Adobe Audition and Stress and Intonation Awareness

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Abstract: Being able to use stress and intonation is a key to clear pronunciation which of course influences the message that is sent orally. However, most of the freshmen at the English Education Department of Yogyakarta State University (YSU) found difficulties to use appropriate stress and intonation in the Pronunciation class. As a result, they produced strange and incorrect stress and intonation. There had been some efforts to help the students to learn how to use the appropriate stress and intonation. However, due to the limited time allotted in one semester, the students still found it difficult to understand and raise their awareness towards English stress and intonation. The research was conducted to help the students of English Education Department of Yogyakarta State University avoid making mistakes related to stress and intonation. It was conducted in 4 months with 22 students in the researcher's Pronunciation class. The researcher employed *Adobe Audition* 1.5 to visualize the stress and intonation in English, hoping that the students will get clearer examples of how to use them appropriately. To collect the data, the researcher used questionnaire, observation guidelines and a test of pronunciation. The result shows that the students gained their awareness in using stress and intonation after they were involved in some meetings which mixed up lecture and *Adobe Audition* visualization. They were helped a lot by the waves visualization in *Adobe Audition* program. This in turn helped them reduce making mistakes in using stress and intonation in English.

Keywords: Stress and intonation, Adobe Audition 1.5

Introduction

The development of technology has contributed to some rapid changes in the teaching of English as a foreign language in Indonesia. One of the significant changes can be seen from the process of teaching and learning of English. Many teachers of English take swift from using traditional media such as black and white pictures and cassettes to colorful videos and soft audio. The changes give teachers of English greater opportunities to have a successful teaching and learning process.

However, many other teachers of English do not make use of the changes to support the teaching and learning process of English in their class. They still rely on their course book and or handbook to teach some courses which actually require the use of technology to make some abstract concepts clearer. One of the examples occurred in the teaching of some common ground subjects in the English Education Department of Yogyakarta State University, Indonesia. Some English teachers still made use of an old handbook of Pronunciation and some additional information taken from other books to teach the course. Some of them

did not facilitate themselves with other technology-based materials which are absolutely needed by the students. As a result, the teaching and learning process of Pronunciation became very monotonous and boring for the students. They simply attended the class to meet the requirements for taking the final exam and get the grade. This is of course not good since Pronunciation course provides the students some basic knowledge and skills that they absolutely need to support their learning process in the next semesters. Some basic concepts in the Pronunciation class will determine their success in some more advanced classes, such as Speaking classes.

The raising need of user-friendly technologies in the Pronunciation course becomes vital due to some abstract concepts which need clearer illustration and explanation. Some of the materials include the stress and intonation. The researcher himself found it difficult to explain the concept of stress and intonation, especially the one in long phrases and sentences. He also found that the two abstract concepts made most of his students reluctant to learn seriously since they needed a clearer example of how to use the supra-segmental features of pronunciation. To facilitate their learning, he has tried to made use of some audios and videos to give the models of how to deal with the stress and intonation. However, since the course is given in the first semester, the students still found it difficult to produce stress and intonation appropriately. They had not had sufficient background knowledge and skills to comprehend the materials. The existences of media which help the students get clear illustration how some abstract concepts became an urgent need since they might lose their motivation and willingness to attend the class seriously.

There have been some efforts conducted by some other teachers of Pronunciation but most of the efforts did not provide clear illustration of what and how to produce the appropriate English stress and intonation. One of the efforts was creating interactive CD of Pronunciation (Jamilah: 2008). She developed an interactive CD os Pronunciation which aimed at providing students with some real models of how to produce sounds as well as how to produce stress and intonation. However, she found that most of the students did not maximally use the media in their learning. They still had not realized that they needed to learn on their own and not to be dependant to the teacher. As a result, most of them still found it confusing to produce the appropriate stress and intonation in English.

Another underlying problem was the difference between their mother tongue and second language and English. Bahasa Indonesia and Javanese, as their mother tongue and second language, do not require them to play with certain rules of stress and intonation, but English does. They are still accustomed to using Bahasa Indonesia or even Javanese accents to produce English sounds. This of course caused serious problems since their pronunciation became not standard and weird. Some of them even produce flat English which of course very strange and funny to listen to. Moreover, some other students failed to use the appropriate intonation in reading English phrases and sentences. They prefer to end every phrase and

sentence with raising intonation. This sometimes made their pronunciation unclear and strange. The failure to produce the appropriate stress and intonation also caused them failed to use the appropriate tones in different situations. For example, most of them were not successful to produce the appropriate tones to express the feelings and thoughts. As a result, some of them expressed surprise with flat intonation and they used raising intonation to express sadness which of course did not represent the real meanings or thoughts.

As one of the teachers who taught Pronunciation course, to overcome the problems, the researcher was interested in conducting a study which aimed at investigating the use of *Adobe Audition* to facilitate the learning of some abstract concepts related to how sounds are produced and distinguished. It is a digital sound editing program that allows the users to open multiple sound files, record new ones, edit them, and save the work in a desired format. He believed that the program could facilitate his students to learn stress and intonation in his Pronunciation class. Therefore, he then tried to investigate the use of *Adobe Audition*, especially *Adobe Audition 1.5* versions to improve his students' pronunciation, especially their accuracy and fluency on stress and intonation.

Adobe Audition 1.5 is an audio recording, editing, and mixing application for Windows 2000 and XP. Adobe upgraded and redesigned Audition from its origins as Cool Edit Pro, adding a suite of digital video tools to work alongside Premiere Pro, After Effects, and Encore DVD, to provide a completely integrated workflow and a more efficient way to develop high-quality audio. Audition is designed to work in a variety of environments and for a variety of end-users. It has been developed in the work of broadcasting and post production facilities, audio designers, video production houses, and multimedia developers can all use Audition to create, edit, loop, and enhance individual sounds and mix them in a multi-track recording environment using up to 128 different tracks (http://www.vtc.com/products/Adobe-Audition-1.5-tutorials.htm).

Some researchers have already conducted similar research on using *Adobe Audition* to improve English learning and they found that this program facilitates English learning a lot, especially spoken English. This is due to the display of the waveform which lets learners easily identify graphical illustration of some segmental features as well as supra-segmental features of English pronunciation. The waveform represents the sound waves including the raising, flat and falling intonation. It display shows a waveform as a series of positive and negative peaks. The x-axis (horizontal ruler) measures time, and the y-axis (vertical ruler) measures amplitude—the loudness of the audio signal. Quiet audio has both lower peaks and lower valleys (near the center line) than loud audio. You can customize the waveform display by changing the vertical scale and colors. With its clear indication of amplitude changes, the waveform display is perfect for identifying percussive changes in vocals, drums, and more. To find a particular spoken word, for example, simply look for the peak at the first syllable and the valley after the last (http://helpx.adobe.com/audition/using/displaying-audio-waveform-editor.html).

Teaching English, especially listening skill and pronunciation, through *Adobe Audition 1.5* will serve the teachers and lecturers satisfaction, because they can easily conduct the teaching and learning process by showing the real illustration of the sound waves so that the students find the models as well as the examples of how to produce the sounds (Rifai: 2010). In his research, Rifai found that his students could get better understanding after he made use of some features of *Adobe Audition 1.5.* This program is considered to be effective to help learners identify some features of pronunciation so that they could get real models of how different sounds are produced.

Yang (2010) claimed that *Adobe Audition* 1.5 helped his undergraduate students to learn how signal processing is analyzed with the program. He found that the program made the analyzing process clearer for the students to understand since they could get the real samples of the pitch in each sound wave. The illustration then in turn helped the students to succeed understanding the topics about signal processing.

Research Methods

This study was aimed at using *Adobe Audition* 1.5 to help the students taking Pronunciation course in the researcher class to get better understanding on how to identify and use the appropriate stress and intonation in English. The researcher used all students who took Pronunciation in his class, which involved 22 students, 14 female students and 8 male students. The study itself was conducted during the first semester of the academic year of 2012/2013.

To start the study, the researcher first tried to identify some topics in the Pronunciation Basic Course Outline, to find out which topics to be used in the research. The researcher found that the course requires every student to learn the supra-segmental features of pronunciation which include stress, intonation, linking sounds and intrusion. However, the researcher limited the study into two topics, i.e. stress and intonation. He then tried to adapt some materials for the two topics. To do so, he tried to compile some materials from some different resources, e.g. e-books, printed books, as well as audio files. He mainly used a book entitled English Pronunciation in Use written by Mark Hancock. He found that this book is presented in interesting topics which would of course attract students' attention as well as boost students' motivation in learning English pronunciation. The topics are also accompanied by some jokes related to the use of English pronunciation to show that pronunciation may cause misunderstanding or even funny things. He then compiled the materials to be presented to the students. Most of the materials were in the form of power-points which were accompanied by the audio files as the models of the pronunciation for the students. The audio files were also kept in the format of *Adobe Audition* 1.5 of course, to show the students the models of how the sound waves changed.

There were two types of data in this research, qualitative and quantitative data. The qualitative data were collected through observations, photograph taking, and interviews. Then, the quantitative data were collected from students' performance in the pronunciation class. To analyze the qualitative data, the researcher did data reduction, data display, and conclusion drawing (Miles and Huberman, 1994: 10). The quantitative data were used to support the qualitative data. To get the quantitative data, the researcher gave a pre-test and a post-test to the group of the students.

The next step of the study was the implementation of the *Adobe Audition* 1.5. The researcher made use of an LCD to show how the sound waves changed and also an active speaker to play the audio. This program allowed the learners to monitor and model how high the intonation is as well as how long the sounds are produced in a normal speed. Therefore, the researcher could give extra explanation about how the sounds were produced.

Research Findings and Discussion

After conducting the Pronunciation course by utilizing *Adobe Audition* 1.5 with the reference to the planning, implementing, observing, and reflecting stages, the researcher could find some improvement mainly on students' ability to produce stress and intonation in English and also on their attitude toward the pronunciation course.

Students' improvement on their ability to produce appropriate English stress and intonation could be clearly be seen from the field notes which show that after the implementation of *Adobe Audition* 1.5 on the 1st meeting, the students realized that English stress and intonation is different from those in their mother tongue and second language. It is shown in the following field note:

> *"When the teacher showed how stress and intonation are used in Javanese (mother tongue for most of the students) and Indonesian (second language) through Adobe Audition 1.5 view, especially from the sound waves, the students started to ask why the sentences have different patterns of sound waves, especially different peak of sound waves. Getting some explanation about how the 3 languages use stress and intonation, the students realized that the 3 languages have different consensus about how stress and intonation are used in the 3 languages. The teacher then gave more examples of how English stress and intonation are used in real life by presenting some slides of materials accompanied by their Adobe Audition 1.5 view.* " ***(field note 013: October 1, 2012*)**

Then on the 2nd meeting, they began to be more careful before they tried to use stress and intonation in reading English sentences, even though it took longer time for them before they read the sentences given on the slide shows. However, they became enthusiastic to have the pronunciation activities when the materials were

presented on the slides accompanied by the sound waves view. Most of them were eager to repeat the models of sounds on the *Adobe Audition* 1.5 view even without the teacher's instruction. They tried to pronounce the sentences and expressions over and over to make sure that they used the appropriate stress and intonation. Most of them made a great progress both in their understanding and their ability to read the words, phrases and sentences with appropriate English pronunciation. They considered that the class was not monotonous. It is shown in the following field note:

> *"When the teacher gave some more examples on how to read English words, phrases and clauses with appropriate English pronunciation without giving the students the wave views, most of the students found it difficult to model the pronunciation. They still used flat and Indonesian or Javanese dialects. Then the teacher provided them the wave views. Most of the students understood where to put the appropriate stress and intonation. They also looked enthusiastic by trying to model the pronunciation without the teacher's instruction. Then the teacher gave some more examples accompanied with the wave views. The students could understand the use of English stress and intonation and they could model how the sounds were produced. They could also use the stress and intonation patterns and rules that they had learned before in pronouncing the other words, phrases and sentences appropriately."*
> ***(Field note 015: October 8, 2012*)**

The same result is also shown from the interview transcript below:

*Teacher: Terus tadi sebelum pakai visualisasi dengan Adobe Audition 1.5 dalam bentuk gelombang suara, ada kesulitan tidak dalam pengggunanan English stress and intonation? (**Did you find any difficulties in using English stress and intonation before I provided you the sound waves in Adobe Audition 1.5?**).*

*Student 4 : Banget pak. Kita pikir tadinya ndak ada stress dan intonation yang naik turun gitu. Kan sebelumnya di SMA kami diajarinya ndak gitu. Bahasa Inggris ya hanya datar-datar saja gitu. (**Absolutely, Sir. We did not know that there are stress and intonation in English. Our teacher at SMU did not teach us how to use them. So what we understand is that English is flat**.)*

*Teacher: Terus, setelah lihat contoh gelombang suara yang ditampilkan di Adobe Audition 1.5 tadi, pemahamanmu tentang English stress dan intonation kira-kira gimana? (***Then, after getting the models of sound waves on the *Adobe Audition* 1.5, did you get clearer understanding on the use of English stress and intonation?)**

Students 4: Iya . Banget pak. Kita jadi lebih jelas, dan tahu prinsip-prinsip English stress dan intonation. Jadi kita juga lebih hati-hati

kalau mau ngucapin kata maupun kalimat dalam bahasa Inggris pak karena prinsipnya beda dari bahasa Indonesia maupun Jawa. Pokoknya jadi gamblang gitu. **(Of course, Sir. We could get clearer understanding on the principles of English stress and Intonation. We also know that we have to be very careful in pronouncing English words or sentences because the principles are different from those in Bahasa Indonesia or Javanese.)** ……..
(interview 3: October 1, 2012)

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Teacher: Kalau menurutmu, tampilan gelombang suara dalam Adobe Audition 1.5 tadi membantumu mengenali stress dan intonation nya ndak? ***(Did you find the sound waves useful to help you recognize the stress and intonation?)***

*Student 9: Tentu pak. Tadinya sebelum ada tampilan naik turun ..er.. apa tadi….mmm…Adobe tadi, kami sulit mengenali dimana stress dan intonation nya. Tapi setelah bapak menunjukkan ke kami contoh gelombang suaranya, kami jadi lebih mudeng dan bisa mengikuti penjelasan bapak. Jadi kita jadi lebih tahuprinsipnya lagi besok-besoknya kalau ngucapin bahasa Inggris. Trus jadinya lebih asik gitu pak ikut kelas pronunciation****. (Yes Sir, We first found it difficult to know where the stress and intonation are before you provided us the sound waves. But after you gave us the sound waves, we could understand your explanation. We know the principles how to pronounce them in the future. We also find the class not boring Sir.)***

*(Interview 5****: October 8, 2012)***

It can be seen from the field notes and interview transcripts that the use of wave views in *Adobe Audition* 1.5 can help the students realize that English pronunciation is different from the pronunciation systems in their mother tongue (Javanese) and second language (Indonesian). Instead, the sound waves also help them to improve their understanding on how stress and intonation are used in English. The students also find the sound waves very useful to give them the models of how English sounds are produced, especially the supra-segmental features of pronunciation, i.e. stress and intonation since they gave them clear example of where the stress and intonation are produced. The sound waves could give additional explanation to the students to know and understand English stress and intonation.

After several meetings, the teacher found that the students gain their awareness on English stress and intonation. They tried to model the pronunciation given via *Adobe Audition* 1.5. They tried to produce the sounds over and over until they could get close to the pronunciation given by the model. Once the teacher played the recording, the students then gave a try to imitate the sounds by paying much attention to the stress and intonation. As a result, they became accustomed to

English stress and intonation patterns. In other words, they became familiar to how to produce English sounds with appropriate stress and intonation. Furthermore, they also found the pronunciation class more interesting than before since they got a different medium of learning, the *Adobe Audition* 1.5 wave views which support their learning.

In addition, the quantitative data also show that the students made a significant progress after the teacher used *Adobe Audition* 1.5 in the Pronunciation class. It can be seen from the students' improvement on pronouncing English words, phrases, sentences, and intonation. The researcher made use the students' scores collected from the pre-test which was conducted before the researcher used *Adobe Audition* 1.5 as one of the teaching media, and the post-test which was conducted at the end of the semester, after he used the *Adobe Audition* 1.5 in the class. He divided the students' scores into scores on pronouncing English words, phrases, sentences with appropriate stress and students scores on using the appropriate English intonation. The result of each of the test is shown in the following tables.

Table 1. Paired Sample Statistics for Pronouncing words

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre_word	5.5455	22	1.14340	.24377
	post_word	7.4545	22	.59580	.12703

Table 2. The Result of Paired-sample t-test on Students' Ability on Pronouncing English Words

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre_word - post_word	-1.90909	.92113	.19639	-2.31750	-1.50068	-9.721	21	.000

It can be seen from Tables 1 and 2 that there is a significant difference in the students' achievement in pronouncing English words after they learned how to pronounce English words with appropriate stress and intonation accompanied by the sound waves views of *Adobe Audition* 1.5 which is shown in the significance level (0.000). The students' average achievement also increased from 5.54 to 7.45.

Table 3. Paired Sample Statistics for Pronouncing Phrases

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre_phrase	4.2273	22	.97257	.20735
	post_phrase	7.2727	22	.76730	.16359

Table 4. The Result of Paired-sample t-test on Students' Ability on Pronouncing English Phrases

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	pre_phrase - post_phrase	-3.04545	.89853	.19157	-3.44384	-2.64707	-15.898	21	.000

It can be seen from Tables 3 and 4 that there is a significant difference in the students' achievement in pronouncing English phrases after they learned how to pronounce English phrases with appropriate stress and intonation accompanied by the sound waves views of *Adobe Audition* 1.5 which is shown in the significance level (0.000). The students' average achievement also increased from 4.23 to 7.27.

Table 5. The Result of Paired-sample t-test on Students' Ability on Pronouncing English Sentences

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pre_sentence	5.1818	22	1.05272	.22444
	post_sentence	7.6364	22	.65795	.14028

Table 6. The Result of Paired-sample t-test on Students' Ability on Pronouncing English Sentences

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pre_sentence - post_sentence	-2.45455	.85786	.18290	-2.83490	-2.07419	-13.420	21	.000

It can be seen from Tables 5 and 6 that there is a significant difference in the students' achievement in pronouncing English sentences after they learned how to pronounce English sentences with appropriate stress and intonation accompanied by the sound waves views of *Adobe Audition* 1.5 which is shown in the significance level (0.000). The students' average achievement also increased from 5.18 to 7.64.

In conclusion, the use of *Adobe Audition* 1.5 sound wave views could help the students in the researcher's Pronunciation class to get better understanding on how to use English stress and intonation appropriately. Instead, the students also gained better awareness in using appropriate English stress and intonation. They were aware that English stress and intonation are different from Indonesian stress and intonation. Furthermore, they also realized that they needed to pay more attention on some common patterns of English stress and intonation. Furthermore, they were also highly motivated to attend the lessons since the visualization of sound wave views on *Adobe Audition* 1.5 encouraged them to model how English sounds are produced in terms of the height of the sound waves. Therefore, the researcher strongly suggests that teachers of English pronunciation use *Adobe Audition* to support the teaching and learning process.

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