accept a new way of thinking or to change their behaviour rather than to explain theory or introduce disciplinary concepts.

This study has limitations, particularly relating to the size and representativeness of our corpora. We did not have a sufficient number of well-distributed examples to meaningfully compare scenario-telling practices in different disciplines, at different levels, or in different national and language contexts. Moreover we have yet to fully establish the generic structure of scenarios, and to fully differentiate between various kinds of scenario, created for different pedagogical purposes. The study is further limited by the lack of multimodal analysis, which might have shown that lecturers use visual clues to signal and reinforce their scenarios, and that they adjust their tone and speed of delivery to differentiate between scenario telling and other lecturing strategies. This study should therefore be regarded as a starting point for further investigations into this very under-researched characteristic of lecture discourse.

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