Abstract: Presentations and essay writing are the most common and popular forms of writing in engineering universities. Such writing/speaking can be creative or academic, casual or formal, personal or public. Most students are introduced to such forms of scientific discourse in high school, and are expected to have become comfortable with it by the time they reach the faculty level. However, there is always room for improvement in their skills. The difficulties learners have to overcome in foreign language presentations for environment protection derive from improper use of text markers, faulty logical connections, unclear demonstrations lacking sufficient supporting arguments, and mediocre research skills applied to the selected bibliography. It is the task of the foreign language professor to improve those skills and contribute to the creation of a sound basis for future life-long learning abilities and honest professional development.

Key-Words: logical connectors, specialized text markers, sequencing and prioritizing ideas, environment engineering presentations

1 Introduction

My eleven years of experience in dealing with environment engineering students in the Polytechnic University of Bucharest have made me aware of the fact that the greatest difficulties my learners face in their professional English communication occur in the activities involving presentations and technical essay writing. All problems seem to emerge from the same source: lack of practice in sequencing and prioritizing information. To this difficulty, originating in insufficient instruction and practice in high school, yet another one is added: inadequate control over text markers, both in the mother tongue and in the foreign language. Didactic remedial activities therefore focused on creating a data bank containing the most used logical connectors and constantly updating it, then correlating patterns/templates of academic writing for science and technology with reference texts relevant for the students’ future profession, and then adapting it all to my learners’ current level of development in the field of writing and speaking skills. Subsequently, I asked them to perform such tasks, recording the frequency of using markers and their progress in using the formal style. The present article is the result of this effort.

2 Problem Formulation

This section refers to the standard layout of two main types of scientific writing required in environment engineering, in which students seem to experience the most numerous difficulties, as I observed in my course destined to the first year students: the critical essay or presentation and the survey report, both important skills to be mastered for effective communication in the future profession.

2.1 The critical essay/presentation

Students have the misconception that being critical is being negative, and this is the reason why they approach this type of essay with difficulty. Critical essays, however, can be either positive or negative in the point of view expressed. The purpose of the critical essay is to describe the author’s attitude toward a specific topic, by mainly providing factual information and data rather than simply writing personal opinion. Here are the steps to be followed:

- analyze the topic
- provide a brief statement of your main idea (the thesis statement or the theme of the essay)
- outline the important facts you intend to discuss
- provide a summary of the essay
- complete an extensive amount of research in order to formulate your criticism of the subject matter
- distinguish the important information from the material that is irrelevant
- once you have selected the relevant material, read it over again to be sure of your solid understanding
- create a rough introductory paragraph containing the thesis statement
- determine the main topics of the paragraphs and write a rough draft, filling in the researched details
• be logical, clear and concise
• present relevant extensive information to support your point of view
• include statistic, theoretical concepts, quotations
• cite all of the information you include. Not only will this help to validate accuracy&relevance, it will also keep you from being charged with plagiarism
• allow plenty of time to complete the paper
• use many different resources for gathering data
• mind information accuracy
• include relevant and up-to-date information
• select one specific aspect of the topic and research that particular area
• from all the books in the bibliography, read only those sections that pertain to the topic you selected

After writing the critical essay, set it aside for a few days and then re-read it. You can thus check for logic errors and you can make corrections that will help improve the overall flow of the essay.

2.2 The survey report

Formal in style and based on polls/statistics, it presents and analyses research results, including general assessment and recommendations. All sources are official and clearly documented. It reflects the opinions, preferences and options of a certain category of people, as they can be inferred from facts (numbers, proportions, percentages) and generalizations.

The top template resembles the e-mail: to, from, subject, date.

The introduction briefly states the objective and the key content ideas. Useful lexis includes:
• The purpose/aim/intention/goal/target is …
• A survey focused on clients/professionals
• Measurements carried out to determine …
• Experiments conducted …
• As requested, it contains data compiled from …
• The information came from investigation methods including questionnaires, interviews, and surveys.

The main body presents data & information from research, in detail, under headings and sub-headings.

The conclusion summarizes relevant points and adds suggestions and recommendations. Useful lexis:
• The survey clearly demonstrates that …
• On basis of such findings it would seem that …
• The results suggest/indicate/reveal that …

Present tense is mostly used, with key verbs such as: acknowledge, admit, advise, agree, appreciate, allow, ask, assess, claim, declare, decide, demand, discover, estimate, evaluate, examine, explain, identify, inform, instruct, offer, outline, remind, state, suggest, urge, warn.

3 Problem Solution

Here follows the list of text markers compiled by Virginia Evans, to which students added researched syntactic and lexical units from Michael Vince, as well as their own contributions(in italics). Sections of this data bank are accompanied by graphs showing the frequency of implementing logical connectors in the formal presentations of environment engineering students in the Polytechnic University of Bucharest.

3.1 Introducing personal opinions

| In my opinion | I reckon that |
| To my mind | It is my impression that |
| To my way of thinking | As for me/As about me |
| I am convinced that | From my standpoint |
| It strikes me that | My perspective is |
| It is my firm belief that | As I see it/things |
| I am inclined to believe… | Personally I think… |
| It seems to me that | I would rather/sooner focus on… |
| As far as I am concerned | They had better/should/ought to |

3.2 Listing advantages

| One advantage of | One disadvantage of |
| Another advantage of | Another disadvantage of |
| One other advantage of | One other disadvantage of |
| An argument in favor of | A further disadvantage of |
| A further advantage of | The main disadvantage of |
| The main advantage of | The greatest disadvantage of |
| The greatest advantage of | The first disadvantage of |

3.3 Listing disadvantages

| An argument against |

3.4 Listing points

| Firstly | For example |
| First of all | For instance |
| In the first place | Such as |
| Secondly | Like |
| Thirdly | In particular |
| Finally | Especially |

3.5 Giving examples

3.6 Sequencing and prioritizing ideas

• Beginning: first (of all), to start/begin with
• Continuing: secondly, after this, after that, next, then, afterwards
• Finalizing: finally, lastly, last but not least

3.7 Show contrast appearance/reality

| Initially | In contrast to |
| At first | Contrary to |
| On the contrary | By contrast |
### 3.8 Adding more points to the same topic
- What is more
- Furthermore
- Apart from this/that
- In addition to
- Moreover
- Besides this
- Not to mention the fact that
- Not only… but also …
- Both … and …
- And
- Both
- Too
- Also
- As well
- As well as
- Above all
- On top of that
- After all

### 3.9 Referring to other sources
- With reference to
- According to
- As for ...
- As about ...

### 3.10 Setting the limits of knowledge
- To the best of my knowledge
- As far as I know
- For the same reasons
- In my knowledge

### 3.11 Expressing cause
- Because (of)
- As
- Since
- Owing to the fact that
- Due to the fact that
- On the grounds that
- In view of

### 3.12 Expressing effect
- Therefore
- So
- Consequently
- As a result/consequence
- Hence
- Thus
- The + comparative,
  the + comparative

### 3.13 Expressing purpose
- So that + may,
  might, can, could, shall
  should, will, would
- So as to
- In order to
- In case
- With the purpose
- With the intention

### 3.14 Stating popular conceptions
- It is popularly believed
- People often claim that
- It is often alleged that
- It is a popular belief that
- A popular misconception is
- It is a well known fact
- People point out
- People feel that
- Some people argue
- Many agree that
- Accustomed to the popular belief that

### 3.15 Make general statements
- As a rule
- Generally
- As a general rule
- In general
- By and large
- On the whole
- Globally
- Generally speaking
- It is generally perceived
- It is felt that …

### 3.16 Separating the truth in partially correct statements
- To a limited extent
- To a certain extent
- To some degree
- In a way
- Up to a point
- In a sense

### 3.17 Emphasizing a point
- Possessive + own
- Compounds with ever + modal
- Echoing phrases with so
- Little does she appreciate …
- So + adjective + that
- Such+ noun + that
- Indeed
- Naturally
- Clearly
- Obviously
- Of course
- Needless to say
- Certainly
- Surely
- Sheer
- Pure
- Complete
- Thorough
- Absolute
- Strongly
- Major
- Utter
- Explicit
- Total
- In practice
- Actually
- After all
- In fact
- In effect

### 3.18 Define reality
- It is a fact
- Actually
- The fact is that …
- As a matter of fact
- The fact of the matter is that …

### 3.19 Balance: the other side of the argument
- Opponents of this view say
- arguclaim/believe/admit/acknowledge (that)
- While it is true to say that … in fact it should
  be viewed with caution …
- The fact that … contradicts the idea/belief that
- Still, it is argued that …
- There are people who think that …
- Contrary to what most people believe
- As opposed to the above ideas
- Certain members expressed disapproval
- On the one hand…on the other hand …
### 3.20 Negative addition
- Neither … nor …
- It is not …, and neither/nor is …
- It is not …, and the other is not, either.

### 3.21 Make contrasting points
- Yet
- However
- Nevertheless
- Nonetheless
- But
- Even so
- Still
- Although
- Though
- Even if/though
- Even so
- While
- Regardless of the fact…
- In spite of the fact that
- Despite the fact that
- All the same
- Irrespective of the fact…
- Whereas
- Whilst
- In any case
- Anyway
- Instead
- For one thing… and for another…

### 3.22 Give alternatives
- Or
- Either …, or …
- On the one hand …, on the other hand …
- Alternatively
- Another solution/perspective would be
- Whether … or …(not)

### 3.23 Similarities
- Similarly
- Likewise
- In the same way
- Identically

### 3.24 Exception
- Apart from
- Except for
- But
- With the exception of

### 3.25 Clarify
- It means
- That is to say
- Let me be more clear
- The bottom line is …

### 3.26 Rephrase
- In other words
- To put it another way
- Namely
- Let’s go to the point

### 3.27 Express condition
- On (the) condition that
- Provided that
- Providing (that)
- Only if
- If only (+ regret)
- As long as
- In the event of/that
- Under the circumstances
- Under no circumstance/condition
- In case
- If
- If so
- Otherwise
- Or else
- Unless = if not
- Assuming that
- Suppose
- Supposing that …
- So long as

### 3.28 Indicating consequences
- Consequently
- Then
- So
- In which case
- Insofar as
- As a result
- As a consequence

### 3.29 Comparing
- As … as …
- Just as … as …
- Not quite as … as …
- More than …
- Less than …
- Twice as … as …

### 3.30 Concluding
- Lastly
- All in all
- Finally
- Therefore
- To sum up
- Taking everything into account
- On balance
- Taking it all into consideration

### 3.31 Summarize
- In short
- Briefly
- To put it brief(ly)
- I would like to conclude stating that …
- Some final observations
- Let’s make a summary of the previous points

### 3.32 Asking/inviting questions
- I invite you to ask questions, make comments and share experience
- I would be very interested in hearing your questions
- If you have any questions please feel free to interrupt
- I would be glad to take any questions at the end of my presentation

### 3.33 Context approximations
- Almost
- About
- Approximately
- Largely
- Altogether
- Next to
- In the vicinity of
- Neighboring
- Out of all proportion
- Few/little (insufficient)
- (quite) a few/little( enough)
- Somewhat
- Tremendously
- Enormously
- Really
- As a rule
- Regularly
- Even
- Mainly
- Mostly
- Too
- Nearly
- Virtually
- Vaguely
- Hardly ever
- Extremely
3.34 Define time

- When
- Whenever
- Before
- Until
- Till
- After
- Since
- Last
- While
- Whenever
- As soon as
- As
- During
- By the time
- Sooner or later
- Ever
- Never
- Just
- Already
- In the foreseeable future
- Next...
- Now
- Currently
- For the time being
- Every ...
- Always
- Often
- Seldom / rarely
- Sometimes
- Usually
- Then
- Subsequently
- Eventually
- At no time
- Long-term
- In the long run
- In perspective
- Once in a while
- Once
- The moment that
- Immediately
- Straight away
- Directly
- From time to time
- Twice a week
- Every now and then
- Accidentally
- It will last/take
- Day in, day out
- Day after day
- Time and time again
- Over and over again
- Hardly ... when
- Barely ... when
- Scarcely ... when
- No sooner ... than
- At the same time
- Meanwhile
- Afterwards
- Earlier
- On time
- In time
- Daily
- Quarterly
- Hourly
- Later
- Previously
- Beforehand

3.35 Defining space

- Where
- Wherever
- There
- Here
- Over here/there
- On the premises
- The venue is
- On location
- Estate/building
- Space/land/property

3.36 Defining position

- On
- Under
- Opposite
- Across
- Inside
- Upside down
- Reversed
- Beneath
- Through
- Beyond
- Outside
- At the corner
- In the corner
- In front of

3.37 Relatives

- Who
- Whom
- Whose
- That
- Whoever
- Which
- Whichever
- Regarding
- Concerning
- Referring to
- With respect to
- With regard to
- With reference to
- About

3.38 Reference

- Two quarters
- Three fifths
- One in 8 people
- Four out of six
- Share
- To double
- To triple
- Threefold
- Twofold

3.39 Proportions

- ... per cent
- High/low percentage of
- The majority of
- The minority of ...
- A significant number of
- Relevant amount/sum
- Meaningful quantity
- Over one third
- Half

3.40 Comment adverbs & phrases

- Presumably
- Naturally
- In all likelihood
- Notably
- Apparently
- Kindly
- Definitely
- Lucky
- Sadly
- Seriously
- Interestingly
- Surprisingly
- Carelessly
- Unbelievably
- Undoubtedly
- Wisely

3.41 Trends

- Raise
- Lower/cut
- Maintain
- Remain stable
- Plummet
- Fall
- Grow
- Go up
- Go down
- Increase
- Decrease
- Boom
- Improve
- Recover
- Drop
- Peak
- Large modification
- Sudden alteration
- Small change
- Sharp
- Slight
- Quick/rapid
- Regular
- Constant
- Steady
- Gradual
- Slow
- Step by step
- Stay the same
- Be flat
- Hit a low
- Remain high
- Reach a peak
- Be/stand at
- Decline
- Fluctuate
- Level off
- Drop/fall back
This graph shows the use of text markers expressing trends, proportion, and comment adverbs & phrases, during the seminar, the mid-term, and the final exam. I was pleased to see that, after a peak in the mid-term, the use of comment phrases decreased, leaving room for more exact data. As for the rest, students steadily increased the implementation of markers dealing with trends and proportions.

This representation focuses on the use of formal and informal style in presentations, also displaying the percentage of learners who still oscillated.

Particular attention was dedicated to the evolution of logically sequencing & prioritizing ideas, to see the impact of such demanding activities upon discourse fluency and upon the interaction with the audience. This graph shows that the educational strategies implemented during the course and seminar increased the quality of the logical approaches and had no negative impact on fluency and on audience control.

This graph shows the impact of logical connectors on the evolution of students’ complex sentences, which grew longer and clearer, using increasingly elevated lexis &neologisms, to be in step with the degree of formality imposed by the text markers. Noticeable impact was seen on discourse fluency and persuasive influence, as speech formulas are corroborated with mathematical formulae, to convey a wealth of scientific & technical meaning.

4 Conclusion

The responsibilities of engineers to society are significant, involving effective communication with workforce and collaborators of various nationalities when implementing normative values into positivist practice. Within this context, text markers stimulate teamwork cohesion, prevent the waste of time and resources, facilitate understanding, and favor logical approaches. Duties, development stages and ethical standards are thus more clearly assigned and obeyed.

Customary engineering activities require careful attention to balancing issues such as cost, efficiency, scheduling, best practices, and diverse types of risk in project design, construction, and completion stages. Networking towards these goals cannot be imagined in the absence of text markers & logical connectors.

Ethical principles in environment engineering create a framework allowing conflict anticipation in relation to proposed actions/decisions in numerous situations. Text markers can alleviate speech tension, obtain group benevolence/cooperation, get attention, focus efforts, clarify the discourse, raise awareness, coordinate actions or manipulate the public. Using them adequately is an important skill to master for any engineering professional.

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