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An Investigation into Technical Writing Difficulties, Causes and Solutions

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Abstract. This study aimed at deeply scrutinizing and identifying the technical writing difficulties Saudi university students face, figuring out what caused these difficulties and creating solutions to them. Two five-member focus groups of engineering students were deployed, and the brainstorming technique was used to create questionnaire items. The draft developed was given to three specialists to revise, edit and proofread. The second version of the survey involved eight quantitative and qualitative questions of three types (Likert scale, checkbox, and rating). This version was piloted on 25 undergraduates, amended consequently (See appendix A), created by Google Forms, and lastly circulated via WhatsApp groups. Fifty-three university students from different majors participated in it. The findings revealed that spelling, technical terminology and coherence were the most difficult areas in technical writing, writing practice deficiency, lack of terminology and lack of vocabulary were the main causes that stand behind technical writing difficulties and practicing writing a lot and developing habits of intensive and extensive reading were the most effective solutions that can help students overcome these difficulties. Based on the findings of the study, some interpretations were discussed, and some recommendations were made.

Keywords. Difficulties, EFL learners, Technical Writing, University Students

Introduction

Technical communication is an essential skill for undergraduates across almost all university majors. Ironically, it also has become one of the most challenging skills for university and college students, predominantly for fields of study like engineering, medicine, finance, business, and chemistry. Since writing is a multifaceted process which reflects the authors' communicative skills, EFL students should receive guided help to appropriately write in English and instructors must take their main difficulties in writing into consideration if they want to achieve promising results (Shokrpour and Fallahzadeh, 2007). According to Ligawen and Videz (2021) the intricacies of writing pose a challenge to many EFL learners who do not have the mastery of the language. Beyond content and style, learners also deal with various linguistic elements including syntax, and semantics; hence, they struggle to produce a meaningful writing craft. Since 1990s, the Accreditation Board for Engineering and Technology (ABET) has been considering technical communication as one of the highest abilities that need to be measured and developed for engineering students in general. Although ABET issued valuation standards

for different engineering programs or majors, it constantly comprised technical communication as an vital standard across diverse plans (Gao, 2019; Loveland and McGough2014). Technical communication is a way to convey business, commerce, medicine or other technical information (Johnson-Sheehan, 2005) and technical writing is drafting or writing technical communication used in occupational and technical areas, such as engineering, computer hardware and software, chemistry, biotechnology, forestry and finance (TechWhirl, 2014). According to DuPuis (2021), these days technical writing includes all documentation of multifaceted technical courses. It comprises executive summary statements, briefs and reports. Whenever technical information is expressed in writing, it is by definition, technical writing. Technical writing difficulties are among the most problematic English areas that academic and professional learners may encounter (Fareed and Ashraf, 2016; Ansari and Siddiqui, 2015).

As a matter of fact, students usually reveal the extent of their knowledge through writing and teachers too mainly assess students' achievement through writing. Therefore, students who are weak in written performance are often at serious dangers of failure in an theoretical study course (Tan, 2011). Undeniably, most Saudi university students lack technical writing skills and do not acknowledge the issue. The objective of this research is to inspect the difficulties Saudi university students face regarding technical writing and to identify their possible causes. Upon revising the previous literature related to technical writing difficulties, the researcher noticed that there is some kind of confusion between areas of difficulty and the reasons that cause these difficulties. Consequently, this research study tries to draw a clear line between these two important issues in an attempt to put things in the correct place and goes deeper to suggest pedagogical solutions for the problem under investigation. This holistic view gives significance to this study and distinguish it from other research attempts. Depending on exploring the reasons that stand behind technical writing difficulties, this study intends to offer useful suggestions for overcoming such obstacles. Unless university students capture the needed technical writing skills in advance, they will surely be overwhelmed by difficulties in several areas like writing reports and completing assignments. This study gains more importance from the ultimate goal of technical writing itself, which is to offer material that clarifies a process or makes a complex thought easier for a specific audience to comprehend. Through effective and efficient technical writing, the author will be able to help the reader comprehend information and achieve particular tasks. Without improving the method of transfer for these issues, students' performance will experience a state of decay. To the best knowledge of the researcher, no previous research work went deeply and comprehensively in investigating technical writing difficulties, causes and solutions. This lack of comprehensive research work gives this study more importance and significance.

Technical writing in English serves as an immaculate tool of communication of one's ideas, instructions and suggestions. In engineering for example, the use of technical writing requires specific vocabulary and registers (Dubey, 2017). As stated by Bulqiyah Mahbub and Nugraheni (2021) tertiary students have linguistic problems in essay writing especially in the area of vocabulary, lexicon-grammar and the construction of the essay. The use of technical writing is not an arbitrary way of doing things, it is based on the maturation of the English language. One of the most significant features to keep in mind when creating a report for example is who will read the report or rather who that report is directed towards. Obviously, directing a paper towards engineers requires the information to be represented differently than when presenting it to a doctor.

As a second language, English can prove to be difficult for non-native speakers (Amurao, 2012). Consequently, many issues arise to those learning technical writing. Often

than not, dealing with subject experts can prove to be difficult. Experts are not authors and subsequently they sometimes do not know what the writer needs (Anastasia, 2018). Furthermore, punctuation is a key idea that can be neglected and cause difficulty to the reader. While technical writing conveys thoughts, it should be consistent throughout, having inconsistency is a common mistake that should be avoided (Stan Carey, 2018). Writing without a clear layout in the writer's head causes unclear and difficult text, resulting in many errors in the technical paper. In addition, many non-native speakers avoid having an approach with the appropriate voice, choosing to transition between all types of voices in many sentences, thus resulting in confusion. Finally, not knowing the style of technical writing can prove to be a hassle for foreign writers (Rich, 2011).

This research study was conducted on Saudi university students to find out the difficulties they face in technical writing, to go deeper and explore the causes that stand behind these difficulties and to suggest solutions that can help in overcoming the problem. The research questions (RQs) asked were as follows:

- 1- What are the most problematic technical writing difficulties Saudi university students face?
- 2- What are the causes that stand behind these difficulties?
- 3- How can these serious difficulties be dealt with?

Methodology

This study tried to profoundly scrutinize the technical writing difficulties among Saudi university students, explore the reasons that stand behind these difficulties, and propose useful suggestions to overcome such obstacles. To reach to the top outcomes possible for the study RQs, a well-advanced survey was used as an information gathering instrument. To build up a consistent and dependable survey, the researcher chose two focus groups of five university students each who suffered from technical writing difficulties. A meeting was held and the problem of the study and the three RQs were discussed. Then the groups were asked to use the brainstorming method to suggest questionnaire items that can help in answering the RQs. The aim was to reach comprehensive, deep and reliable answers. The draft created was given to three specialists to revise, edit and proofread. The final version of the survey involved eight quantitative and qualitative questions of three types (multiple choices, checkbox, and rating): one to prove that Saudi university students face a real problem in technical writing, two to focus on the difficulties, three to focus on the causes and finally two on how to deal with the difficulties. The survey was piloted on 25 undergraduates, amended consequently (See appendix A), created by Google Forms, and finally circulated via WhatsApp groups. A sample of 53 Saudi university students from King Abdulaziz University responded to the questionnaire. The data was analyzed by Google Forms and processed by Excel sheets to get a narrow and more detailed look on the results.

Findings

The results of the study were presented in relation to the three study RQs.

According to the first general item in the questionnaire, figure 1 below showed that Saudi university students faced a real problem when writing technically. As shown in this chart 94% of the respondents agreed that they faced difficulties in technical writing.

Figure 1: Real problem Saudi university students face when writing technically

RQ1 was as follows: What are the most problematic technical writing difficulties Saudi university students face?

Two items in the questionnaire were specified to answer this question. The participants were asked first to identify the areas of difficulty they face in technical writing by choosing the 3 (out of 9) most difficult areas, and second to rate the level of difficulty for each area. Figure 2 below displayed the areas of difficulty.

Figure 2: Areas of difficulty Saudi university students face in technical writing

As shown in the above chart, the areas of difficulty could be categorized into three groups: 1- Coherence (construction of meaning through connecting ideas), spelling, technical terminology and vocabulary were considered the most difficult areas. 2- Sentence structure, grammar and cohesion (joining parts of a text using linking words) came in the second place. 3- Mechanisms and punctuation were considered the least difficult.

Figure 3 below showed the rating of the level of difficulty for each technical writing area Saudi university students face. Here the participants were asked to rate each area from 1 to 5, 1 is the least difficult and 5 is the most difficult.

Figure 3: Level of difficulty for each technical writing area Saudi university students face

To read the level of difficulty for each technical writing area, the information in the above chart was translated into numbers where the number of students was multiplied by the level of difficulty. For example, to calculate the vocabulary difficulty level, the following formula was taken from the chart above ($5 \times 1 + 13 \times 2 + 20 \times 3 + 8 \times 4 + 7 \times 5 = 158$). Table 1 below displayed the calculation of the difficulty level for each area.

Table 1: Calculation of the difficulty level for each technical writing area

Area	Difficulty level
Spelling	178
Terminology	175
Coherence	175
Grammar	170
Sentence structure	165
Vocabulary	158
Cohesion	149
Mechanisms	149
Punctuation	142

According to the calculations above the level of difficulty could be divided into three categories: 1- Spelling, terminology, coherence and grammar occupied the highest level of difficulty. 2- Sentence structure and vocabulary came second. 3- Cohesion, mechanisms and punctuation were considered the least difficult.

In conclusion, there were some slight discrepancies in the sequence of the results of figure 2 (where students were asked to choose the 3 (out of 9) most difficult areas) and figure 3 (where students were asked to rate each area from 1 to 5, 1 is the least difficult and 5 is the most

difficult). However, the two figures revealed that **spelling, technical terminology** and **coherence** were the most difficult areas Saudi engineering students face; **grammar, sentence structure** and **vocabulary** were moderately difficult; and **cohesion, mechanisms** and **punctuation** were the least difficult.

RQ2 was as follows: What are the causes that stand behind these difficulties?

Three items in the questionnaire were specified to answer this question. The participants were asked first to correlate with any of the causes of difficulty in technical writing by choosing 3 (out of 6) causes; second to rank the causes of difficulty in technical writing among Saudi university students by rating each reason from 1 to 5, 1 is the smallest reason and 5 is the biggest reason; and finally, to agree or disagree with these reasons. Figure 4 below displayed the participants' level of agreement.

Figure 4 below showed that Saudi university students thought that there were specific reasons that caused the real problem of technical writing among Saudi university students. As shown in this chart 96% of the respondents agreed that the specified reasons stood behind this problem.

Figure 4: Reasons that caused the real problem of technical writing among Saudi university students

Figure 5 below showed the students' correlation with the causes of technical writing difficulties.

Figure 5: Students' correlation with the causes of technical writing difficulties

As shown in the above chart the causes of difficulty could be categorized into three groups: 1- Writing practice deficiency and lack of vocabulary were considered the most correlated causes. 2- Lack of terminology, deficiency in technical writing mechanisms and weak

prior knowledge came in the second place. 3- Lack of motivation was considered the least correlated.

Figure 6 below showed the rating of the size of the causes of difficulty in technical writing. Here the participants were asked to rate each cause from 1 to 5, 1 is the smallest cause and 5 is the biggest cause.

Figure 6: Rating of the size of the causes of difficulty in technical writing

To read the size of the causes of difficulty for technical writing, the information in the above chart was translated into numbers where the number of students was multiplied by the size of the cause of difficulty. For example, to calculate the size of the cause of weak prior knowledge, the following formula was taken from the chart above ($7*1+11*2+15*3+15*4+5*5=144$). Table 1 below displayed the calculation of the size for each cause.

Table 2: Calculation of the size of each cause of technical writing difficulties

Cause	Size
Writing practice deficiency	185
Lack of terminology	173
Lack of vocabulary	168
Deficiency in technical writing mechanisms	161
Lack of motivation	151
Weak prior knowledge	144

According to the calculations above the size of causes could be divided into three categories: 1- Writing practice deficiency and lack of terminology occupied the biggest cause of difficulty. 2- Lack of vocabulary and deficiency in technical writing mechanisms came second. 3- Lack of motivation and weak prior knowledge were considered the smallest reason. In conclusion, there were some slight discrepancies in the sequence of the results of figure 5 (where students were asked to choose the 3 (out of 6) most correlated causes) and figure 6 (where students were asked to rate each cause size from 1 to 5, 1 is the smallest and 5 is the biggest). However, the two figures revealed that **writing practice deficiency, lack of engineering terminology and lack of vocabulary** were considered the main causes; and

deficiency in technical writing mechanisms, lack of motivation and weak prior knowledge were considered minor causes.

RQ3 was as follows: How can these serious difficulties be dealt with?

Two items in the questionnaire were specified to answer this question. The participants were asked first to identify the best solutions to improve technical writing among Saudi university students by choosing 3 (out of 7) solutions, and second to rate these solutions according to their effectiveness, 1 is the least effective and 5 is the most effective. Figure 7 below displayed the best solutions to improve technical writing among Saudi university students.

Figure 7: Best solutions to improve technical writing among Saudi university students

As shown in the above chart the solutions could be categorized into two groups: 1- Practicing writing a lot, developing habits of intensive and extensive reading and attending writing workshops were considered the most effective solutions. 2- Comprehending technical writing mechanisms, revising after being done with the writing task, rebuilding writing skills from scratch and having tutoring sessions on writing were considered less effective than the previous solutions.

Figure 8 below showed the effectiveness of the solutions to technical writing difficulties. Here the participants were asked to rate each solution 1 to 5, 1 is the most effective solution and 5 is the least effective solution.

Figure 8: Effectiveness of the solutions for technical writing difficulties

To read the solutions that could help in overcoming the technical writing difficulties among Saudi university students, the information in the above chart was translated into numbers where the number of students was multiplied by the effectiveness of the solution. For example, to calculate attending writing workshops effectiveness, the following formula was taken from the chart above ($5 \times 1 + 11 \times 2 + 13 \times 3 + 10 \times 4 + 14 \times 5 = 176$). Table 3 below displayed the calculation of the effectiveness for each solution.

Table 3: Calculation of the effectiveness of each solution to technical writing difficulties

Solution	Effectiveness level
Practicing writing a lot	215
Developing habits of intensive and extensive reading	192
Revising after being done with the writing task	182
Attending writing workshops	176
Comprehending technical writing mechanisms	174
Having tutoring sessions on writing	165
Rebuilding writing skills from scratch	159

According to the calculations above, the effectiveness of solutions could be divided into two categories: 1- Practicing writing a lot and developing habits of intensive and extensive

reading were considered the most effective solutions. 2- Revising after being done with the writing task, attending writing workshops and comprehending technical writing mechanisms came second. 3- Having tutoring sessions on writing and rebuilding writing skills from scratch were considered the least effective solutions.

In conclusion, there were some slight discrepancies in the sequence of the results of figure 7 (where students were asked to choose 3 (out of 7) most effective solutions) and figure 8 (where students were asked to rate each solution effectiveness 1 to 5, 1 is the least effective and 5 is the most effective). However, the two figures revealed that **practicing writing a lot** and **developing habits of intensive and extensive reading** were the most effective solutions; **revising after being done with the writing task**, **attending writing workshops** and **comprehending technical writing mechanisms** were moderately effective; and **rebuilding writing skills from scratch** and **having tutoring sessions on writing** were the least effective.

Discussion

Referring to the findings of this study, Saudi university students really have a big problem in technical writing. It actually seems that they are aware of the reasons that stand behind this problem and they have their own suggestions for overcoming it. According to their opinions:

1- **Spelling, technical terminology and coherence** were the most difficult areas in technical writing; **grammar, sentence structure and vocabulary** were moderately difficult; and **cohesion, mechanisms and punctuation** were the least difficult.

2- **Writing practice deficiency, lack of terminology and lack of vocabulary** were the main causes that stand behind the difficulties of technical writing; and **deficiency in technical writing mechanisms, lack of motivation and weak prior knowledge** were considered minor causes.

3- **Practicing writing a lot and developing habits of intensive and extensive reading** were the most effective solutions that can help students overcome technical writing difficulties; **revising after being done with the writing task, attending writing workshops and comprehending technical writing mechanisms** were moderately effective; and **rebuilding writing skills from scratch and having tutoring sessions on writing** were the least effective.

Generally speaking, all areas of difficulty, reasons that stand behind these areas and solutions suggested for dealing with them are part of the whole scene; none of them could be totally ignored. However, some areas, reasons and solutions according to Saudi university students should be taken into consideration more than others. The main question to be asked here is why those students consider some areas as more difficult than others, some reasons bigger than others and some solutions more effective than others. To partially answer this big question, this discussion tries to shed some light on some clear interpretations for the three most difficult areas, the three main causes and the two most effective solutions and compare them to the other areas, causes and solutions.

Before delving deeper into interpreting the results of this study, it is worth mentioning that all the issues investigated are related somehow to each other, namely there are reciprocal relations between each part's (difficulties, reasons and solutions) items and all parts' items, in other words there are some kind of internal and external relations. An example of such internal relation is that grammar issues could directly affect sentence structure. Another example is that coherence and cohesion could not be clearly separated as they both affect the meaning. According to Sadallah (2019), they are somewhat alike. However, cohesion has a close connection between two portions of a statement while coherence occurs when a part of writing is easy to comprehend because its portions are associated in a strong and sensible way. A third

example is that all technical terms are words or made up of words. According to WikkiDiff (2021), vocabulary is a collection of words which have usual meanings while terminology is a group of specialized words. One more example is that having rich vocabulary and technical terms can help the writer build strong coherence. Successful and coherent communication is reliant on a good vocabulary foundation (Seifert, 2016).

Concerning the interpretation of the main results of this study, it could be claimed that having a big problematic area in spelling (compared to other areas like grammar, sentence structure and mechanisms) is not an exception for Saudi students, even native speakers of English face this difficulty because of several reasons, mainly the big gap between pronunciation and spelling (Rao, 2018). So, this area of difficulty is a general one, not related to specific foreign learners of English nor to a specific field of study like engineering or finance. In comparison to other areas, the second area of difficulty as reported by Saudi university students is coherence (construction of meaning through connecting ideas). Possibly like any other non-English speakers, lack of coherence among Saudi university students probably refers to several motives such as: lack of vocabulary that can negatively affect learners and hinder their ability to express their ideas clearly (Wilkins, 1972) and weak prior knowledge that can harmfully disturb the meaning in the writer's head. As said before, this example shows a kind of external reciprocal relation between an area of difficulty (coherence) and causes of difficulty (lack of vocabulary and weak prior knowledge). Moving on to technical terminology as an area of difficulty that Saudi university students face, this difficulty could be mainly attributed to instructional issues like using Arabic instead of English in classroom (not to language learning issues) since students are supposed to study university subjects via the English language. Clearly, the top three difficulties are very crucial concerns that many students suffer from. In another setting, the mean errors of punctuation, spelling, coherence and cohesive devices are higher than the other areas of difficulty for fifth-year Iranian medical students (Shokrpour and Fallahzadeh, 2007). Compared to this study, both spelling and coherence are placed on the top level of difficulty, whereas punctuation and cohesion have differing positions. This similarity and discrepancy could be related to different variables such as students' level, native language of EFL learners and English curricula taught to students in primary and secondary school.

The causes behind technical writing difficulties are very prominent in this research because if they are appropriately tackled, the difficulties will be overcome partially if not totally. Writing practice deficiency, lack of terminology and lack of vocabulary are considered the main causes that stand behind the difficulty of technical writing. In comparison to the deficiency in technical writing mechanisms, lack of motivation and weak prior knowledge, it is understandable that the first three causes play an essential role in improving technical writing, whereas the latter three causes are minor ones. In other words, technical writing mechanisms, motivation and prior knowledge could be considered additional factors for improving technical writing if compared to writing practice, vocabulary and terminology which could almost occupy the basic core of the technical writing process. Therefore, there is no wonder in considering these three causes by university students as the core for having a problem in technical writing. Unlike this study, in Dzongkha language some of the causes of writing difficulties among high school students are the poor foundation of Dzongkha writing and reading skills, low prestige of Dzongkha language/subject, time constraint, pronunciation related problems, limited resource/facility and professional support for the Dzongkha teachers, less career scope for Dzongkha background students and poor reading habits (Phurpa, 2021). Thus, taking into account the correct order of areas of difficulty and reasons that probably cause the problem of technical writing and taking into account the different situations and settings are highly

recommended when designing and teaching technical writing courses. Such areas and causes should be located carefully in the right place and given the right weight if desirable outcomes are to be achieved.

Reaching the final destination, how to deal with technical writing difficulties, giving priority to the solutions that could take part in solving the problem of technical writing is almost alike to what has been stated about the causes of technical writing difficulties. Practicing writing a lot and developing habits of intensive and extensive reading could be considered the core for overcoming the problem compared to revising tasks, attending workshops, comprehending technical mechanisms, rebuilding writing skills from scratch and having tutoring sessions on writing which could be considered as supplementary practices. To make it clear, it could be stated that these five supplementary factors have a minor role to play compared to the two main solutions suggested by the students (practicing writing a lot and developing habits of intensive and extensive reading). It is well known that practicing writing in class under the supervision of the teacher and receiving formative feedback as part of the writing task are probably the essential core of any writing process. In addition, developing habits of intensive and extensive reading as a receptive skill with a purpose in mind can also establish for a well-developed productive skill, here namely, technical writing. To have a practical solution, it is highly recommended to give priority to various intensive and extensive reading examples of technical texts and practicing technical writing a lot in class when designing and teaching technical writing courses.

In conclusion, one of the most problematic areas of difficulty in learning EFL is writing in general and technical writing in particular. The main findings of this study show great correspondence in their relationships. Discovering these relationships can help students in their writing in the present and future. With this in mind, researchers are recommended to carry out more detailed investigations to discover such relationships and designers of technical writing courses are invited to build such courses on a hard basis of scientific research.

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Appendix A

An Investigation into the Technical Writing Difficulties Saudi University Students Face
 Hello! I am Dr. Mamoon Alaraj, a professor at King Abdul-Aziz University. The objective of this research is **to inspect the difficulties** Saudi university students face regarding **technical writing**. Depending on **exploring the reasons** that stand behind these difficulties, this study intends to **propose useful suggestions** for overcoming such obstacles. Please take a moment and answer the following questions.

Definition: Technical writing is writing or drafting technical communication used in technical and occupational fields, such as engineering, chemistry, and finance. Technical writing includes all documentation of technical processes such as reports, assignments and instructions.

1- Saudi university students face problems when writing technical reports and assignments. (Circle one answer.) General Question, Research problem

- Strongly agree - Agree - Disagree - Strongly disagree

2- When writing technically, which of these areas prove to be a hassle for you? (Tick the 3 most difficult areas.) RQ1

- Vocabulary ()
- Technical terminology ()
- Sentence structure ()
- Coherence (construction of meaning through connecting ideas) ()
- Cohesion (joining parts of a text using linking words) ()
- Technical writing mechanisms ()
- Grammar ()
- Spelling ()
- Punctuation ()

3- In your opinion, what are the most difficult technical writing areas that Saudi university students face? (Rate each area from 1 to 5, 1 is the least difficult & 5 is the most difficult.)

RQ1

Area of difficulty	Rate				
	1	2	3	4	5
Vocabulary					
Technical terminology					
Sentence structure					
Coherence (construction of meaning through connecting ideas)					
Cohesion (joining parts of a text using linking words)					
Technical writing mechanisms					
Grammar					
Spelling					

Punctuation					
-------------	--	--	--	--	--

4- Do you correlate with any of the following? (Tick only 3.) RQ2

- Weak prior knowledge ()
- Writing practice deficiency ()
- Lack of vocabulary ()
- Lack of terminology ()
- Deficiency in technical writing mechanisms ()
- Lack of motivation ()

5- Rank the causes of difficulty in technical writing among Saudi university students? (Rate each reason from 1 to 5, 1 is the smallest reason & 5 is the biggest reason.) RQ2

Cause of difficulty	Rate				
	1	2	3	4	5
Weak prior knowledge					
Writing practice deficiency					
Lack of vocabulary					
Lack of terminology					
Deficiency in technical writing mechanisms					
Lack of motivation					

6- Do you think that the list of reasons above do cause problems in technical writing? (Circle one answer.) RQ2

- Strongly agree - Agree - Disagree - Strongly disagree

7- In your opinion, what are the best solutions to improve technical writing among Saudi university students? * (Tick only 3.) RQ3

- Attending writing workshops ()
- Having tutoring sessions on writing ()
- Practicing writing a lot ()
- Comprehending technical writing mechanisms ()
- Developing habits of intensive and extensive reading ()
- Revising after being done with the writing task ()
- Rebuilding writing skills from scratch ()

8- Rank the solutions for improving technical writing among Saudi university students. (Rate each solution from 1-5, 1 is the least effective & 5 is the most effective.) RQ3

Solution	Rate				
	1	2	3	4	5
Attending writing workshops

Having tutoring sessions on writing					
Practicing writing a lot					
Comprehending technical writing mechanisms					
Developing habits of intensive and extensive reading					
Revising after being done with the writing task					
Rebuilding writing skills from scratch					

Thank you