



---

**An Assessment on the Perception and Practices of  
Instructors and Engineering Students towards Teaching  
and Learning Technical Report Writing and Research  
Methodology: Three Public Universities of the Country in  
Focus**

Dr. Ing. Fekadu Fufa<sup>a\*</sup>, Dr. Ing. Towfik Jemal<sup>b</sup>, Desta Kebede<sup>c</sup>, Gemechis  
Teshome<sup>d</sup>

<sup>a,b</sup>*Jimma Institutes of Technology, Jimma University, Ethiopia*

<sup>c,d</sup>*Department of English Language and Literature, College of Social Sciences and Humanities, Jimma  
University, Ethiopia*

<sup>a</sup>*Email: fekaduff2010@gmail.com*

<sup>b</sup>*Email: towfikjemal@yahoo.com*

<sup>c</sup>*Email: destakebedeayana@gmail.com*

<sup>d</sup>*Email: gammee30@gmail.com*

**Abstract**

The purpose of the study was to assess the perception and practices of instructors and engineering students towards teaching and learning the course scientific technical report writing and research methodology. The study particularly, investigate motivational methods do instructors use to mobilize engineering students' towards learning the course scientific technical report writing skill, examine how engineering students perceive importance of the course, assess the extent to which engineering students were eager to make active engagement inside and outside the classroom, and identify the influencing factors that demotivate instructors and engineering students towards teaching and learning the course.

---

\* Corresponding author.

To accomplish this purpose, the study employed a descriptive survey method, which is supplemented by quantitative and qualitative research method to enrich data. The study was carried out in three public universities in the country purposively. Questionnaire and interview was the main instrument utilized during data collection. Descriptive statistics like frequency, percentage, mean and standard deviation for quantitative part and narration for qualitative part were employed to analyze data. The findings of the study revealed that learning the course scientific technical report writing skills would enable the students to be competent in the skills like: writing CVs, office memos, minutes of formal meetings, technical report, executive summary, multidisciplinary projects, job application letters, and writing research proposal. Moreover, the findings of the study indicated that less attention given to the course by some respective departments and students, large class size, inconsistency of time or period allocation to the course and lack of reference materials on the course are some negative influencing factors or challenges instructors faced while teaching scientific technical report writing skills. Finally recommendations were drawn based on the above findings. Hence, engineering students need to be competent enough in scientific technical report writing skills like writing CVs, office memos, minutes of formal meetings, executive summary, projects, and job application letters. Likewise, department heads and faculty deans should give attention to the course scientific technical report writing skills to better benefit engineering students from the course.

**Key Words:** Perception; Practices; Assessment; Technical Report Writing.

## **1. Background of the Study**

In Ethiopia, English is used as a medium of instruction in secondary and tertiary education and as a working language in some government and non-government organizations. Countrywide, it serves as international language for communication and functions as a medium of instruction, language of research in higher institutions, and language of business and profession [1]. At tertiary level, students' technical writing ability is critical to their academic success in particular and their future career or/and profession in general, as they are required to carry out various academic and non-academics technical writing tasks. At work places, good skills in technical report writing are necessary to compile formal and informal reports, write proposals or concept notes, formal and informal letters, meeting's minutes, and office memorandums [2].

In connection with this, learners' attitudes to learning technical report writing and their perceptions and practices have a profound influence on learning behavior and on learning outcomes, because successful learners develop insightful beliefs about their learning processes in general and of technical report writing skill in particular, their own abilities and the use of effective learning strategies [3]. Therefore, teachers need to acknowledge and respect students' attitudes, beliefs, and expectations and help them to overcome any harmful perceptions and blocks, as well as developing students' awareness of their personal weaknesses and strengths and of their strategic and technical knowledge [4].

At the present scenario in Public universities, the needs and interests of the instructors are ignored in the technical report writing and research methodology teaching. The instructors do teach but the emphasis is mostly on the major courses. Moreover, importance should be equally given to both technical reports writing instead of

focusing only on major courses which students are learning. Hence, nowadays it is more challenging for the instructors to teach the course technical report writing and research methodology efficiently, independently and effectively.

However, the use of technical report writing may be affected by several factors; among this, perception is crucial variable that impact the achievement of students. To the best level of the researchers' knowledge, factors such as attitude and motivation of instructors and engineering students towards the course technical report writing and research methodology teaching and learning have not been studied yet.

Therefore, it is important to study the instructors and engineering students' perception and practice on the course technical report writing and research methodology to address the problems and recommend possible solution to help them become more successful professionals in their classroom and outside the classroom or future career. It is due to this fact that the researchers decided to conduct a study on the topic "engineering students' and instructors' perception and practices towards teaching and learning the course technical report writing and research methodology" with particular reference to three public universities of the country, namely Jimma University Institutes of Technology, Addis Ababa Science and Technology University, and Adama Science and Technology University.

## **2. Statement of the Problem**

Technical report writing and research methodology is one of the primary professional responsibilities of the practicing engineer. The presentation of final report of any project is not just a formality or for the requirements but also a primary product of the effort of the reporter's professional abilities [5]. Technical report writing and research method is often the basis for the evaluation of the work done by the engineer. Technical report also serves a secondary function of giving factual information to those in need of such information [6].

In order to enable students to develop the required technical report writing skills and research method, a technical report writing course covering 16 weeks of instruction is delivered at public universities (only for engineering students) of the country during the fourth or fifth academic year. From these technical report writing and research methods, students faced difficulties in expressing their thoughts and appeared to be less motivated to write efficient technical report before and after they graduate from the universities.

From the researchers teaching experience, students of engineering give less focus in learning this course, and they sometimes consider the course is simply to fulfill the requirement not to bring any salient change in their life when compared to the other major courses; however, they encounter various difficulties in their report writing, presentations, project development. Despite there are no similar research works found, this gap is emanated from the researchers' actual teaching experience. For instance, students were seen showing less interest to attend the class, the department coordinators were also observed allotting irregular teaching loads for the same course and content. Some department allotted two credit hours, and others assign three or/and fourth credit hours to teach this course. So, these are the major gaps seen while offering this specific course to the engineering classes.

Hence, the researchers believe that the technical report writing and research method problems of engineering students can be alleviated through empowerment; that is, by raising their awareness about the importance of good or effective technical report writing and research method for successful career development and by organizing and offering effective technical report writing skills training courses that will enable them acquire knowledge and skills in efficient technical report writing and research methodology strategies so as to help them develop good or efficient technical report writers.

Therefore, since the influence of engineering students' and instructors' motivation and attitude towards learning and teaching the course technical report writing and research methodology has not been studied yet, this study aims to provide empirical evidence towards the influence of these factors on technical report writing and research methodology of engineering students. To guide this study, the following basic research questions were addressed:

1. What motivational methods do instructors use to mobilize engineering students' towards learning the course technical report writing skills?
2. How do the course instructors and engineering students in the selected public universities perceive the importance of technical report writing skills?
3. To what extent do engineering students practices technical report writing skills in the classrooms?
4. What are the challenges of teaching and learning the course technical report writing and research methodology?

### **3. Objectives of the Study**

The specific objectives of this study are:

1. To investigate the motivational methods do teachers use to mobilize engineering students' towards learning the course technical report writing and research methodology.
2. To examine how engineering students in the selected public universities perceive the importance of technical report writing and research methodology.
3. To assess the extent to which engineering students were eager to make active engagement in the technical report writing activities inside and outside the classrooms.
4. To identify the influencing factors that demotivate instructors and engineering students towards teaching and learning the course technical report writing and research methodology?

### **4. Significances of the Study**

The findings of this study will have the following significances.

1. It could enable instructors to improve their motivational strategies and approaches to mobilize engineering students' towards learning the course technical report writing and research methodology.
2. It will help engineering students to identify the importance of the course technical report writing and research methods and its classroom practices

3. It will show the extent to which engineering students were eager to make active engagement in the technical report writing activities inside and outside the classrooms.
4. It would identify the influencing factors that demotivate instructors and engineering students towards teaching and learning the course technical report writing and research methodology.
5. Its finding will also serve as a spring board for the future researchers for it provides some insights into the area.

## **5. Research Design and Methodology**

In this research, descriptive survey research design involving both qualitative and quantitative techniques was employed. It is chosen to be used because it can provide precise information concerning the perception and practices of teaching and learning the course. Besides, it helps to draw valid conclusions. The survey is cross-sectional because the data will be collected at one point in time.

### ***5.1. Source of Data and Population of the Study***

Both Primary and secondary data were used to gather the data required. Primary data was obtained from the course teachers and learners while secondary data was surveyed to counter-check and confirm the reliability of the data obtained through primary.

### ***5.2. Sample and Sampling Technique***

The study was conducted in three public universities of the country. Hence, the universities were selected through purposive sampling techniques. The engineering students of the universities and instructors teaching these students were selected through simple random sampling techniques particularly lottery method.

### ***5.3. Instruments of Data Collection***

The study primarily uses quantitative and qualitative data to identify, analyze and draw a general conclusion on the perception and practices of instructors and engineering students towards the course technical report writing and research methods and the approaches as well as strategies that facilitate the achievement of the course and to draw a general conclusion. Besides, qualitative data were employed as a supplementary to the study with the information gained from open-ended questionnaire, semi structured interview, content analysis and FGD made with the selected sample respondents. Thus, the data gathering tools for this study were include questionnaire, interview, FGD, and content analysis.

### ***5.4. Methods of Data Analysis***

Both quantitative and qualitative data were collected from sample respondents. Using SPSS software analysis, the quantitative data were entered into the computer and statistically described in terms of frequency, percentage, mean and standard deviation.

### 5.5. Ethical Considerations

In the process of the study, the following ethical issues were seriously considered. Firstly, all the respondents were provided with information regarding the objectives of the study and ethical issues related to the study ahead of data collection. Secondly, the provisions of information were totally dependent on the willingness of the respondents. The interviewees were not forced to give any information they do not want to. Moreover, the respondents were informed that all the information they provide were strictly confidential. Thus, any information which might affect the personality and security of the respondents were not included in relation to their names.

### 6. Presentation, Analysis and Interpretation of Data

**Table 1:** Questions on how frequently engineering students participate in technical report writing and research methodology (TRWRM) course.

Items No	A(5)		S(4)		O(3)		R(2)		N(1)		Total		Mean $\pm$ SDV
	F	%	F	%	F	%	F	%	F	%	F	%	
QB <sub>1</sub>	56	56	25	25	7	7	10	10	2	2	100	100	4.23 $\pm$ 1.08
QB <sub>2</sub>	52	52	20	20	10	10	7	7	11	11	100	100	3.95 $\pm$ 1.38
QB <sub>3</sub>	37	37	36	36	15	15	7	7	5	5	100	100	4.05 $\pm$ 1.10
QB <sub>4</sub>	28	28	48	48	10	10	7	7	7	7	100	100	3.93 $\pm$ 1.12
QB <sub>5</sub>	26	26	44	44	14	14	9	9	7	7	100	100	3.83 $\pm$ 1.12
QB <sub>6</sub>	13	13	32	32	41	41	8	8	6	6	100	100	3.03 $\pm$ 1.15
QB <sub>7</sub>	42	42	23	23	18	18	15	15	2	2	100	100	3.94 $\pm$ 1.18
QB <sub>8</sub>	41	41	27	27	14	14	13	13	5	5	100	100	3.88 $\pm$ 1.17
QB <sub>9</sub>	34	34	43	43	13	13	5	5	5	5	100	100	3.86 $\pm$ 1.23
QB <sub>10</sub>	38	38	29	29	16	16	13	13	4	4	100	100	3.84 $\pm$ 1.18

Key: A= Always, S= Usually, O= Often, R= Rarely, N= Never

Table 1 above consists of ten items intended to examine how frequently engineering students participate in technical report writing and research methodology. The first item dealt with whether the course is clearly aligned with other engineering courses or not. In connection with this, 56(56%) and 25 (25%) of the students were replied always and sometimes respectively. In contrast, 10 (10%) and 7 (7%) of the students responded

rarely and often to the assertion. Lastly, only 2 (2%) respondents replied never. Briefly, the students who responded always and sometimes exceed the other respondents. This shows that the course is aligned with other engineering courses. From the preceding mean (4.23) and standard deviation (1.08) results, one can easily understand as the students in focus seem to be eager to participate for the course is clearly associated with other engineering course.

Again in Table 1, item 2 above, 52 (52%) and 20 (20%) of the students replied always and sometimes respectively to the item which tries to identify if technical report writing and research methodology is already designed in a way that students can apply in different practical courses (CBTP, Research, Project...) or not. Whereas the other 10 (10%), 7 (7%) and 11(11%) were responded often, rarely and never respectively. The mean (3.95) for the response lied almost in the range of sometimes which shows that the course is designed in a way that students can apply in different practical courses (CBTP, Research, Project...). From this data, the researchers actual experiences, and the interview conducted with the instructors teaching the course, one can clearly conclude that though the course is designed to help the students to apply practical skills most of the students are found not to practice the course as it was designed.

As indicated in Table 1 above, item 3 is assumed to identify if teachers are less concerned to engage students in more practical activities than theory. Accordingly, 37 (37%) of the respondents replied as they always practice and 36 (36%) replied as they sometimes practice the course practically. On the other hand, only few students, 15 (15%), and 7 (7%) responded often, and rarely respectively. The remaining 5 (5%) respondents were responded never. In addition, the mean for the item, which is ( $M = 4.05$ ), lies in the range of always (5) and sometimes (4) in the likert-scale. Based on these data, one can deduce that even though the instructors give them enough time to practice the course, majority of the students do not give ample attention to practice the course. This might be because the students have no good understanding of the role of the course technical report writing and research methodology in their professional development. Hence, the instructors of the course should convince or tell the students about the purpose of the course or the role of the course before engaging them in practical activities.

While responding to item 4 of Table 1, respondents were asked whether or not the teachers take more time in theory part of the course than participating in action. Accordingly, 28 (28%) of the respondents responded always, whereas 48 (48%) of them replied sometimes, and only 10 (10%) and 7 (7%) of the respondents were replied often and rarely respectively. On top of that, the mean value of the item ( $M=3.93$ ) shows that the majority of the respondents is found almost nearly in the range of often (3) and sometimes (4) in the likert-scale. This indicates that most of the respondents responded as their instructor often take more time in theory part of the course than making them to participate in action.

As shown in Table 1 above, item 5 is intended to identify whether or not the course helps them to improve the skills of writing meeting minutes, emails & letters, memos & reports & CVs. Accordingly, 26 (26%) and 48 (48%) of the respondents replied always, and sometimes to the assertion. In contrast, 14 (14%) and 9 (9%) replied often and rarely, while the rest 7 (7%) replied never. In addition, the mean for the item, which is ( $M = 3.83$ ), lies within the range of sometimes (4) and often (3) in the Likert-Scale. This indicates that most students

responded as they do not know whether the course helps them to improve the skills of writing meeting minutes, emails & letters, memos & reports & CVs since their responses mean fall between the range of sometimes (4) and often (3) in the Likert-Scale.

Item 6 in Table 1 above is intended to identify whether the course gives them confidence and skills to prepare research proposals or not. Hence, 13 (13%), and 32 (32%) of the respondent responded always, and sometimes to the claim respectively. On the other hand, 41 (41%), of the respondents replied often to the assertion, and 8 (8%) of the respondents replied rarely while the remaining only 6 (6%) of the respondents were responded never. Likewise, the mean for the item is ( $M = 3.03$ ) indicates it. This indicates the students' response lies almost in the range of often. From this, one can conclude that the respondents have no good understanding whether the course gives them confidence and skills to prepare research proposals or not.

Besides, item 7 of the above table deals with how often students practice the habit of reading and listening to appreciate others' point of view. The students' responses showed that 42(42%) and 23 (23%) of the students responded as they always and sometimes listen to their peers to appreciate others' point of view. The mean scores of the students ( $M = 3.94$ ) show that most of the students' responses reveal that they sometimes practice the habit of reading and listening to appreciate others' point of view. This implies that most of the students in the selected universities exercise the habit of reading and listening to appreciate others' point of view. This is to mean that most students have good practice in reading and listening to appreciate others' point of view. On the other hand, item 8 deals with how often the course encourages them to put into practice engineering knowledge in their field and decision- making. The students' responses indicate that 41(41%) and 27 (27%) of the respondents replied always and sometimes respectively to the statement. On the other hand, 14(14%), 13 (13%) and 5 (5%) of the students reply as the course often, rarely and never encourages them to put into practice engineering knowledge in their field and decision- making. The mean scores of the students' responses ( $M= 3.88$ ) indicate as the respondents trust in the encouragements they obtain from the course that might help them to put engineering knowledge into practice, encourage them in decision making at large. This helps us to infer that many of the respondents from the selected universities perceive as the course always empower them to put engineering knowledge into practice, and encourage them in decision making at large. Item 9 in table 1 above addresses how the course provide them good techniques of report and project grant writings. It is shown that 34 (%34) and 43 (43%) of the students responded always and sometimes respectively whereas 13 (13%) of them replied often to the statement. The mean score values of the selected universities ( $M= 3.86$ ) also shows that most students' response incline towards sometimes. This indicates that most students in the selected universities responded as the course provide them good techniques of report and project grant writings. Besides, the interview made with instructors noticed as the course can provide the students good techniques of report and project grant writings. This implies that the students in the selected universities responded as they sometimes participate in the course and have developed good techniques of report and project grant writings. Furthermore, item 10 of the above table reveals how the students realize whether the course help them to improve their grammar, punctuation and spelling errors. Their responses indicate that 38 (38%) and 29 (29%) of the students replied always and sometimes respectively. Besides, 16 (16%) and 13 (13%) of them responded often and rarely respectively to the assertion. The mean scores of the selected universities ( $M= 3.84$ ) also indicates as most students' view shows that they sometimes trust as the course help them to improve their grammar,

punctuation and spelling errors.

**Table 2:** Analyzing the importance of TRWRM in improving students’ knowledge

No	Item	SDA		D		N		A		SA		M ± SDV
		F	%	F	%	F	%	F	%	F	%	
1	I believe that learning Technical Report Writing will foster students’ knowledge of English very well			1	1			48	48	51	51	4.49 ±0.56
2	It is important to know appropriate techniques of report & research writing	5	5	5	5	4	4	64	64	22	22	3.93±0.96
3	I perceive the course Technical Report Writing & Research Methodology is relevant for engineering students							77	77	23	23	4.23±0.42
4	I perceive learning TRWRM is irrelevant to technology students	41	41	15	15	11	11	11	11	22	22	2.58±1.62
5	I believe there less advantage I obtain from the TRWRM	28	28	16	16	24	24	21	21	11	11	2.71±1.37
6	I believe that TRWRM should be given to all engineering students							78	78	22	22	4.22±0.45
7	TRWRM will improve students’ knowledge of grammar and mechanics					26	26	35	35	39	39	4.13±0.80

Both the quantitative and qualitative types of the questionnaire were provided to the students to gather the information on the importance of the TRWRM in improving the engineering students’ knowledge. This section of the questionnaire consists of a Likert type scale, where the students were requested to indicate their agreement or disagreement in connection with 7 items of the statements with the importance of TRWRM in fostering the knowledge of the engineering learners taking the course. The above 7 items show how the TRWRM is important for the engineering students to improve their knowledge and skills. The figure reveals that most of the students strongly agree or agree with these statements implying that learning the course would give much value in improving their knowledge of writing English. For instance, the item 1 was designed to elicit the information from the students if they believe the TRWRM fosters their knowledge. Accordingly, 48 (48%) and 51 (51%) agree and strongly agree respectively on the point. Only, 1 (1%) the respondents replied disagree on the course to improve their knowledge. To this end, the qualitative questions provided to the students also confirmed that the TRWRM course would help them in improving their knowledge of writing skill. Again item 2 of the questionnaire were designed to elicit information about the importance of TRWRM in improving

students' techniques of report writing. Consequently, 86 (86%) of the respondents agree it is important to know appropriate techniques of report & research writing. In this case, there are about 4% of the respondents who are neutral to the statements.

**Table 3:** Importance of TRWRM in improving students' career future

No	Item	SDA		D		N		A		SA		M ± SDV
		F	%	F	%	F	%	F	%	F	%	
1	I perceive that learning TRWRM has special advantageous for the Engineering students future career.							59	59	41	41	4.41±0.49
2	I perceive learning TRWRM will help to develop the skills of CV writing, oral presentations, conducting interview, job applications & etc.							84	84	16	16	4.16±0.37
3	I believe engineers should write and communicate very well	25	25	8	8			40	40	27	27	3.36±1.57
4	In my perception, the schedule for TRWRM needs a revision			12	12	21	21	56	56	11	11	3.66±0.83
5	In my belief, the course, TRWRM, is not only important for report or research writing							59	59	41	41	4.41±0.49
6	In my belief, the importance the course TRWRM has an indispensable role to facilitate the field work							59	59	41	41	4.25±0.44

Communicating effectively in writing has long been recognised as a critical skill for engineering students to master and graduates have emphasized the need for high level communication skills for professional practice especially in terms of improved job opportunities and career prospects [7]. However, improving students writing skills continues to be an on-going challenge for lecturers, despite a number of successful approaches to developing writing skills in engineering courses that involve both the product and process of writing [8]. At the same time when we see the result of mean value and standard deviation, item 1, item 3, item 10 and item 14 their values are from 4.13 to 4.49. This figure can reveal that the students of engineering students highly agree that the course TRWRM is important to improve their knowledge of writing. As it is shown in the above table, six items were designed to elicit the role of TRWRM in improving engineering students' career in their working. All the respondents, regardless of their status (junior, senior or graduates), believe the course as a whole as highly relevant and important not only for the sake of grade, but TRWRM is highly important for their

future career [9]. The first item is designed to elicit information on the students' perception whether the TRWRM has special advantages for the engineering learners. Thus, the data indicates that 59 (59%) agree and 41 (41%) strongly agree that the TRWRM is advantages for them. Again, the second item is prepared to know the agreement level of the learners in the perception of TRWRM to develop their skills of CV writing, oral presentations, conducting interviews and job applications. Thus, we can understand from the mean which is 4.16. It is seen from the item's response that all of them 84 (84%) agree and 16 (16%) strongly agree that their perception towards the TRWRM is much positive in improving their skills. Item 3 was designed to elicit information how engineering students believe with regards to writing and communicating very well using TRWRM as a tool. Consequently, 40 (40%) agree; and 27 (27%) strongly agree that they believe TRWRM could help them to write and communicate as well. The mean value for this item is 3.36. Item 4 asked the perception of the respondents if the schedule for TRWRM needs revision. Accordingly, the majority of the respondents 56 (56%) strongly agree that the schedule for the course needs revision. Again, it is supported with the mean value of 3.66 which shows positive relationship. Item 5 and 6 of the questions wanted to know engineering students' belief of TRWRM with regards to report writing of research and its role for facilitating job in the field respectively. Thus, 59 (59%) agree and 41(41%) strongly agree that TRWRM has strong influence on both research writing skill and for reports in the field.

### **Qualitative Data**

As previously mentioned some of the items were designed in the qualitative approach so as to obtain students (engineering) opinion with regards to the importance of TRWRM. Consequently, the opinion of engineering students towards the importance of the course TRWRM is organized as follows. Firstly, engineering students were requested if they obtained any importance from the course TRWRM in related to their field of study and they were asked to explain some of the importance. Accordingly, the majority of the students replied that learning the course TRWRM would enable the students to be competent in the following skill areas. These are: writing CVs, writing office memos, writing minutes of formal meetings, writing technical report, writing e-mails, writing executive summary, working an engineering multidisciplinary projects, writing job application letters, giving oral presentation, writing research proposal, conducting interviews, and documenting decision making.

## **7. Conclusions and Recommendations**

### **7.1. Conclusions**

Based on the above major findings of the study, the following conclusions are drawn.

1. The findings of the study revealed that the learning the course TRWRM would enable the students to be competent in the skills like writing CVs, writing office memos, writing minutes of formal meetings, writing technical report, writing emails, writing executive summary, writing on engineering multidisciplinary projects, writing job application letters, giving oral presentation, writing research proposal, conducting interviews, documenting decision making and etc.

2. The findings showed that the contents of the course technical report writing should be revised and included in engineering curricula/syllabus and the right professionals to teach the course would be instructors who specialized by English language teaching because the course is special course.
3. The result of the study showed that to better support an engineering student, sample technical reports and memos would be given for students in advance and then practical assignment should be given for the students.
4. The study indicated that motivation of the students, less attention given to the course by some respective departments and students, large class size, inconsistency of time or period allocation to the course and lack of reference materials on the course are some negative influencing factors or challenges the course instructors faced while teaching the course scientific technical report writing skills. Moreover, adopting the contents of the course towards the students' field of specialization would be challenge when teaching different departments at the same time or at the same semester.

## **7.2. Recommendations**

Based upon the major findings and the conclusions drawn from the study, the following informative recommendations were made:

1. Technical report writing instructors are advised to revise the syllabus and include contents of the course by the topics like types of report and documentation, and avoid issues of proposal writing because proposal is not report; it is plan for writing a report.
2. Engineering students need to pay attention to be competent enough in technical skills like writing CVs, writing office memos, writing minutes of formal meetings, writing technical report, writing emails, writing executive summary, writing on engineering multidisciplinary projects, writing job application letters, giving oral presentation, writing research proposal, conducting interviews, documenting decision making and etc.
3. Instructors who teach the course scientific technical report writing skills should design tasks which should go with the students' field of study or discipline, and allocate much time to practical aspects than the theory to better enhance the practical skills of an engineering student success on the course.
4. The students' respective departments head in particular and faculty deans in general should give attention to the course scientific technical report writing skills to better benefit engineering students from the course.
5. To sum up, this study made a partial contribution to assess Instructors and Engineering students' Perception and Practices about scientific technical report writing skills, and is not assumed to make any generalization, and needs to be investigated further in order to find out engineering students practical skills and identify the problems that they are facing while learning the course scientific technical report

writing skills.

### **Acknowledgments**

The study out of which this article emanated was funded by Jimma Institutes of Technology, Jimma University. As a result, the researchers would like to thank Jimma University in general and Jimma Institutes of Technology in particular for the financial support. Finally, the writers would also like to express their sincere and gratitude to all the key informants and authors cited in the study.

### **References**

- [1] Gupta, D. & Getachew Seyoum. The influence of motivation and attitude on writing strategy use of undergraduate students: Quantitative and qualitative perspectives, 2011.
- [2] Gerson S. & Steven M. "Technical Writing: Process and Product" fifth edition, Second Impression, 2008.
- [3] Cotterall, S. Readiness for autonomy: Investigating learner beliefs. System, 1995.
- [4] Teitelbaum, H. How to write thesis or/and project, Monarch Press, New York, 1975.
- [5] Mantle-Bromley, C. Positive attitudes and realistic beliefs: Links to Proficiency, 1995.
- [6] Tarpley, M. Project/Paper Writing Guide, Baptist Press (Nig.) Limited, Ibadan, 1978.
- [7] Oni, K.C. Research reporting: A guide to thesis preparation for Agricultural Engineers, Department of Agricultural Engineering, University of Ilorin, Ilorin, Nigeria, March. 1995.
- [8] Olorunmaiye, J. A guide for writing final year project report, Department of Mechanical Engineering, University of Ilorin, Ilorin, Nigeria, 1999.
- [9] Shortall, T. Distinctions and Dichotomies: Artificial and Authentic. English Teaching Professional, 2001.

### **Appendix**

Dear Engineering Students and Instructors,

This questionnaire is prepared to be completed by three Ethiopian public universities' engineering students and instructors teaching the course scientific technical report writing and research methodology. The purpose of the questionnaire is to collect information from engineering students and instructors so as to investigate the perception and practices of engineering students' and instructors' towards learning the course scientific technical report writing and research methodology to provide valuable suggestions and recommendations on the

course. So, you are kindly requested to respond to all the items in the questionnaire. All the items are equally important to attain the objectives of the study and failure to complete any of them will affect the overall study. All the responses you give will be kept confidential and will be used only for the research purpose. There is no need of writing your name. We would like to thank you in advance for your cooperation!!

**A. Importance of TRWRM course for the students**

**Direction: put a tick (√) only once for one question except when the question requires written responses,**

**Key: If you strongly agree 5 and strongly disagree 1**

**Table 4**

No	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I believe that learning Technical Report Writing will foster students' knowledge of English very well					
2	It is important to know appropriate techniques of report & research writing					
3	I perceive the course Technical Report Writing & Research Methodology is relevant for engineering students					
4	I perceive that learning TRWRM has special advantageous for the Engineering students future career.					
5	I perceive learning TRWRM will help to develop the skills of CV writing, oral presentations, conducting interview, job applications.					
6	I perceive learning TRWRM is irrelevant to technology students					
7	I believe there less advantage I obtain from the TRWRM					
8	I believe engineers should write and communicate very well					
9	I believe the TRWRM should be handled by engineering professionals than from English departments					
10	I believe that TRWRM should be given to all engineering students					
11	In my perception, the schedule for TRWRM needs a revision					
12	The theoretical part of TRWRM should balance with the practical activities					
13	In my belief, the course, TRWRM, is not only important for report or research writing					
14	TRWRM will improve students' knowledge of grammar and mechanics					
15	In my belief, the importance the course TRWRM has an indispensable role to facilitate the field work					

**B. How frequently Engineering Students Participate in TRWRM.**

**Direction: Put a tick (√) only once for one question unless the question requires written responses. Key: If you say always 5 and never 1**

**Table 5**

No	Item	Always	Usually	Often	Rarely	Never
1	The TRWRM course is clearly aligned with other engineering courses					
2	The TRWRM is already designed in a way that students can apply in different practical courses (CBTP, Research, Project...)					
3	Our teachers are less concerned to engage us in more practical activities than theory.					
4	The teachers take more time in theory part of the course than participating in action					
5	The course helps me to improve the skills of writing meeting minutes, emails & letters, memos & reports & CVs					
6	The course has given me confidence in myself and skills to prepare research proposals					
7	I read and listen to appreciate others' point of view					
8	The course encourages to put into practice engineering knowledge in my field & decision- making					
9	The course can provide good techniques of report & project grant writings					
10	I realize the course could help me to improve my grammar, punctuation and spelling errors					

C. Give your opinion that best fit your perceptions and practices of teaching the course scientific technical report writing and research methodology.

1. Do you think the course technical report writing should be included in engineering curricula? If you say yes, who do you think is the right instructor/professional to teach this course? What topics or areas should be covered in the curriculum that an engineering student should be able to master as a result of taking the course?

2. In case you have any comments regarding the way to improve the contents and the methods of teaching the course technical report writing and research methodology to better support an engineering student success, please list them below.

3. What is/are the challenge/s you faced while teaching/learning the course scientific technical report writing and research methodology? If any?