

Analysis of Formulaic Structures on TED Talks

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Abstract

TED Talks have been regarded as a new genre in some studies. However, the breakout of the COVID-19 changed the forms of TED talks which made the results of some scholars' studies cannot continue to prove the present TED talks because of the distance keeping and the changed lifestyle. Therefore, this paper analyzes the situational and linguistic of TED Talks in order to find if the present TED talks have formulaic structures that can make them form a genre. In conclusion, it is hard to agree the former idea that TED Talks can be seen as a genre because the present TED Talks have various different forms.

Keywords

TED Talks; Register; Genre Analysis; Situational Characteristics; Linguistic Characteristics.

1. Introduction

TED Talks, which discuss a broad range of topics, has become a platform in which public speakers deliver their ideas on topics regarding global issues with the slogan 'ideas worth spreading'. Speeches in TED Talks have been so engaging and effective that many scholars have been trying to use TED Talks as learning materials.

Several aspects of TED Talks have been studied. Some studies focused on what characterized TED Talks. It is found that TED Talks are typically a poetic-yet-informal, educative, energetic, engaging, and personal way of public speaking (Kedrowicz & Taylor 2016; Ludewig 2017). There are also studies that examine TED Talks' role in reshaping scientific discourses. Comparing TED Talks with academic lectures, Romanelli, Cain, and McNamara (2014) explain that while TED Talks seem to be a simplification of scientific discourse, they also provide examples of how the scientific community communicates with non-specialists. Delivery and design, they argue, is the key to this transformation. Other scholars have also argued that TED Talks have resulted in a new form of knowledge dissemination that allows scientists to speak directly with a larger audience in a conversational manner (Scotto di Carlo, 2014; Sugimoto & Thellwall, 2013).

The structure of TED Talks, furthermore, is worth investigating. While the breakout of the COVID-19 changed the forms of TED talks which made the results of some scholars' studies cannot continue to prove the present TED talks because of the distance keeping and the changed lifestyle. Therefore, this research aims to analyze the situational characteristics and linguistic characteristics of 10 most popular TED Talk videos elected in 2021, and try to find if the present TED talks have formulaic structures that can make them form a genre.

2. Methods

TED talks will be chosen as data, which include 10 transcripts that are selected from the official websites: <http://www.ted.com/>. These data are all the speeches posted from the playlist "the most popular TED talks of 2021". The years of these TED talks are ranged from 2018 to 2021, which can be conveniently analyzed its present situational and linguistic characteristics, not

affected by the time. The selected TED talks last from 7 minutes to 22 minutes to analyze various textual discourses.

Table 1. Situational Characteristics of Registers and Genres

I. Participants

A. Addressor(s) (i.e., speaker or author)

1. single / plural / institutional / unidentified
2. social characteristics: e.g., age, education, profession

B. Addressee(s)

1. single / plural / unenumerated
2. self / other

C. Are there onlookers?

II. Relations among participants

A. Interactiveness

B. Social roles: relative status or power

C. Personal relationship: e.g., friends, colleagues, strangers

D. Shared knowledge: personal, specialist

III. Channel

A. Mode: speech / writing / signing

B. Specific medium:

- permanent: e.g., taped, transcribed, printed, handwritten, email
transient: e.g., face-to-face, telephone, radio, TV

IV. Processing circumstances

A. Production: real time / planned / scripted / revised and edited

B. Comprehension: real time / skimming / careful reading

V. Setting

A. Are the time and place of communication shared by participants?

B. Place of communication

1. private / public
2. specific setting

C. Time: contemporary / historical time period

VI. Communicative purposes

A. General purposes: e.g., narrate/report, describe, inform/explain/interpret, persuade, how-to/procedural, entertain, edify, reveal self

B. Specific purposes: e.g., summarize information from numerous sources, describe methods, present new research findings, teach moral through personal story

C. Purported factuality: factual, opinion, speculative, imaginative

D. Expression of stance: epistemic, attitudinal, no overt stance

VII. Topic

A. General topical domain: e.g., domestic, daily activities, business/workplace, science, education/academic, government/legal/politics, religion, sports, art/ entertainment

B. Specific topic

C. Social status of person being referred to

The situational characteristics of selected TED talks are analyzed by the “Framework for Analyzing Situational Characteristics” (see Table 1) recorded in Biber and Conrad’s *Register, Genre and Style* (2019: 40).

The linguistic characteristics of the selected speeches are analyzed by using the AntConc to build a small-scale corpus. Limited the mastery of corpus analysis methods, the linguistic characteristics of the selected TED talks are also directly analyzed by the texts. The list of linguistic characteristics that can be investigated given by Biber and Conrad (2019: 65) is consulted in the research.

3. Results and Analysis

3.1. Situational Characteristics

The situational characteristics of the selected 10 TED talks are analyzed by the framework introduced by Biber and Conrad (2019: 40), while the basic information of them is shown in Table 2.

Table 2. Basic Information of Selected 10 TED Talks

	Title	Speaker(s) & Identity	Release Time	Length of Time	Remarks
1	How every child can thrive by five	Molly Wright (Student)	07/2021	7:38	/
2	How to stop languishing and start finding flow	Adam Grant (Organizational psychologist)	08/2021	16:00	/
3	How to have constructive conversations	Julia Dhar (Business strategist, champion debater)	03/2021	10:40	TED Salons; No live audience
4	The science behind how parents affect child development	Yuko Munakata (Developmental psychologist)	04/2019	17:07	
5	The 1-minute secret to forming a new habit	Christine Carter (Sociologist)	09/2020	11:06	No live audience
6	How your memory works — and why forgetting is totally OK	Lisa Genova (Neuroscientist, novelist) & David Biello (TED science curator, author)	03/2021	22:25	TED Membership; No live audience (online)
7	Using your voice is a political choice	Amanda Gorman (Poet, activist)	11/2018	7:19	/
8	Meet the scientist couple driving an mRNA vaccine revolution	Uğur Şahin (Physician, immunologist) & Özlem Türeci (Physician, immunologist, cancer researcher)	08/2021	24:50	Interview; No live audience
9	The cure for burnout (hint: it isn't self-care)	Emily Nagoski (Sex educator) & Cloe Shasha Brooks (TED speaker development curator) & Amelia Nagoski (Conductor)	04/2021	18:23	Interview; No live audience
10	The counterintuitive way to be more persuasive	Niro Sivanathan (Organizational psychologist)	05/2019	10:50	/

First, in terms of participants, the addressors(speakers) at TED talks are experts or have passionate in their fields, and often have innovative and refreshing takes on several of today's world practice. For example, Amanda Gorman, the speaker of "Using your voice is a political choice" (2018), is the US's youngest inaugural poet that she made history at the presidential inauguration of Joe Biden and Kamala Harris (see "Amanda Gorman" in Wikipedia); Uğur Şahin, the presenter of "Meet the scientist couple driving an mRNA vaccine revolution" (2021), is one of the world's foremost experts on messenger ribonucleic acid (mRNA) medicines that he initiated the historic development of the first mRNA vaccine for COVID-19 (see "Uğur Şahin" in Wikipedia). Besides, the addressees are not identified in TED talks. Because of the variety of the types of TED talks, such as the popular science and the inspirational speech, the addressees contain different types. Everyone can be the addressee of TED talks. Therefore, there is not a typical type of the addressees.

Second, the relations among participants in TED talks are not close. Low interactivensness is a typical feature of TED talks. Most registers are intermediate in their degree of interactivensness like the email interchange (Biber & Conrad 2019: 42), while the TED talks also have a middle or more like a low interactivensness because it seems like a kind of speech that the speaker should constantly talk about the topic to achieve a goal such as making the audience know something new or start to do something. The interaction between the participants is at most to hear the audience's laughter or applause, which can be showed in Wright's "How every child can thrive by five":

01:00 My talk today is about some powerful things you grownups can do. that shape us as children and the adults we become. How do I know?.....When Ari was born, he was tiny and he cried all the time. He was always hungry and he pooped a lot.

01:51 [Laughter]

05:53 So please, try to remember the most special period for our development is the first five years.....Please give it up for a Amarjot and Ari.

06:21 (Applause)

Some speakers can interact to the audience's laughter (e.g. Grant's "How to stop languishing and start finding flow") while others don't response to them and just continue to make his own speech. Sometimes, there is even no interactivensness in TED talks. For example, in Julia Dhar's "How to have constructive conversations", there is no interactivensness between the speaker and the audience because it is a prepared speech without any live audience. In addition to the low interactivensness, participants are socially equal. Those talks can be considered as talking to some familiars or friends. For example, the speech in Grant's "How to stop languishing and start finding flow" is like a natural conversation between familiars:

00:03 I know you all have long to-do lists, but I hate wasting time so much that I have a to-don't list. Don't scroll on social media, don't check my phone in bed and don't turn on the TV unless I already know what I want to watch. But last year I found myself breaking all of those rules. I was staying up way past midnight, doomscrolling, playing endless games of online Scrabble and bingeing entire seasons of TV shows that weren't even good. The next morning I'd wake up in a daze and swear, "Tonight in bed by 10:00." But it kept happening night after night for weeks. What was I thinking?

What's more, in TED talks, the shared knowledge is not necessary as this kind of speech often aim to tell the audience some new knowledge. Thus there is no need to have a shared knowledge before the talk but participants can also have different degrees of shared background knowledge which can decide what degree of the new knowledge they will then know.

Third, the channel of TED talks is a speech but with no specific addressees and lower interactivensness compared to the conversation. And the specific medium of it is permanent for it is the video form that is recorded and released in the official website. Although some TED

talks have life audience, the speeches are also recorded completely which will not affect the permanence of the medium.

Fourth, the presenters' circumstances for production in TED talks is scripted or even well-planned. For example, Grant in his TED talk made a script that he could give a timely reaction to the volunteers:

05:37 Lee: TED is very high, TED is very high. The poetry of C.S. Lewis, E.E. Cummings, Dylan Thomas.

05:44 AG: You want to name all the poets you've ever heard of? Alright, Lee, thank you. We're going to pause you there. Round of applause. Thank you both.

05:52 (Applause)

05:55 So for a long time, I assumed that people in Lee's position were going to be happier than Martin. But when I ran the experiment, I found the exact opposite. That people who are randomly assigned to count more blessings, are actually, on average, less happy because you start to run out of things to be optimistic about. And if you don't know that many poets ...

But some presenters plan everything they want to say in advance, without providing opportunities for interaction, like Genova in her "How your memory works — and why forgetting is totally OK":

00:04 Thinking about the past week, did any of you forget where you put your phone? Did you have a word stuck on the tip of your tongue, you couldn't remember the name of an actor or that movie a friend recommended? Did you forget to take out the trash or move the laundry from the washer to the dryer or to pick up something from the grocery store you meant to buy? What is going on here, is your memory failing?

00:31 It's not. It's doing exactly what it's supposed to do. For all its miraculous, necessary and pervasive presence in our lives, memory is far from perfect. Our brains are not designed to remember people's names, to do something later or to catalogue everything we encounter. These imperfections are simply the factory settings.

Genova prepared her content in advance and replaced the real-time interaction with the audience in the form of self-answered question, which is actually a planned speech. Moreover, in the circumstances for comprehension in TED talks, the addressee has to hear and understand the content at the same time that the speaker produces it, which means that the TED talk is a real-time comprehension. The audience cannot control the sequence of information except the speed.

Fifth, is about the setting. The time and place of communication are proposed to be shared by participants in TED talks. The speaker usually substitutes the audience into his set scene to make them fully understand his idea. And the place of communication is a public place that we can often see the speaker stand on a stage and make his talk to the audience. Furthermore, the time of the communication is more like a historical time period because of the content is happened before.

Sixth, the communicative purposes of TED talks are various. The general purposes of these talks can be narrate/report, describe, explain, persuade, and procedural, depended on the speakers' goal of the speeches. Therefore, the specific purposes can be regarded as hybrids while at the same time there is one main specific purpose, such as summarize information from numerous sources, describe methods, present new research findings, and teach moral through personal story, etc. (Biber & Conrad 2019: 45). For example, the main communicative purpose of "Meet the scientist couple driving an mRNA vaccine revolution" (Şahin & Türeçci 2021) is to present the new research findings, while the main purpose of "Using your voice is a political choice" (Gorman 2018) is to teach a truth through the speaker's experience. And the purported factuality can be factual or opinion in different TED talks, while the expressions of stance are also various, depend on the topic of the speech.

The last one is about the topic. The topics of TED talks are different while most of them can be educational. The selected ten TED talks contain eight speeches that teach people the way/method to do something while the other two are to show the facts. So it is difficult to define a topic to include all TED talks.

3.2. Linguistic Characteristics

In general, the goal of the linguistic analysis is to identify the language features that are typical or characteristic of the target register (Biber & Conrad 2019: 52). Determining what is typical in a register is associated with three major methodological considerations in a register analysis: a comparative approach; quantitative analysis; a representative sample of texts (ibid.). In this research, the linguistic characteristics were identified by quantitative analysis, that is to build a small-scale corpus to figure out the word frequency and other features. And some typical TED talks in the 10 selected speeches were chose to direct analyze the texts, in order to find some linguistic features by comparing the list given in *Register, Genre and Style* (Biber & Conrad 2019: 65-68).

The number of word types in the total 10 TED talks is 3205. In terms of the pronoun features (see Table 3), the second person "you" is used most frequent in the 10 talks, while the first person "I" "we" "me" are used also frequent showed in Table 3. The high usage of the first person and the second person can reflect the characteristics of Ted talks: a kind of speech that is close to the audience.

Besides, from the comparison between the usage of nouns (see Table 4) and verbs (see Table 5), it can be found that the usage of nouns is more frequent than the verbs in TED talks. The frequent use of nouns might be caused by the goals of TED talks—spreading various ideas. At the same time, there are many active verbs used in the talks, probably because of the speaker spreads his ideas from his own perspective. And the modal verbs (see Table 6), especially "can" "could" "will" and "would" are used many times, while the "must" is seldom used for its degree. The speakers are more likely to use those modal verbs which contain possibility to let audience have different ideas through their speeches.

Table 3. Word Frequency of Pronouns

Pronouns	Word Frequency	Norm Frequency
You	503	23170.144
I	385	17734.58
It	319	14694.366
We	270	12347.238
They	83	3823.299
Us	66	3040.214
Me	40	1842.554
He	38	1750.426
Them	36	1658.298
She	12	552.766
Her	5	230.316

The adjectives and adverbs (see Table 7) are used less frequent than the nouns but there is not much difference with the frequency of verbs. Because the speaker wants to attract more people to get involved in his speech, the adjectives and adverbs are used to make the talk vivid and more interesting.

Table 4. The Usage of Nouns (Top 10)

	Nouns	Word Frequency	Norm Frequency
1	People	81	3731.171
2	Time	51	2349.256
3	Memory	39	1796.49
4	Way	38	1750.426
5	Day	37	1704.362
6	Children	35	1612.235
7	Information	31	1427.979
8	Body	30	1381.915
9	Parents	29	1335.851
10	Brain	25	1151.596

Table 5. The Usage of Verbs (Top 10)

	Verbs	Word Frequency	Norm Frequency
1	Get	50	2303.192
2	Think	45	2072.873
3	Need	41	1888.618
4	Feel	35	1612.235
5	Make	34	1566.171
6	Go	32	1474.043
7	Work	31	1427.979
8	Remember	24	1105.532
9	Say	23	1059.468
10	Set	22	1013.405

Moreover, it is worth paying attention to the use of conjunctions (see Table 8). The conjunctions in the TED talks appeared more frequent than the nouns, which fits the characteristics of TED talks: a speech which focuses on the coherence and the logic. The conjunctions reduce the formality of the talks, but can add a harmonious atmosphere.

Table 6. The Frequency of Using Modal Verbs

	Model Verbs	Word Frequency	Norm Frequency
1	Can	135	6218.619
2	Could	41	1888.618
3	Will	37	1704.362
4	Would	31	1427.979
5	Should	12	552.766
6	Must	5	230.319

Take Grant's "How to stop languishing and start finding flow" (2021) as an example to analyze deeper. In Grant's speech, there is a large number of first-person pronouns used, while also some second-person pronoun used. In TED talks, there are plenty of speeches talking about the speaker's life experience thus the first-person pronouns used many times. And the main clause type in the talk is declarative but also some interrogative clauses to get close with the audience and to create a relax atmosphere. The average clause length is not long, compared to the formal speech. The TED talk is different to the formal speech because it has the interaction with the audience. While compared to the daily conversation, the average clause length can be long

because the natural conversation contains many shifts of the topics, which can create many short clauses. But the TED talk usually has only one topic and the speech is often scripted thus the clause length is longer than natural conversation.

Table 7. The Usage of Adjectives and Adverbs (Top 10)

	Adverbs / Adjectives	Word frequency	Norm frequency
1	Not	135	6218.619
2	Just	76	4500.852
3	More	68	3132.341
4	Right	44	2026.809
5	Really	42	1934.681
6	Over	41	1888.618
7	Even	40	1842.554
8	Much	38	1750.426
9	New	34	1566.171
10	Only	34	1566.171

Table 8. The Frequency of Using Conjunctions

	Conjunctions	Word Frequency	Norm Frequency
1	And	636	29296.605
2	So	192	8844.258
3	But	124	5711.917
4	Or	108	4974.895
5	Because	62	2855.958
6	Then	31	1427.979

3.3. Structure Analysis of TED Talks

According to Biber and Conrad's methods to distinguish the genre (2019: 72), genre markers should be appeared in the text. Genre markers are the distinctive expressions and devices that are used to structure a text from a particular genre. They are distinctive, normally being formulaic and occurring in only a particular location of a text from a particular genre (often at the beginning or end of the text). Therefore, if the TED talks can form a genre, the genre markers should be found in most of the talks while the talks have a formulaic structure.

Taking the collected 10 TED talks as samples to analyze. The common ground of the 10 talks is that the speakers all talk about their experience/findings. Although the topics are different, the major goals of them are all to let the audience learn something new or even to do some practical things. But the structures of these talks are not exactly same. For example, there are two TED talks' form is the interview, different to the others' only one speaker's speech, which can be difficult to figure out the general formulaic structure because the interview is more like a kind of conversation while the one-speaker talk can be seen as a speech.

If these two kinds of TED talks are separated to analyze, the formulaic structures can still not be found. Taking the single speaker's TED talks as the example, there are different types of speeches among the collected one-speaker TED talks. First is the general type, which often be regarded as a genre in some studies (e.g. Miranda 2021), is giving a background first and then pointing out the problem thus beginning to solve the problem. The typical TED talks are Grant's "How to stop languishing and start finding flow" (2021) and Dhar's "How to have constructive conversations" (2021). At the same time, there is another type of the one-speaker talks, for example Wright's "How every child can thrive by five". This talk is different from the former two that it does not put any problem to the audience but explains a phenomenon directly. And

there is also one more type in the collected TED talks. Forman's "Using your voice is a political choice" (2018) is an extremely different TED talk, which just tells the audience the speaker's own experience without directly teaching the audience something. Therefore, the TED talks cannot be concluded into a formulaic structure.

Moreover, in the collected 10 TED talks, there is no genre marker could be found. In fact, it is difficult to find some genre markers because the TED talks contain a wider range and is free that many people can be the speaker to talk about his/her experiences. There are few restrictions in the TED talks. So the TED talks has a relatively free form which is hard to form a genre.

4. Conclusion

This research analyzes the situational characteristics and linguistic characteristics of the TED talks by selected 10 talks from the website. Although the TED talks have many features different to other kinds of texts, it still cannot form a genre for its complexity.

Although TED talks in some researches are regarded as a genre for example Lukmana and Riesky's research in 2021, this research still think that the TED talks cannot be seen as a genre. By reviewing the researches which consider the TED talk as a genre, the difference can be found between this research and the others' studies: the others samples are released earlier and ignore the different forms of TED talks like the interview. Because of the breakout of COVID-19, the forms of some TED talks changed which made the procedure of common TED talks changed. Therefore, the structures became various, thus the formulaic structures are hard to conclude.

This research also has some limitations. First, the number of samples is not enough. There are only 10 TED talks selected to analyze, which cannot make a general conclusion applicable to all the TED talks. Second, the analysis methods are not mature enough for example the corpus-based method. In conclusion, in this research, the selected TED talks cannot form a genre. But it is hard to make a conclusion that all the TED talks cannot form a genre, which needs further research to analyze.

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