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Research Article

An Evaluation of Oral Communication Skill Using K-Means Clustering Technique

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Abstract

Communication is a vital skill which the learners could acquire so that they can enhance the other skills for their life time. Effective Communication brings about a number of pedagogical functions. As a matter of fact, most of the learners face difficulties in acquiring communicative skills in English. This lack of oral communication deprives them of the opportunities of taking up interviews for employment. As it is evident, one of the main reasons for this discrepancy is the fact that most of these learners hail from the remote areas and obviously have no access to schools of higher standard. But given a chance to communicate about things that are closer to their Environment they can perform better than the others convent-educated students. Concentrating on this aspect, this evaluation analyses the factors which enrich speaking skill of the learners. The research also justifies the feasibility of some remedial measure who need to be equipped to communicate under various circumstances. In addition, this research also presents an overview of the criteria for evaluating the performance of the learners and to analyze the result using the clustering technique of data mining approach.

Key words: *Oral communication, Clustering, techniques, evaluation*

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Introduction

In the globalized age, opportunities are open for the learners who are expert in communicative skills. The clear implication goes with the people who are competent in academic as well as professional scenario. As a result, most of the colleges and universities offer programmes in communication skills at undergraduate level. Oral Communication skill satisfies a number of pedagogical purposes. Acquiring speaking skill is an important goalmouth, as it equips the learners with skills they could practice in future. Teaching communication skills innovatively could be achieved through research. Communication skills cover a broad area that ranges from team activity to individual presentations.

The present research looks for the chances to develop the oral communicative skills of the learners of undergraduate level. This research mainly concentrates on the evaluation procedures at 4 different levels starting from simple to complex. It also presents the analyses of the results using K Means clustering technique of data mining using machine learning tool WEKA. The data mining techniques are widely used today for various social remedial problems such as weather forecasting, patient diagnosis, customer behavior prediction and etc [5]. This also promotes the better understanding of the performance of the learners and to suggest appropriate remedial measures for improving speaking skills. Communication, in order to be effective, depends on the context and therefore entrenches in its discourse community. Spoken skills play a crucial role in a learner's enhancement of knowledge. It is found that all the learners are not so efficient in oral communication for it is a unique skill that requires comprehending what and how of speaking. A speaker should be aware of many elements that help in effective communication. Some of them are paralinguistic features like eye contact, body language, etc. At tertiary level, learners are expected to know the basics of the language. At this level, teaching communication skills is appropriate.

Objectives of Oral Communication

➢ Receive and respond to the messages.

➢ Give suggestion to perform oral tasks.

➢ Express empathy with the everyone.

➢ Give description about persons, things, places, events, processes etc.

➢ Impart information related to self.

➢ Discuss topics of interest.

➢ Give positive feedback.

Methodology

A Sample of 59 Learners from three disciplines such as Electronics and Communication Engineering, Electrical and Instrumentation Engineering is chosen for Evaluation. Tests have been conducted at 4 levels from simple to complex. In Level 1 and 2 simple presentation were given based on their preference and the learners were allowed to attend the test without any training. In level 3 the learners were provided with the study material and trained to perform the particular task such as Mini Presentation on a specific topic. In level 4 the learners were asked to do an oral presentation based on the topic given on the spot. In order to identify the unique language skills of each learner , having into consideration we have framed five basic criteria such as Grammar, Content, Lateral Thinking, Body Language, Pronunciation for evaluation.
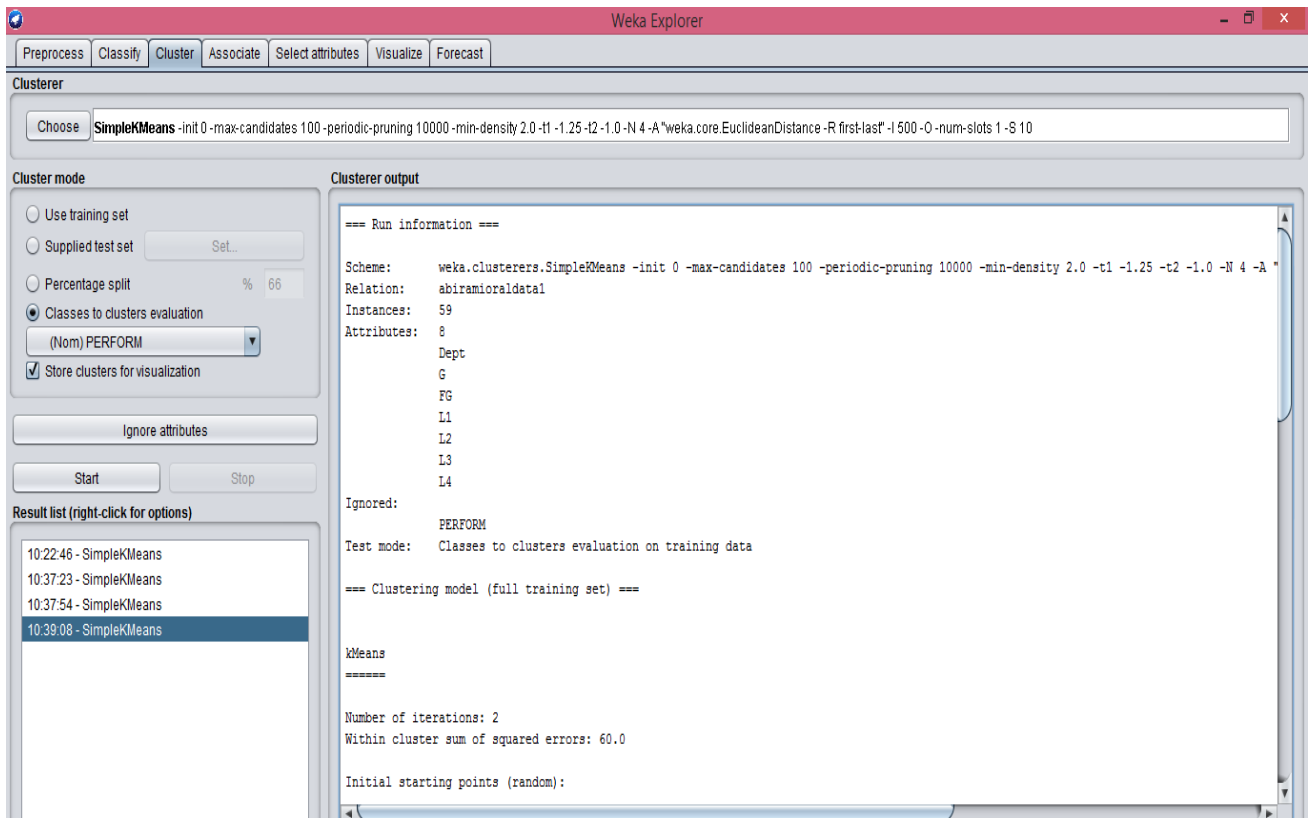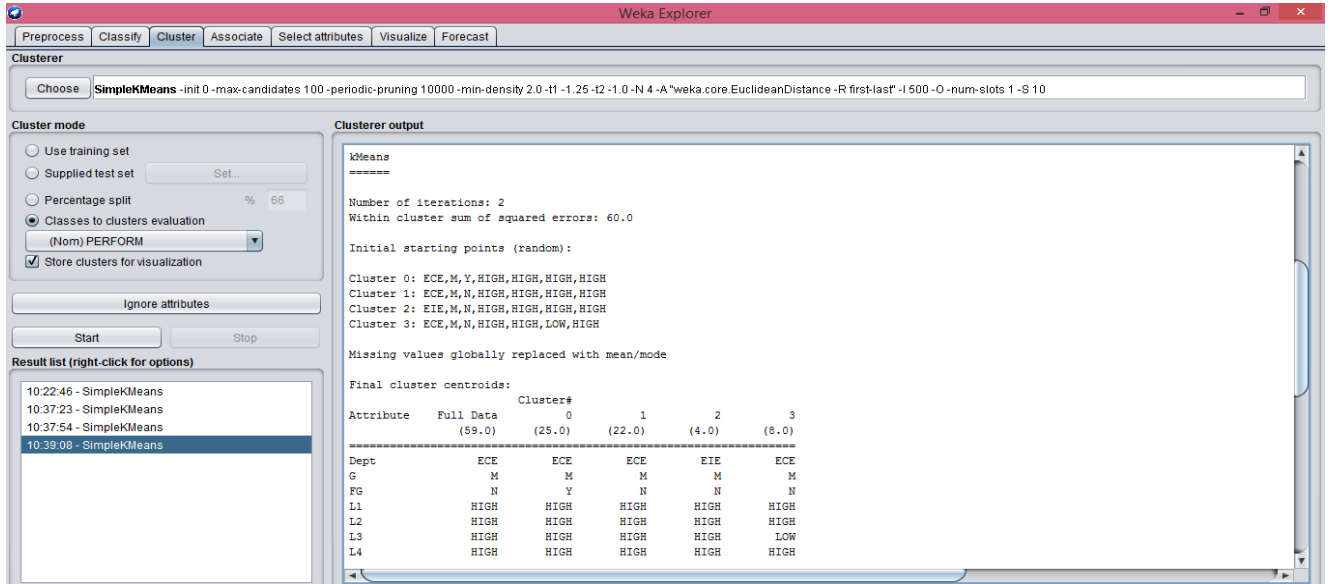
Figure. 1. Parameter list

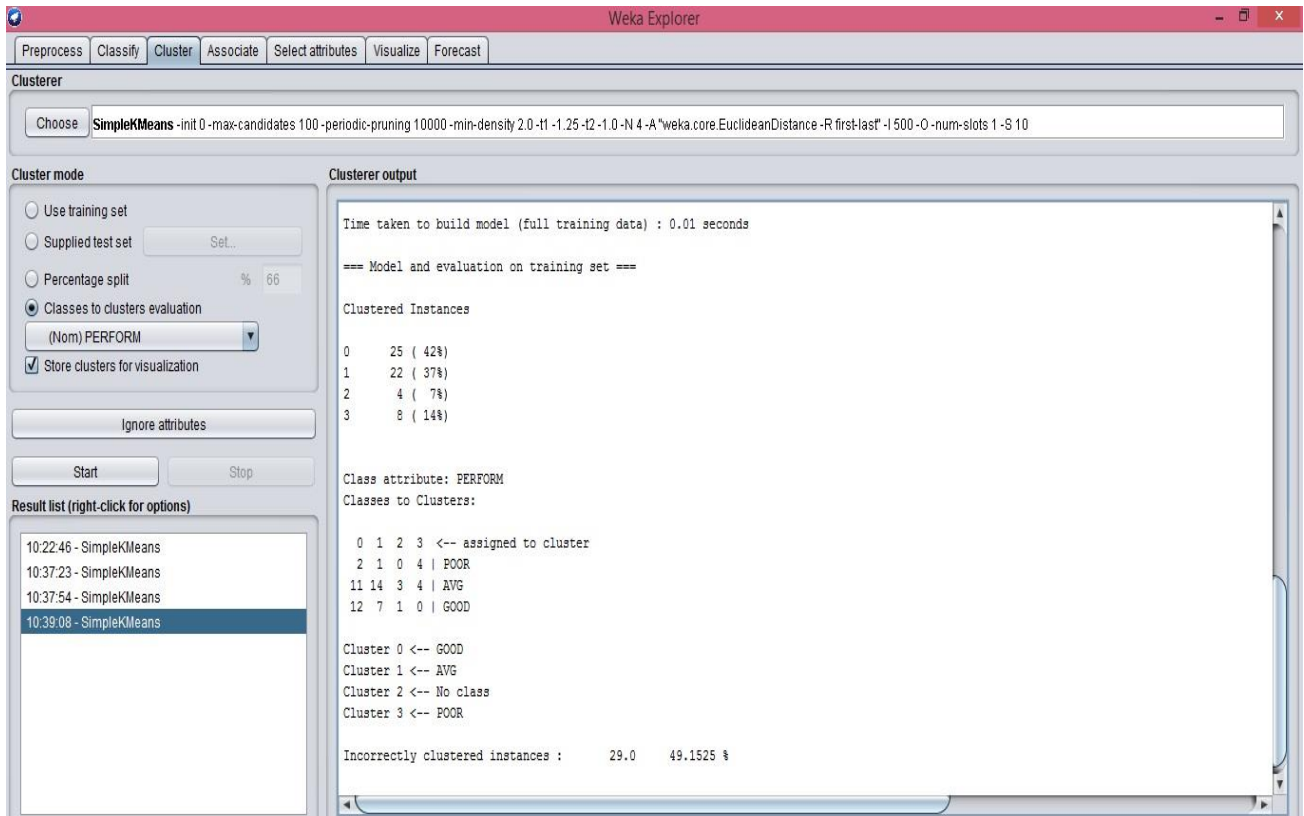Figure. 2. Behavioral aspects of student

Figure. 3. Confusion matrix

The Table 1 shows range and the level of performance of the learners.

Table. 1. Range of student performance

SNO	RANGE	LEVEL OF PERFORMANCE
1	1-200	POOR
2	200-250	AVERAGE
3	250 -400	GOOD

- In test level 1, 2 learners are poor performer, 11 are average performer and 12 are good performer.
- In test level 2, 1 learner is poor in performance, 14 are average performer, and 7 are good performer.
- In test level 3, none of the learners are poor performer, 3 are average performer, and 1 learner is good in performance.
- In test level 4, 4 of the learners are poor performer, 4 are average performer, and none of learner performed well.

A few remedial measures are suggested below to improve the level of the performance of the learners.

Framing Remedial Classes – Procedure

The procedure to frame remedial class involves two steps. They are-

A) Analysis of performance in sub skills.

For e.g.: The components of a presentation are

➢ Understanding the concept from the speech.
➢ Understanding the correct use of grammar.
➢ Identifying the types of sentences.
➢ Pronunciation, Intonation, Body language and Cognitive skills.

B) Developing tests for each of the sub skills.

The facilitators are expected to work with the learners who have different perspectives almost every day. The learner's communicative ability depends on how they utilize the resources and apply them in their communication.

Results and discussions

The performance of learners at each level is recorded and results are evaluated based on the criteria mentioned and the results are analyzed. The machine learning tool WEKA is used to analyses the sample data for applying the unsupervised learning technique using K-Means algorithm. Figure 1 shows what are all attributes considered to study the data. Figure 2 shows the behavioural aspects of different student clusters. Figure 2 shows that among the 59 sample selected for study 47 from ECE and 4 from EIE are clustered as high level performer and remaining learners performed well in level 1,2 and 4 but showed low performance in level 3. Figure 3 shows confusion matrix of machine learning procedure for the different student clusters. The percentage of learners performance in each range is shown in Figure 3.

Conclusion

From the sample data set, behavioral aspects of students related to oral communication are generated using K-Means algorithm of data mining approach. How learning competency is enhanced through the approach when compared with the other approaches and the potentiality of applying this for future references.Hence, felicitator needs to continually examine the situation and relate it to learner participation, autonomy, and equality in their changing context.

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