Puzzling Over Mechanical Errors: An Exploratory Practice Study

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ABSTRACT

This study sought to solve the puzzle of persistent occurrence of mechanical errors in pre-service primary school teachers’ writings. Data consisted of short compositions from four intact classes (n=75) of second-year university students at the Higher Institute of Arts and Crafts of Tataouine (ISAMT), Tunisia. Results of data analysis revealed a high rate of mechanical errors and indicated that negative transfer and fossilization were major obstacles in the process of mastering L2 writing.

Keywords: academic writing, exploratory practice, L2 writing, mechanical errors, PEPA

INTRODUCTION

Reflecting on one’s teaching/learning practices to further professional development has become a necessity in the language teaching field. As a start and on a personal note, before completing a recent English language training course in the framework of the Teachers College (TC)-Tunisia Foreign Language Teacher Education Capacity Building Transnational Project (2021-2022; hereafter TC-Tunisia), the phrase Exploratory Practice (EP) was merely a vague and general concept, like many other concepts, without a particular resonance in my repertoire of research terminology. But one of the most significant takeaways of the TC-Tunisia encounter was the introduction, later on, of EP by Professor ZhaoHong Han (personal communication, 2022), the TC-Tunisia Project Director who has initiated this form of practitioner research in her discussions with TC-Tunisia participants, inviting them to reflect on their current teaching practices with a particular focus on some of their classroom puzzles for their better understanding.

This paper reports on my first exploration of a classroom puzzle. The study was conducted in the TC-Tunisia training context (post-training call for reflection). As part of the exploration, I surveyed some of the EP literature, with a view to identifying the main principles of EP. From what I have come to understand, EP prioritizes the understanding of the classroom complexities and the furthering of practitioners’ professional well-being (Breen, 2006), rather than seeking improvement of some of the problems (Allwright, 2005) arising therein as Action Research (AR) attempts to do.

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With that understanding, I reflected on an attempt to understand, in collaboration with a group of pre-service primary school teachers, in two ordinary English language and didactics classes, amid a 14-week English course, their ever-present writing misspellings. And inspired by a number of personal stories shared by other teachers in their teaching contexts about classroom puzzles and Professor Han’s call for “puzzling”—identifying and solving puzzles—I decided to try my hand at EP research in my own didactics course.

In the first session (Day 1), the idea of puzzling was introduced to the students, where I explained what the concept means. I drew the students’ attention to the subtle and delicate distinction between puzzling and research and introduced puzzling as a new form of inquiry encompassing notions of understanding classroom life-quality and seeking deeper understandings of classroom practices by asking mainly why questions, in contrast with traditional assumptions that see research as an objective, large-scale investigation looking for products and improvements. Finally, I pointed out that in light of the EP framework, the classroom learners, in any educational context, are no longer seen as simply students (Tudor, 2001) but legitimate co-investigators (collegiality principle) who contribute to classroom life, as well as to the outside educational context in general.

In the next session (Day 2), I presented the Potentially Exploitable Pedagogic Activities (PEPA) technique, which seamlessly weaves together research, teaching and learning, and deployed it as our research investigative tool. Evidently, the students were not previously prepared to meet such goals (e.g., understanding why they misspell); in addition to my first ever experience with EP, it was with some tension that I explained the purpose and the pedagogic worth of exploring a “fringe element of grammar” in a TEYL class.

THE PUZZLE

The puzzle I sought to understand was: Why do my students commit spelling as well as punctuation and capitalization errors more than they do with other seemingly more challenging linguistic forms or structures? This puzzle triggered my curiosity to stop for a while and share my frustration with a colleague in the Education Department and then with my students in the classes.

At the beginning, I was uncertain how to fit the investigation into ordinary language classes. I thought I would end up offering a number of tips on ‘how’ to solve this mechanical problem, and imagined that my students would not be engaged as they never had been with the routine grammar work. The major reasons behind that feeling are twofold; first, the students are not English majors and thus uninterested in form-focused activities since the official program learning objectives do not state that in the syllabus document, and second, the approach itself is unfamiliar to both practitioners—teacher and student—in this TEYL context. With this in mind, my expectations were relatively low.

While I started with the above question as driving the classroom inquiry, I had in mind other ones which emerged as I was planning for Day 2: What if the students will not cooperate? What if the session will fall short of its expectations? These and others kept popping in my mind prior to the start of Day 2. To my surprise, the students’ answers, mostly in their first language (L1), revealed knowledge of a wide repertoire of explanation for their written errors, all teacher-related.

THE DATA

This section describes the participants, the data collection method and the procedures.
Participants

The participants were second-year pre-service teachers of primary schools, who, at the time of conducting this investigation, were studying in a three-year program for an education degree. They were mainly female students from two academic backgrounds (arts and sciences) with different English language proficiency levels, and were at semester four (S4) in that academic year, 2021/2022. When the investigation was taking place, the participants were attending a didactics class on how to teach English to young learners (TEYL) with a main objective to introduce them to TEYL, and in particular, the topic of group work. The English language and TEYL (didactics) syllabus aims to develop the students’ English proficiency as well as equip them with the theoretical and pedagogical knowledge and skills needed for their future teaching career. The didactics content includes, but is not limited to, a range of topics such as language theories, language learning theories, assessment and classroom management.

Data Collection

The present inquiry aims to probe into a cohort of Tunisian pre-service teachers’ written production of English in a didactics class. The data consist of four samples of short classroom-based group writing activities. These serve, first and foremost, as a source of pedagogic information and, secondarily, as a research tool, to answer the following question: Why do pre-service primary school teachers make recurrent spelling, punctuation and capitalization errors in their writings more than they do with other linguistic forms? The topic being discussed (i.e., writing an argumentative paragraph) is familiar to the students since it makes part of their language course and has already been partially covered in previous sessions. Therefore, the choice of the writing activity meets an EP principle, that is, working for understanding should be part of teaching and learning content, not extra to it (Hanks, 2017). Data come mainly from classroom discussions (teacher-led) during which I provided a set of guidelines (see Appendix A) for the main activity, answered students’ questions and announced the writing assignment, which was to write a short argumentative paragraph and submit it in the same session (Day 1). In the session on Day 2, a follow-up task sheet containing six questions (see Part 2 of Appendix B) structured coherently leading up to an open discussion, was distributed to the groups who were instructed to reread their Day 1 paragraphs and work on the assigned questions. The groups were asked first to identify different kinds of errors using the provided codes (see Part 1 of Appendix B) and then to work out their possible sources.

Procedure

This study was framed within Explorative Practice research tradition (Allwright, 1993, 2003) and was conducted during two regular consecutive sessions of one and half hours. In my effort to “unpuzzle” the question under investigation, I adapted Allwright’s (2000) PEPA technique, taking the following steps: (1) identifying a puzzle, (2) reflecting upon the puzzle, (3) monitoring to gather data, (4) taking action to generate relevant data, (5) deciding on how to interpret the collected data, (6) analyzing the collected data, and (7) contemplating underlying causes and pedagogical implications (see Appendix C). This set of procedural steps served both a pedagogical purpose, namely, teaching the language, and a research purpose, using learner language samples generated during the teaching to help break down the problems spotted in the course of teaching.
On Day 1, which set the stage for Day 2, the students in each class were asked to form groups of three or four. They were then given a list of 16 argumentative topics to choose from and worked in their groups on their selected topic. On Day 2, the same groups were instructed to exchange their paragraphs with other groups and then to work on the questions on a worksheet (see Part 2 of Appendix B). The intervention from me as the teacher was kept to a minimum during Day 1; on Day 2, however, I shared with all groups the purpose of the investigation and slowly brought the issue of high occurrence of mechanical errors into full focus. I then had an open discussion with all groups, pooling different ideas and discussing them with an eye toward forming a list of possible sources of errors that had appeared in their writings of argumentative paragraphs. I assured the students that the purpose of the activity was not to fix the errors, but to gather their thoughts and questions about the high recurrence in their writings.

The present study adopted the standard procedure for error analysis (Corder, 1974, Ellis & Barkhuizen, 2005). Thus, it began with collecting samples of learner language, followed by error identification, description, and explanation. The focus of the error analysis was on misspellings, incorrect capitalizations, and context obligatory punctuation.

The explanation phase of the error analysis, the major thrust of this investigation, involved working out the possible sources of errors. The students offered general reasons, which were then grouped into three categories: personal, instructional and L1 transfer. Because the students had had little awareness of mechanical errors, they made little or no mention of possible sources, and they mostly cited personal and instructional reasons.

ANALYSIS AND RESULTS

Error Identification

Table 1 summarizes the frequency of errors that appear in four writing samples. The high frequency of such errors could be explained by the considerable number of lines per sample (31, 18, 25 and 30 lines in the four samples respectively).

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Frequency of Mechanical Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error Type</td>
<td>Frequency</td>
</tr>
<tr>
<td>Capitalization</td>
<td>41</td>
</tr>
<tr>
<td>Spelling</td>
<td>38</td>
</tr>
<tr>
<td>Punctuation</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
</tr>
</tbody>
</table>

Following are examples of capitalization errors in Sample 1:

(a) Elissa as an arabic famous singer  
…because of Cosmetic surgery failure

In (a), for example, the word arabic should be capitalized, while the word Cosmetic should not. Confusing proper nouns with common nouns has been found to be a recurrent issue in the students’ writings.
As for spelling errors, Sample 4 alone contains 21 spelling errors, and here are three examples:

(a) …developpement…
(b) …over 54,000 news deaths…
(c) …the most affective…

In (a), the spelling shows interference from the students’ second language (L2), French, the French spelling of développment. In (b), an s is added to the adjective new, while in (c) the students seemed to confuse effect and affect and the outcome is affective instead of effective.

As for punctuation errors, a semi-colon was repeatedly used instead of a comma, as the (a) and (b) below from Sample 1 show. In other cases, students carry on writing in a run-on-line fashion without putting a full stop at the end of the sentence. For instance, in sentences (c) and (d) below from Sample 3, the students did not put a full stop after dangerous in (c) and after reality in (d) (a comma is also missing after benefits).

(a) To start with; plastic surgery has...
(b) …and distorted; because of Cosmetic…
(c) … I still maintain that it’s dangerous for example, people can…
(d) … dangerous reality though I concede that it has many benefits I still maintain…

The above cases are randomly selected instances of recurrent mechanical errors from the writing samples.

Error Sources

Based on my own intimate knowledge of the students and the class discussions I had with them, the high frequency of mechanic or orthographic errors is likely due to three factors: personal, instructional, and crosslinguistic interference. At the personal level, lack of motivation for learning English was the mostly stated reason. For example, the spokesperson of group 3 mentioned “the lack of writing learning and reading” as the main factor. Other groups mentioned the fact that some parents did not know English, and, as a result, they could not help their children with their English language learning.

At the instructional level, the representative of group 1 said that “the teacher does not explain well the rules of using capital letters,” while another group representative of the same class pointed to the fact that “mechanics errors are not penalized well” by most teachers. Other students attribute the cause of such errors to the fact that many teachers did not raise the awareness of their students of the importance of paying attention to rules of mechanics of writing. One possible reason behind this neglect of teaching orthographic rules is related to the current English language and TEYL syllabi where there is no consistent and adequate attention to English orthography. Consequently, little time is given in class to orthographic issues in students’ writing. In addition, the formative and summative exams lack items testing students’ orthographic knowledge. However, writing assessment criteria almost always include a dimension on mechanics. No wonder that many teachers and learners have chosen to ignore the mechanics of writing.

Some other causes named by the students were learner-related. The spokesperson of group 4, for example, reported that “learners do not give due value to mechanics on the understanding that they have no bearing on the structure or meaning of the sentences.” As one student elaborated, when teachers fail to direct their students’ attention to their
mechanical errors, the students will give little value to such rules. According to class discussions, there are multiple reasons for students’ inattention in class in primary and secondary education: The lesson is beyond or below (not challenging to some high-achievers) the linguistic capacity of the student; the teacher is not skilled enough pedagogically and fails to adequately teach the content of the lesson; the teacher or the student is regularly absent, leading to gaps in the lessons; teachers engage more with brilliant students while neglecting low achievers; the English subject has lower stakes. And so on.

Other stated reasons have a more indirect bearing on the lack of attention during sessions. Written/oral exam anxiety and busy schedules may lead to stress and impatience. Teachers are very likely to disregard such worries. This, in turn, frustrates and demotivates students. Two groups made reference to the dominance of students’ L2 (French) throughout primary and secondary education and its mandated use as the official language of written correspondence in Tunisian public institutions such as universities and mass media outlets, which may have resulted in the limited acceptance and use of English among Tunisian students. One member of group 1 put the blame on the Tunisian Government, saying that it is not doing enough to encourage young learners to pay attention to English as the language of science and technology.

While a number of studies have reported high frequencies of mechanical errors in L2 students’ writing, it is not surprising that the present investigation has yielded similar findings. In many L2 writing studies, it is observed that in contexts where the learner’s L1 has a different script system (like Arabic, Chinese, Indian, etc.), the orthographic features of English tend not to be attended to by the L2 learner, or are not readily noticed.

The persistent difficulty of acquiring L2 writing conventions could be explained also by the lack of equivalent systems in their L1. Second language researchers have, for instance, found that subjects with [–article] L1s, such as Japanese and Russian, take longer time to acquire the system than those with [+article] L1s (Chaudron & Parker, 1990; Liu & Gleason, 2002; Mahmood & Murad, 2018; Master, 1997; Thomas, 1989). The crosslinguistic difference between English (the target language) and Arabic (the students’ L1) and French (students’ L2) contributes to the difficulty for students to acquire a full mastery of the English writing system. For instance, words like example, problem and development were spelled as in French as exemple, probleme and developpement in writing samples 1 and 2.

PEDAGOGICAL IMPLICATIONS

Teachers looking to work on developing their classroom life are expected to reflect on what works well as well as what does not. Before contemplating pedagogical implications of the present study, it appears that further exploratory practice research is needed on the following kinds of questions:

1. Why do students produce such errors? Is it because of the type of work the teacher has had them do in or after class? Does it have to do with the student academic specialization? What if a different type of class activity yields different results for the student?

2. What kind of feedback, exactly, do students need? How do these needs differ, if at all, and how, precisely, can the needs best be met in a TEYL context especially where students were not from the mainstream secondary education (arts and science, etc.), where written corrective feedback is not part of assessment in the curriculum?

3. What can teachers do about fossilized forms of errors and language transfer?
Still, the present study has given me a number of insights that I can act on in my own teaching:

1. I need to make changes in my teaching. For instance, I can raise my students’ awareness of the importance of writing mechanics. I can use, as an example, road “traffic signs” which make road traffic smooth and easy in the city or elsewhere, to explain how good punctuation can improve the flow of ideas in students’ prose.

2. I can let students know that the low writing grades some students have received are actually due to misspellings and inappropriate punctuation, not to irrelevant content or inaccurate grammar. This can push them in their future writing to pay more attention to mechanics.

3. I can give more weight to mechanics in my writing assessment scoring rubric.

4. I can refer students to level-appropriate writing guides before they do their next writing assignment and emphasize that good writing is a matter of style and clarity and not of length.

5. I can help reduce crosslinguistic interference by explicitly drawing students’ attention to the crosslinguistic differences in the writing system of students’ L1, L2, and the target language English.

REFERENCES


APPENDIX A

Argumentative Essay Writing Guidelines

Organization of an argumentative essay
There are many different ways to organize an argumentative essay. The most important thing to remember about an argumentative essay is that you must show both sides of a contentious issue. In other words, your topic must be debatable:
1) You have considered both sides of the argument before choosing your position.
2) You are able to anticipate and refute any opposing arguments.

A. Introduction
In the introduction, you should not include too many details. The introduction is a three-step process:
- Get the reader’s attention (hook).
- Introduce the issue being discussed (background information).
- State where you stand on the issue and why (thesis statement).

B. Body
1. Supporting the argument: The body is where you’ll make your key points and support them with research. You need a transition of some kind so the reader knows exactly which point you are discussing. This transition sentence functions as the topic sentence for a body paragraph.
E.g.: One of the main reasons gun owners should need a license is because it would make it much easier for the state to prosecute gun crime.
From that sentence, your reader knows exactly what the next paragraph or two will discuss. From there, you have to support your statement. The first thing to do is present research.
E.g.: An article in the Chicago Tribune describes the difficult legal challenges, saying that Congress often fails to create gun legislation because it would be too complex to enforce without substantial legal hurdles.
Simply stating the research, however, is not enough. You also have to explain how it applies to the argument.
E.g.: Requiring a gun license would solve this problem because it would substantially answer the question of whether the offender had a right to a gun. If there were a federal gun license that everyone had to go through the same process to get, it would get rid of the state-level patchwork of regulations that makes gun crime so hard to prosecute.
The above example does not need; the previous example already had a sourced statement with a citation, and this example is the writer’s analysis. When research and statistics are used to support a point, every cited statement needs to be similarly analyzed and deconstructed.
2. Refutation: Usually when you are assigned to write an argumentative/opinion essay, one of
the requirements is that you have to “give at least one opposing view.” Writers often mistakenly believe this to mean they have to give support to the other side or “play fair,” but that is not the case. The reason for presenting an opponent’s viewpoint in your essay is so you can explain why it does not work. You have to show your readers that you have examined both sides of the argument, but you also have to explain why your opponents have not changed your mind about the topic. The best way to begin is by simply and briefly presenting the other side’s argument.

E.g.: Opponents of stricter gun control laws argue that making guns harder to obtain will endanger law-abiding citizens because only criminals would have guns. The reason for presenting the above statement is not to support the other side, but to explain it. At this point, you have to explain why you do not agree. Deconstruct the argument and point out the flaws in it, using research as needed.

E.g.: The problem with this thinking is that it assumes guns will be easy to get illegally. This isn’t true; when Australia banned firearms, the black market costs for semi-automatic handguns went from $2000 to over $15000 (Tanquintie-Misa), meaning that criminals will need large amounts of money to purchase a gun, making crimes of passion much less likely.

C. Conclusion
Once you have supported all your main points with research and personal analysis, you have to bring everything back together and leave all of your points fresh in the readers’ minds. This is your last chance to make an impression on the audience, so you want to make the conclusion especially convincing. However, there is a balance in this; writers often make the mistake of including overt moralizations or introducing new points that were not discussed anywhere in the body. Another frequent mistake is being repetitive. Because of the nature of the conclusion, it frequently mimics the introduction in form, but it is completely different in function.

Just like the introduction, the conclusion should not include any details; presumably, all of the important details have already been given in the body. This means that you should not need to include any sourced information. The conclusion should take on a tone that provides a sense of resolution.

Study the following model with reference to the guidelines above.

The Best Medicine
Last week, I noticed that my son had a bad cold. I took him to the pediatrician, and she told me that he had an infection. Then she gave me a prescription of antibiotics. After two days, my son was happy and healthy thanks to this important medicine. Every day doctors prescribe antibiotics to help thousands of patients around the world fight infections. I do not like to think about what might happen if we did not have antibiotics. Antibiotics are one of the greatest medical inventions in human history for several reasons. First, infections are frequent. Almost everyone has experienced an ear infection or a sinus infection.

These common illnesses cause pain and discomfort to millions of people around the world every year. In addition, infections can be life-threatening. For example, sepsis, a dangerous infection in the blood, is responsible for one out of every one hundred hospitalization. The victims are usually very young, old, or weak. Another reason why antibiotics are important is that they stop an infection from spreading to others. Infection diseases can quickly travel from person to person if they are not treated right away. Antibiotics are the most effective way to control the spread of these serious illnesses.
Recently, many people have argued that doctors prescribe antibiotics too often and that the bacteria that cause infections are becoming stronger as a result. This may be true; however, this evidence does not mean that antibiotics are not important. It simply shows that we must learn to use them wisely. Infections can attack anyone at any time. They can also attack entire populations. While many infections create minor discomfort and suffering, some are quite dangerous. Antibiotics are the most effective way to treat infections. Without antibiotics, many more people would get seriously ill, and others would die.

Introduction
Hook:

Background Information:

Thesis Statement:

Body Paragraphs
Topic Sentence:

Example Reasons:

Counter-argument:

Refutation:

Conclusion

APPENDIX B

Day 2 Follow-Up Task Sheet

Part 1: Error Correction Codes
A  Article error (wrong choice or usage)
Adj. Adjective error (wrong choice, formation or position, or omission)
Adv. Adverb error (wrong choice, formation or position, or omission)
Cap. Capital letter(s) needed
Gram. Grammatical error(s) – miscellaneous e.g. countable/uncountable nouns, pronouns, negatives, connectives
P  Punctuation error
Prep. Preposition error (wrong choice or usage)
Ref. Reference omitted
Sp. Spelling mistake
Str. Structure of the sentence is wrong e.g. subject or verb omitted
SV  Subject-verb agreement/concord needed
Vb. Wrong verb tense or verb form
Vocab. Wrong choice of words
WO  Wrong word order
Symbols
✓ Right
✗ Wrong
∧ Something omitted
( ) The word(s) in brackets should be omitted
♫ A paragraph is needed
?! Meaning unclear: it needs to be rewritten

Part 2: Task Steps

Rely on the list of correcting codes and:
1. Identify the errors
2. Specify what type of error each is
3. Group the errors of the same type under their corresponding heading. You need to write the number of occurrence of each error.

|---|-----|-----|-----|------|---|------|------|-----|------|----|----|-------|----|

4. Identify the most recurrent (repetitive) error(s) and let your spokesperson take notes and report them to the whole class
5. Discuss in your group the possible reasons behind such recurrent errors
6. Compare and contrast discussion of the categorized errors in terms of priority, seriousness, level of difficulty, etc.

APPENDIX C

Adaptation of Allwright’s (2000) PEPA Technique

A seven-step strategy to collect data

**Step 1:** Puzzle identification: Based on our classroom experience, we have identified the following puzzle: why are mechanics errors very recurrent in your classroom writing?

**Step 2:** Reflecting upon the puzzle: we set the students into groups to develop understanding the puzzle in question. (Students are going to be informed that at this step, they are not expected to provide solutions).

**Step 3:** Monitoring to gather data: appointing a spokesperson to observe, take notes and report back.

**Step 4:** Taking action to generate relevant data: the members of each group are asked to discuss and share their ideas about the puzzle.

**Step 5:** Deciding on how to interpret the collected data: the spokesperson of each group should take notes of the ongoing discussion by writing them on a poster for presentation later.

**Step 6:** Analyzing the collected data: the spokesperson of each group is asked to hang the poster on the board. The whole class is asked to create an inventory of causes of errors. Then they engage in a compare and contrast discussion of the categorized errors in terms of priority, seriousness, level of difficulty, etc.

**Step 7:** Moving on: consider the interpretations and decide on their practical implications.

*Note.* Adapted from a workshop conducted by Dick Allwright at Lancaster University on 15 July, 2000.