ABSTRACT

This paper is a record of an innovative teaching strategy that focused on helping learners write logical reports. The research, involved 818 Engineering students from a renowned technical institution in India. The study group were in their first semester enrolled in ‘English for Engineers course’, with report writing as a crucial component. ‘Reports’ demand a specific format and need to be logically presented, with relevant factual details and proof of what it states. In most of the technical Universities, teachers often use the ‘product method’ to teach, report writing. The report of this study, will instigate teachers to think out of the box and visualize areas where the technology can be put to a productive use. The teaching method involved a task-based learning by combining the ‘product and process’ approach to writing. The paper details the tasks and technical platforms chosen to enhance the teaching – learning experience. As a result, of which the learners produced effective reports that resulted from the experiment that involved extensive reading, discussions and reasoning. The experiment was quite challenging to coordinate as it involved constant mentoring, feedback, corrections and follow up from the teaching perspective. While from the learning aspect, it proved to open up challenges to the target group in the process it generated a positive response from the students as they progressed to meet the goal set.

KEYWORDS: Report writing, English for specific purposes, Use of technology, Product writing, Process writing, Task based learning, Padlet, Zig-zag reading, Presentations & Technical Report writing
I can write clear, detailed text on a wide range of subjects related to my interests. I can write an essay or report, passing on information or giving reasons in support of or against a particular point of view. I can write letters highlighting the personal significance of events and experiences (p.26).

As an academician, this study was carried out with an awareness that ‘reports’ demand a specific format and need to be logically presented, with relevant details and proof of what it states. Teachers most often find themselves in a situation where they ask themselves, “Now how does one make something like report writing interesting?” The answer to this may be quite simple, as recommended by William Littlewood (2004), J. Wilson (1986), D. Nunan (2004), D. W. Keats, and J. Boughhey (1994), Rod Ellis (2004) and others on concept of ‘task based learning’ which has become an important element in teaching and assessment process. This paper discusses a few practices that were followed. These relate to:

- Identification of appropriate topic for task.
- Identification of authentic texts to enhance learning.
- Creating opportunities for the learners to focus on not only the format of report writing but also language learning.
- Enrichment of the learner’s performance by making them contributes to classroom learning.
- Creating a situation to nurture learning outside the classroom as well.

**BACKGROUND OF THE LEARNER GROUP(S)**

The groups considered for this study were six batches of engineering students, around the age of 18-19. There were 818 students, who had to take up a course on ‘Technical Report Writing’. The main objective of this course was to teach young engineers how to go about technical documentation; specifically report writing. The goal, here was to prepare students for their workplace and acquired proposals, memos, reports and presentations.

The target group were to be educated, to plan, organize contents of the report and acquire the knowledge to use specific language features in terms of vocabulary, grammar and appropriate use of sentence structures that suited a specified rhetoric. As, Tangpermpon (2008) mentions Tribble’s views, that ‘writing in the product-based approach is viewed as a simple linear model of the writing process which proceeds systematically from prewriting to composing and to correcting’. This analysis presents how this experimental study explored possibilities in grounds of how educators could balance between the ‘process and product approach’, to teach learners organize the contents of their report and write without errors.

**STATEMENT OF THE PROBLEM**

Reports demand a specific format and need to be logically presented with relevant details and proof of information. These documents need to be presented in accordance to the prescribed format of the genre, the ‘product approach’ seemed to fulfil the requirement; to achieve the final outcome based on a specified format a report requires to satisfy the teaching objective set for the course.

However, it indicated that, there would be no room for innovation in the teaching or learning process in the format of a report. Neena Dash and M. Dash (2007), in their Teaching English as an Additional Language, mention that the
product approach, ‘ focuses on the final outcome of writing- logical and error free essays. In this approach, students are given a model text, which they study, analyse and then reproduce (p. 50)’. This meant that it was essential for the educator to supplement the students a sample, i.e., a model of a report and expect the same to be represented in the document they produce. The other challenge that the study group faced was that along with learning to write a report they would in addition, be educated on common errors that occur during the writing process, and appropriate use of transitional signals in their reports. Although the product method suited the teaching criteria; the problem an educator would face, was that, there was danger of their learners finding their learning process monotonous and boring. And thereby fail to participate in active learning.

Task- based learning, seemed to be a natural option to investigate a suitable solution to break from monotonous learning. As, David Nunan advocated, that ‘learners should be encouraged to move from reproductive to creative language use’ (Nunan, 2004, p.37). Harmer (2007, p. 73), on the other hand, pointed out that scholars like Rob Batstone wondered if the ‘tasks which require simultaneous processing of form and meaning might ‘over load the learner’s system, leading to less intake rather than more’. So, if the task-based learning had to function as a building block of the course, and provide the learner with the language: How successful will it be? Will the learner’s fall under the pressure of task completion? Would they be able to acquire the specific language features that relate to the task and be successful in meeting the objective set?

RESEARCH QUESTIONS

The interesting aspect here, is that the notion of a task relates to activities that people engage in, every other day. Hence, the selection of appropriate tasks to motivate learners and make them feel rewarded became an essential component of this study. Therefore, it immediately related to the specified task, methods and approaches which would complement innovative learning. Long(1985),structures his method of teaching, arguing that a target task is:

a piece of work undertaken for oneself or for others, freely or for some reward. Thus, examples of tasks include painting a fence, dressing a child, filling out a form, buying a pair of shoes, making an airline reservation, borrowing a library book, taking a driving test, typing a letter, weighing a patient, sorting letters, making a hotel reservation, writing a cheque, finding a street destination and helping someone across a road. In other words, by ‘task’ is meant the hundred and one things people do in everyday life, at work, at play and in between (p. 89).

Task-based method has the means of enhancing the learning process as the tasks have central focus learning. And has been in practice of English language learning and other academic courses (Jacobs, 1988 ; L. Williams, 1984; Wilson, 1986). The syllabus under consideration is analytic (Beglar & Hunt, 2002) as its objective is to make the learners, learn aspects related to workplace communication; with a stress on growing prospects and self-realization (White, 1988). In a sense, the learners are given a task, which is discussed, in view of the learner’s language acquisition by the teacher after the task has been completed (Harmer, 2007 ; Swain, 1995).

However, the Challenge of this Experimental Study Related to the Following Questions

- Can formal ‘Report’ be taught to students in a task-based class, which focuses on combining ‘product and process’ approach to writing?
- What could be the right tasks to select?
• How can a teacher encourage learner participation?

• What kind of opportunities can the teacher create for the students to immerse in real-life situations to enhance learning?

• What will be the role of the teacher?

In addition, it also probes into the action taken by the teacher to examine and discuss specific features of the language.

METHOD

From the instructional standpoint, the tasks were based on Jane Wills (1998), three basic stages of:

1. Pre-task
2. Task cycle and
3. Language Focus

DISCUSSIONS AND DECISIONS ON THE OBJECTIVES

Pre-Task

The task selection, had to suit the academic course, assisting the learners attain their main objective, which was to communicate effectively. Reports, from a professional outlook, are ridged and have no place for creative presentation, as they tend to deal with ‘facts and facts alone’. As these contribute to the crucial rudiments of a report. For this reason, the ‘product approach’ is quite often the usual preference of an educationalist; who prefers to introduce a recommended ‘model’ report to the learners.

The learner’s, as a part of their learning ‘out-put’ produce, a report sequenced and organized in tune with the requisites of the course. And so, one would assume that the product approach is an ideal choice to aid the learner to go about to achieve objective set with ease and convenience. However, this has proved to be an interference in terms of achieving the objective of involving the learner’s participation.

For the reason mentioned, a teacher is motivated to look into the options that task-based learning has to offer. In order to increase the participation of the learner. The choice of implementing task-based learning, in a classroom, demands constant mentoring and identification of appropriate tasks that would fit into the learning scenario. Further, the task chosen should facilitate learners, to derive meanings and permit them to make use of the language features, they have. In addition, to being absorbed into absorbing new language features. A ‘process approach’, was assumed appropriate for this learning scenario, as O’Brien, defines it as an activity in which teachers ‘encourage learners see writing as not as grammar exercises, but as the discovery of meaning and ideas’ (O’Brien, 2004, p.4). Therefore, a task selected should enable learners to select topics; explore ideas; brainstorm; discuss and subsequently contribute to the objective of the course i.e., writing an error free, technical report. To achieve this a teacher, must constantly keep track of the language features the learners have to obtain and mentor them effectively, while keeping options open for revisions and feedback from time to time.

The language feature, targeted in the experimental study, was to equip learners to use the aspects of the connected discourse more predominantly. As the writing, has to be controlled, to go with the specific format. As the target group, gains an understanding of the use of specified grammatical forms, example: signal words, connectors, impersonal passive, infinitives, verbs, tenses, etc. An awareness, can be created by the selection and the use of authentic texts. The learners will
benefit if the texts chosen fall in line with the requirements of their workplace. In addition, these texts will prove to be the best sources to provide the learners with a scope to gain an insight, to the use of linguistic forms. As academic experts (C. Hall, 1990; Connor, 1984; Galligane & Byrd, 1990; Harris, 1993; Kunz, 1972; M. Connor, 1990; S. Kuhn, 1970 and others) have discussed in their writings. If the students are concentrating on a grammatical transformation, such as changing verbs from present to past, they ‘need pay no attention whatever to what the sentences mean or the manner in which they relate to each other’ (Widdowson, 1978, p. 116).

It is essential that the learner is supplemented with an understanding as to how the cohesive and coherent devices function within a text. With this perception, it was decided that, this target group would be open to learning which involves the ‘product and a process approach’ to writing.

Task Cycle

With a lot of reasoning, on the mentioned demands identified required for the analysis; it was decided that the selection of the task, was to be in line with Long’s statement. Hence, the foundation to the experiment was based on the view, that it would be relevant if the tasks were related to the learners; as it would draw meaning in their learning process.

Engineers connect well with technology! With this thought, the immediate reflex, was to look into the technical platforms that could enhance learning. The learning targeted – listening, speaking, reading, writing and grammar; bringing about a level of negotiation between learners in terms of acquiring the required knowledge and achieving success.

On the other hand, the task would have to enable the learner to collect information, explore it, gain an understanding and have intellectual discussions on it. Hence, the following pedagogical tasks were selected to initiate learning:

- Harmer’s (2007) The Practice of English Language Teaching, proposed an activity which involved the zig-zag method of reading. This task was put into action with a twist to enable the collection of information.
- Wall-Wisher (padlet) was the technical platform, selected to support sharing of information and the discussions within the team.
- Assessment

These tasks were considered appropriate to facilitate student participation and performance in the classroom as a part of the experiment.

Roles of The Tasks in The Learning Process

Selection and the design of the appropriate task, is a crucial element a teacher has to consider in order to promote learning and motivate learners’ involvement in the process. As, Shavelson and Stern (1981, p. 478) state the contents, activities and goals go hand-in-hand with mentoring and feedback provided by the teacher.

Zig–Zag Method of Reading

Harmer’s The Practice of English Language Teaching, proposed an activity that involved ‘zig–zag’ method of reading. As a part of the experiment, the idea behind this ‘zig-zag method’ was to incorporate, to motivate the experimental group (a group of 3 students) with a task of reading technical articles from reputed journals; to have a discussion and then write a feasibility report based on their reading.
Selection of Text From Journals

The task selected for the target student group was directed towards building a rapport among the learners. The students were from several engineering backgrounds and to prepare their report by the end of the course; in order to get started they were instructed to select a technical topic of their choice and identify others interested in a similar topic form group. Excitement among the students was observed as they sought advice on the choice of topic and procedures that may help them identify relevant scientific and technical topics of interest. With guidance the students soon went about reading articles on blogs, reference books, and journals and accessed on-line libraries. This followed up with an open forum in the class-room where the learners presented their areas of interest and teamed up with their fellow classmates who were interested in exploring further into the project. This was the study groups with their initial task.

With the motivation and challenging target set, they were required to identify a new area wherein something new could emerge, as a result of their collaborative discussion on varied fields of technology. This encouraged students to venture and explore newer areas, though controlled by the format and use of formal language a report demands. Thereby bring about combination of the process and product approach.

The task chosen involved providing the learners forming teams comprising of three members. They then had to decide on a topic, for instance, if they chose to read material that related to nanotechnology, then, each student would have to select articles that relate to nanotechnology, but would differ in the area of application. Figure 1, given below illustrates the progress of the classes through the tasks.

![Figure 1: Progress of the Classes Through the Tasks](image)

This task fulfilled the student’s requirement to collect substantial information permitting them to bank upon their existing knowledge. The task in addition, engaged the students in an active exchange of ideas.
Use of Padlet

The next task assigned to the student groups formed within the study group was to exchange knowledge, ideas and perspectives gained through reading the selected technical texts of their choice. This was aided by a technical platform “Wall-wisher or the Padlet”.

Wall-wisher – Is a resourceful tool to promote student discussion; it permits the educator to participate in the student discussion and offers suggestions to keep in track of the learning.

The Instructions given to The Students Read as Follows

- Report - Your discussions based you’re your report will have to be posted on Wall wisher on the link provided - - http://padlet.com
- Begin by clicking on the link provided to build a wall (virtual).
- Double click on the wall and start sharing your views.
- Make sure you permit the others on your team to post their views on the wall.
- Share your ideas and develop your discussion.
- Identify an area where this new technology can be implemented.
- Share your link with your instructor, by sending an invite to the mentioned e-mail.
- (Teacher’s email was provided – name@institutionalname.ac.in).
- Write a report based on your discussion, mentioning the probability of using the technology for a different purpose.

This platform, facilitated students to embed text, documents, web pages, video clips and other links they referred to making learning fun and interesting. Moreover, this exercise assigned was targeted to write a report as the final outcome based on the article selected for study. The assigned task facilitated learners to understand how the cohesive and coherent devices operates and assisted them to write without errors without having them memorize. Hence, the targeted task did not incline towards the conventional method completely, it directed the learners understanding towards what Badger and White point out, and cite Pincas view that, writing is 'primarily about linguistic knowledge, with attention focused on the appropriate use of vocabulary, syntax and cohesive devices’. Pincas identifies four stages in writing: ‘familiarization; controlled writing; guided writing and free writing (Badger, 2000, p. 153)’.

The task based on the ‘process method’, opened up space for learners to engage with technology and rendered the activity interesting. It instigated them to think out of the box; to visualize and be innovative about where technology could be put to a productive use. A few samples of student assignments can be viewed in the links provided below:

- Photonics and Optics - http://padlet.com/f2015226/9xsbl092wm15;
- EM waves - https://padlet.com/f2015784/isw5quedgbeo;
- SUPERCONDUCTIVITY - https://padlet.com/f2015749/60audq09c7nr;
- Computational fluid dynamics -https://padlet.com/f2015283/ue24wg0t302c.
The final task involved writing, which resulted from extensive reading, discussions and reasoning. There was a lot of peer support involved during the process of writing. The experiment was carried out in fifteen contact hours of teaching and involved the learners by taking the learning process out of the class and motivated them to familiarize themselves with the use of language in technical writing. In addition, the report writing task aided by the ‘product method’ drilled the learners to adhere to the technical format of a report; its arrangement of content in a sequential order and guided them towards the final outcome (report writing).

LANGUAGE FOCUS

The initial objective is to prepare technical documents in accordance to the ‘product and the process approach’. As specified in teaching reports to Engineering Students, utilizing the product based approach to writing a report best suited the purpose set, for the ‘product based approach’ is based on a traditional writing, in which students are encouraged to mimic a model text, which is usually presented and analyzed at an early stage (V. Steele, 1992).

Once they gained insight of the format, a blend of process approach is incorporated into the development of the report. Knowledge of the rhetorical patterns gained through the ‘product- based writing’ created a room for the study group to analyze and compare the knowledge they had acquired through the task assigned, in terms of rhetorical patterns, comparison/contrast, cause-effect, classification, and definition (Harris, 1993). The sample format of the report guided the study group to present well documented reports with logical sequence in their writing narrating the process, describing and presenting reasons and factual details. They had gained the persuasive use of the language in writing that reflected in their use vocabulary and syntax they used.

DISCUSSIONS

The study had set out to explore, ‘How educators can use a combination of process and product approach to report writing?’ In addition, to the idea of engaging the learners in a task-based class than the monotonous lecture sessions where the major focus on course completion rather than an overall assessment of task completion. The experiment initially started off with an idea as to how a teacher could motivate, and boost students to actively participate in learning and write a good report with formal formatting and syntax. A natural choice of an educator would be the ‘product method’ as it enabled the instructor to train them and give them a few drills as the sessions progressed. However, with a bit of diversion in the selection of teaching method by incorporating ‘process method’ in a task-based class resulted in better learning outcomes.

Wall-Wisher (padlet), proved to be an ideal technical platform for the learning task as it motivated learners. The platform facilitated student learning in terms of being able to comprehend and share their understanding of the content they read and discussed. It proved useful when the learners felt the need to brainstorm. In addition, it was convenient as it abetted mentoring as comments and feedback were posted by the teacher. The monotonous and tedious process of learning had been eliminated through the introduction of tasks that were wisely picked and put to a judicious use. Further, task-based-learning provided an elaborate scope for the learner’s to explore their creative side that resulted in innovative technology. As evident in their final report and their presentation; a product of their discussion, reading.

It was observed that the students found it challenging in the beginning as to the topics they had to choose. With examples given in the class and guidance they came up with several technical topics of their choice. To mention a few favoured topics amongst the students:
It was remarkable to observe the learners form teams with the knowledge, acquired through their initial reading. With guidance and feedback from the educator. It would be worthwhile to mention a few teams here, for instance, teams resulted with a combination of technologies:

i. Team 1 – Biomimicry + Artificial Intelligence + Quad copter
ii. Team 2- Nano technology +internet of things + machine learning
iii. Team 3 – Artificial intelligence + Robotics + Weapon design

As the learners identified new avenues opening in terms of combining technologies the initial challenges and hindrances’ turned into enthusiasm and generated a conducive learning response. In terms of the complexity of the task in which the learners participated there was much emphasis on first the emphasis on the ‘cognitive and communicative stress’ in the initial stages of the task. The code complexity came into play at a later stage of the task that involved writing and presentations of the report. Nunan David (2004, pp. 86-87), draws references from Skehan (1998), who draws a distinction between, cognitive familiarity and cognitive processing. Cognitive familiarity refers to the ability of the learner to access ‘packaged’ solutions to the tasks, whereas cognitive processing refers to the need to work out solutions ‘on line’. Nunan, also mentions Van Patten (1994) view that a ‘task requires existing well-organized ‘chunks’ of knowledge to be retrieved and mobilized for task performance.

In the latter, elements of a task are easy to handle, but there is significant difficulty in manipulating them to achieve a solution that the task requires. In accordance, the task targets the areas of interest of the learners, triggering a thirst to acquire knowledge in a scientific area relevant to them. With familiarity acquired, on the content they set out to seek a solution to achieve the objectives of the tasks. For,

Pedagogy should: …prioritize the route itself; a focusing upon the means towards the learning of a new language. Here the designer would give priority to the changing process of learning and the potential of the classroom – to the psychological and social resources applied to a new language by learners in the classroom context a greater concern with capacity for communication, with the activity of learning a language viewed as important as the language itself, and with a focus upon means rather than predetermined objectives, all indicate the priority of process over content. (Breen 1984, p.52–3; Nunan, 2004, p. 8).

Nunan, views Breen’s (1984) suggestion that communication should be given importance in the curriculum, was taken into account during this research as it facilitated learning, outside the classroom. Learners displayed the keenness to share their innovative thoughts in the class. As they progressed, towards the end of their discussions and arrived at possible outcomes of new technology. They were then instructed, to write structured feasibility reports formatted in accordance to the requisites of a professional report. In line with the ‘product approach’ the learners were provided a set of sample feasibility reports. A feedback on the course was taken from the students in the form of a questioner ( Appendix A). The feedback from the students (Appendix B) reflected that the assignments were challenging and that the learners involved in the tasks actively.
CONCLUSIONS

An important conceptual basis for task-based language teaching is experiential learning. This approach takes the learner’s immediate personal experience as the point of departure for the learning experience. Intellectual growth occurs when learners engage in and reflect on sequences of tasks (Nunan, 2004, p. 12).

As a teacher, this experimental teaching employed in the classroom, promoted experiential learning, Nunan advocated. The study group, were highly responsive to the tasks assigned. They displayed evidence that they appreciated the innovation introduced in the teaching and learning point. This task promoted Experiential learning (Kohonen, 1992) from a variety of fields like science and technology, developmental education and cognitive theory (Nunan, 2004, p. 12). The study group was provided with an opportunity to identify their potential and skills as they engaged in the learning process. Moreover, the task was based on incorporating technology for learning. In addition, to involving them in action as they came up with new innovations in technology. The final outcome of the task resulted in online presentation through a platform www. present.me.com. For a sample of what resulted as the final outcome as the task the link provided below can be checked. A presentation made by the students of BITS Hyderabad online: Anup Jogdand, Bhavathi Reddy & Shakti Singh created this presentation as a part of their discussion and reported about Tectonic on 11-21-2015 - https://present.me/view/330284-techtonic.

In many aspects the learners felt a sense of achievement on realization of the possibilities they could achieve through interdisciplinary reading and collaborative work. The monotony that could have resulted from a product approach and conventional lecturing was replaced by Task-Based-Learning. However, the aspect of product approach had to be retained for the final report. Though there were initial issues about the formation of teams to focus on new thought process it finally was a success. The learners were not disappointed by the task they were put through. Though they came back to report, that the learning meant a lot of hard work from their side, but they were happy to have had the opportunity learn and that the sessions were interesting. It can be concluded that this experiment had managed to keep boredom off the sessions engaging the whole class. The Focus was fixed on that the final output. As it was based on the sample of a technical report and didn’t deviate from the formatting, as the learning was to adhere to the need at the learner’s work place.

As an educator, I had to mentor consistently on aspects of guided writing. Furthermore, a balance in teaching and learning had been achieved in the process. From the educator’s point, it can be concluded that it is essential to select the appropriate teaching tools in order to keep learners participate and interested in acquiring new knowledge.

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