

A Comparative Study of Listening Comprehension and Organization of Lecture Notes in Intermediate English Classes

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Abstract

In an effort to add to the field of research undertaken in L2 note-taking research, this paper defines a need for an instrument to gauge the note-taking ability of English students at Ritsumeikan Asia Pacific University. In a learning environment where students are required to take lectures of their major subjects in a second language, the ability of these students to take lecture notes that are comprehensive and accessible is of prime importance. In an effort to gain an understanding of our students' abilities with regard to this skill, this paper outlines the designing and trialling of a research instrument, with the intent of focusing in-class listening instruction. Findings from this exploratory investigation suggest that students' attention to organizing the main ideas extracted from a spoken text, and their relationship to supporting details, can be enhanced through in-class activities. These positive research findings are offset by the small scale of the study, and the researchers conclude that this research area deserves further attention and a wider scale trial of the research instrument to assist with improving English language teaching at APU with regard to lecture listening skills.

Key terms: EFL listening, lecture-based listening, listening instruction, teaching listening strategies, note-taking

1. Introduction

At an international university that has aspirations for its students to take lectures in English and operate overseas in study and employment, language courses have specific challenges to overcome. Ritsumeikan Asia Pacific University (APU) has links to universities all over the world, and every year several courses are offered for study overseas. APU also requires students to take courses in their major subjects in a second language, which presupposes students have gained the relevant skills for lecture courses in order to operate in these environments. In addition, first-year APU students overwhelmingly opt to live in AP House, the university dormitory complex. AP House's share-room policy provides possibilities for the use of English as a common language among share mates, and ensures that students have opportunities to use English outside of class time. The dormitory is conveniently placed next to the university, but inconveniently located almost one hour's travel from the city center. This provides additional incentive for students to remain in an internationalized environment longer than they otherwise might choose to. All these factors add up to create a unique language-use environment.

As language teachers at APU, we wanted to investigate how we could best align our listening instruction with the specific demands on our students in class, in their dormitories, and overseas. As the first stage of this investigation, we sought to develop an instrument which could accurately track the listening skills of students in various contexts, focusing not on their ability to answer questions correctly in a test, but rather on their ability to appreciate the important points of spoken interaction and therefore become more receptively adept users of the language. This paper reports on the initial stages of these efforts and looks forward to how they can be developed to help the students and teachers at APU.

2. Research Background

2.1 Note-taking

Taking notes in lectures is a very common strategy used among most university students (Van Meter, Yokoi and Pressley, 1994). Research on note-taking shows that taking notes in class and reviewing those notes (either in class or afterward) has a positive impact on student learning (Dunkel, 1988; Clerehan, 1995; Ellis, 2002; Kiewra, 2002). Therefore, it should come as no surprise that a multitude of studies confirm that students are able to recall more lecture material if they

record it in their notes (Bligh, 2000). Students who take notes score higher on both immediate and delayed tests of recall and synthesis than students who do not take notes (Kiewra and DuBois, 1991). These findings are corroborated by recent studies in note-taking which show that it is better to take notes than not to (Kilickaya and Cokal-Karadas, 2009; Tsai and Wu, 2010).

2.2 The need for note-taking at APU

At APU, virtually all courses, regardless of major, are lecture-based. Therefore, it behoves students to be proficient at taking notes. Observations from teachers and researchers alike indicate that many students are not well equipped for note-taking. In their study of 'bridge classes' - team-taught, lecture based courses taught in both English and Japanese and established for students who are ready to begin taking English only lectures in their major subjects (Ritsumeikan Asia Pacific University, 2012) - Hamciuc and Kojima (2013) observed difficulties among students with regard to note-taking. In a recent presentation on language support in "bridge courses" at APU, Hamciuc and Kojima (2013) noted several problem areas mentioned by students taking an International Relations bridge class in the College of Asia Pacific Studies. Note-taking was among the main problems the researchers reported. Simply put, the students in these lectures, "don't read, don't take notes and don't ask questions," leaving the researchers to wonder whether students know how to take notes or not (Hamciuc and Kojima, 2013). This sentiment resonates among many researchers who see a lack of ability among L2 lecture students and thus call for explicit instruction in note-taking and learning strategies (Chaudron, Loschky and Cook, 1994; Clerehan, 1995; Dunkel, 1998).

2.3 L2 Learner Difficulty with Lectures and Note-taking

The difficulties L2 learners in lecture situations have stem from the fact that they are not simply burdened with content, they are also dealing with several tasks that require linguistic and cognitive skills to interpret lecture contents, and choose what to record and what to ignore – all of this done throughout a real time monologue (Thompson, 2003). Studies aimed at finding the efficacy of note taking in terms of retaining information for tests found that the "dual tasks of listening and taking notes may overburden the language processing mechanisms of many L2 learners (Chaudron, Loschky and Cook, 1994 cited in Ellis, 2003). Combined with the difficulty of listening to lectures (Flowerdew and Miller, 1996), the task of taking notes appears to be ominous even for advanced L2 learners (Mason, 1994). In addition to the listening skills necessary to parse the input, encoding strategies must also be developed to facilitate organization of notes and storage for recall at a later point in time. In short, without help developing the proper strategies, L2 learners will not develop the requisite skills to take notes and therefore comprehend a lecture (Ellis, 2003, p.65). This is illustrated by the call for instruction in note-taking from researchers such as Hanson (1994) who found that note-takers missed many points and even wrote down the wrong information.

2.4 Training students to take notes

As mentioned earlier, there is a general call among teachers and researchers to provide explicit instruction in listening strategies and note-taking in lecture classes (Dunkel, 1988; Chaudron, 1995; Clerehan, 1995; Kiewra, 2002). However, note taking instruction is a difficult task, as the instructor must allow that not all students take effective notes in the same way (Dunkel, 1988). Clerehan (1995) supports this opinion, suggesting that teachers explicitly instruct various methods of note-taking and give guidance as to what should be taken down in lectures. Kiewra (2002) suggests several strategies students might use to increase the quantity of notes: providing instructors notes; providing skeletal notes containing the lecturer's main ideas with space for notes; providing lecture cues (signalling important information on the chalkboard); re-presenting the lecture (recording and replaying the lecture); reconstructing lecture notes (reviewing the lecture notes to prompt recall and add missing points); organizing (reformulating the information in the form of an outline) (p.73). We

can clearly see from these suggestions that there are numerous possible areas of instruction. Researchers should nevertheless be aware that “in lectures where L2 students are present ... the linguistic and conceptual complexity of the subject matter may pose specific difficulties, not the least of which is the interrelationship of principal elements” (Clerehan, 1995, p.152). In other words, the situation is not the learners’ burden alone: instructors must be sensitive to the needs and skills of their students.

2.5 Analysing Notes

Chaudron, Loschky and Cook, (1994) developed a coding system for notes based on organizational pattern; other structuring; diagrams; degree of verbatim note-taking; and quantity (p.81). Dunkel (1988) on the other hand, suggested more quantitative measures be used to assess students’ note-taking performance – total-number-of-words, information units, test-answerability (the number of questions answerable by using the students’ notes), and completeness (the number of information units divided by the number of words noted down). Dunkel (1988) found that there were two key variables: a) completeness and (b) test answerability. Ellis (2003) points out that “in general correlations were stronger for students who were allowed to keep their notes” (p.63) indicating that the opportunity to review their notes may be the key to success in lectures (Kiewra et al., 1991).

3. Research Question

This research sought to find whether there was a link between the improvement in the appreciation of relevant details in a text and direct instruction in class regarding this activity. Our research question was: What is the effect of structured note-taking instruction in an English class? The taking of notes was selected as a skill that can be transferred between courses, since both language instruction and major subject lecture courses can be improved by this skill. However, it is not a skill that has received a great deal of attention in previous iterations of language curricula at APU. The recent updating of the language curricula at APU provided the opportunity to alter class materials and foci for this purpose.

4. Participants

Data was collected from 37 first-semester intermediate and upper-intermediate level English students. The treatment group (Class A) consisted of twenty-two students (TOEFL scores ranging from 480 to 500). All students in the treatment group were first-year, first-semester students and upper-intermediate English was their first standard-track English course. The control group (Class B) contained fifteen students (TOEFL scores ranged from 450 to 479). All students in the control group were domestic, first-year, first-semester students and intermediate English was their first standard-track English course.

5. Treatment

5.1 Treatment group (Class A)

Between the pre-test and the post-test, both classes had half a semester (seven weeks) of regular English classes. The standard track intermediate students at APU have six lessons of English per week, four lessons of which are mixed skill classes for speaking, writing and listening. From the start of the 2011 curriculum, the upper intermediate English course has placed an emphasis on listening strategy. In these classes, students were given specific instruction on note-taking, with focus being placed on listening for stressed content words, organization of notes, and the ability to orally summarize the text from notes. This latter skill was highlighted by Kiewra (2002) as facilitating recall of information not originally encoded in the student’s notes. The treatment group were assessed on their note-taking ability twice in the period between the pre-test and post-test.

5.2 Control group (Class B)

Intermediate English students were not given specific instruction on listening strategies, but did cover listening texts in their classes and as homework. Although the primary focus of listening activities was on listening for main ideas and details in conversations and short lectures, and some sections of the textbook asked students to take notes, no instruction was given on note-taking strategies. The control group were also assessed on their note-taking ability twice in the period between the pre-test and post-test.

6. Study Design

The two classes were given a pre-test of their ability to take notes from a conversation between a student and a professor regarding the student's grades and study plans. The students were instructed to take notes, and then subsequently told to categorize them into a) problems, b) advice, and c) other details. This instruction to categorize their notes was reinforced by headings on the sheet they were provided. The task of dividing and categorizing their notes was thought to promote review and therefore, consolidation of noted information (DiVesta and Gray, 1972). The students from both classes were given a mid-term post-test in order to judge progress after one-quarter (seven) weeks of study. This post-test was identical in operation to the pre-test, with the listening text being of the same type and roughly the same length as the first. This text was also of a student and professor discussing the student's performance in the class. Students were instructed to first take notes and then told how to organize them.

By the mid-point of the semester all students had taken 28 lessons of English instruction, equating to 44.3 hours of English study, of which around one-third, or 14.6 hours, were focused on listening instruction. Note-taking strategies are included in the upper intermediate English course as part of a syllabus oriented toward process-based instruction with the intention of improving transfer of L1 skills into L2 study (see Siegel & Haswell 2010 for more detail). Therefore, it was expected that upper intermediate English students would show a greater improvement in their listening skills. As was highlighted in Haswell (2012), intermediate English students receive little in-class instruction on the skill of listening: "Teachers from this course reported not covering much listening instruction in class, preferring to set listening activities as homework and to grade them as textbook 'spot-checks'" (p.174)

7. Results

7.1 Note-taking

The results from the pre- and post-test were analysed both quantitatively and qualitatively for 4 aspects of note-taking derived from methods of analysis from Dunkel (1988): total number of words written (quantitative), number of individual points made in the notes (quantitative); number of points written in the three categories (qualitative); number of points correctly identified (qualitative). Note-taking is not necessarily about how much you can write but about how you can control your written output to improve the efficiency of your recall once the text has been completed. These areas of analysis would provide the most holistic low-inference measures of the students' abilities. The results are summarized below. The full data from this study can be found in Appendix I.

7.2 Total number of words written

The total number of words written is a measure of how many words the student was able to recognize but also what the student thought was an important detail in the conversation. An increase in the number of words written in notes is not an improvement in listening skills but an increase in what students believe to be relevant in the conversation. One would expect that having experienced the activity in the pre-test, and had several weeks of other English instruction that would increase their inclination to write while listening, that students would increase the number of words they wrote in the post-test, which both classes did.

The analysis of the total number of words written showed that Class B wrote more than Class A, and that their total number of words increased by a larger percentage in the post-test. In the pre-test, the students in Class A wrote an average of 20.9 words and the students in Class B wrote an average of 25.3 words. In the post-test, the students in Class A wrote an average of 26.1 words, an average increase of 26.1%, and the students in Class B wrote an average of 34.9 words, an average increase of 37.9%. This result would suggest that both groups improved their ability to write while listening, but also that Class A did not feel the need to write as much in either test. Class A, starting with a lower average pre-test number of words, could have increased their number of words by a large percentage and still not written as much as Class B in absolute terms but that was not the case. This could suggest that Class A was more circumspect in applying their ability to write and controlled their output while listening. Both groups knew the activity, or at least had been initially exposed to the form of the activity in the pre-test, yet Group B increased their overall written output by a larger percentage.

7.3 Number of points written

The number of points written in their notes was calculated by how many individual units of information, separated either by lines or by dashes or arrows on the page that the students produced in total. This would show the overall number of pieces of information the students had identified from the text prior to any instruction in how to organize them. This was not yet a measure of how correctly they could identify details from the text but how much information they felt they had collected. When these points were transferred into the categories on the back of the page, the number of points transferred would show if there had been any organization of the points: a decrease in the number of points from front to back would suggest some combining of ideas into a single point; an increase would suggest that the students had either thought that that point should be divided into separate points or that in reviewing the notes they had recalled an unwritten idea from the text.

The analysis of the number of points written and subsequently organized showed that Class A had begun to organize their notes more carefully. In the pre-test, the students in the A Class wrote an average of 6 points in their notes and 6 points in the organized categories, a 1:1 ratio, whereas the B Class wrote an average of 7.6 points in their notes and 7.9 points in the categories, a negligible 3.9% increase. In the post-test, the students in the A class wrote an average of 10.1 words in their notes and 9.2 points in the organized categories, a decrease of 9.8% from unorganized to organized notes, whereas the B Class wrote an average of 9 points in their notes and 9.5 points in the organized categories, an increase of 5.6% from unorganized to organized notes. These results suggest that Class A was more inclined to combine and organize their points after listening. It also may suggest that Class B was still relying on recall to assist their completion of the task, something that would not always be possible in real-life where there was some length of time between hearing the information and being required to use it. Class A increased the total number of points they wrote by 88% whereas Class B only increased by 28%, and increased in their number of organized points by 63% against only 42% for Class B. This is a further indication that Class A improved their inclination towards writing separated units of information, despite increasing their number of words by a smaller percentage when compared to Class B.

7.4 Success rate of and correct identification of organized notes

This was the area that would identify whether the students had improved in the area that would assist them best: could they improve their ability to identify specific details that formed the transaction in the text? If students improved this success rate, the number of points correctly identified in relation to the number of points they organized, it would be an indication of an increased ability to correctly identify points that could assist them in the correct recall of information or correctly gather information that would assist in their own informed decision-making.

When the organized notes were compared with the master sheet prepared from the transcripts, Class A showed the biggest improvement in their ability to correctly identify the main points of the conversation. In the pre-test, the

students in Class A only identified an average of 4.2 points correctly with a success rate of 71%, while the students in Class B identified an average of 5.5 points correctly with a success rate of 69%. In the post-test, the students in Class A identified an average of 7.7 points correctly, compared to the students in Class B who identified an average of 7.6 points correctly with a success rate of 80%. Comparing the success rates, Class A students improved an average of 23.1% whereas Class B students improved an average of 16.1%. Class A could identify twice as many correct points in the post-test than in the pre-test, an increase of 100%, while the students in Class B improved by 69.8%. Perhaps the most telling detail was that all students in Class A demonstrated an increase in their ability to correctly identify details from the listening, whereas five students from Class B, a third of the class, regressed between the pre and post tests.

8. Discussion of findings

This initial study suggests an experience of this activity improves the ability to effectively listen for the important details of a text. Overall, the class that received direct instruction in the taking and organizing of notes from a spoken text showed improvements in the areas of ability to identify points in the text, organize them, and also that they could do this with greater accuracy than their counterparts who were not instructed in this way. As a follow up test was not given to measure the amount of information students were able to recall, the researchers are not able to comment on the degree to which participants in this study retained the information for later recall.

The study instrument also provides results that could be consistently converted into numerical data, meaning that the methodology is replicable in future studies to refine the instrument. This would allow for the study to be extended to include the intended populations (regular students, domestic immersion, international immersion) without placing unnecessary burdens on the research organizers. This simple pre and post-test could differentiate between two classes of students after a short study period. The use in the future of a range of text genres in the pre- and post- tests hinges on being able to effectively classify the efforts of students numerically.

The findings also suggest that students' performance in note-taking can be improved by strategy training, at least in the short term, and that such training could assist them in preparing for their lecture classes. Listening instruction can and should be expanded beyond the scope of their current classes to include appreciation of these students' needs to address listening contexts not covered in the standard EFL curricula. As teachers at APU, we know that this need exists in our students' futures, but we have yet to address it in a consistent, and above all comprehensive, manner.

9. Limitations and implications for future studies

This study sought to determine the effectiveness of intensive study on the identification of key points in conversations, but this will need to be expanded in future studies to encompass not only conversation texts but also lecture-based and incidental texts such as public announcements. A fully-rounded study will require a wider sample and control group. What we were able to present here was a snap-shot of one area of a course. Additionally, because this study focused on the ability of listeners to organize information, the researchers are unable to ascertain to what extent students comprehended what they wrote. Further investigation is required, firstly in an expanded study that moves beyond the confines of a controlled classroom treatment. This study was very small scale, and although the results are suggestive they cannot be applied more widely without a larger trial.

10. Conclusion

In conclusion, this study has shown that explicit instruction of note-taking skills can benefit students in terms of organization of ideas. Results have also introduced an alternative method for data collection that may be more accessible to teachers while also being instructional to students. While not particularly large, the improvements made by students were noticeable. As teachers we are always looking for ways to attune our instructional methods with the needs of our

students, and this research highlights a way to both improve our students' classroom performance while simultaneously laying the foundations for future success in their major courses. Further investigation into this area of note-taking and lecture-based listening support will be of clear benefit to the students and our program as a whole.

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Appendix I: Data Charts organized by participant

Key to the chart headings

Activity

Pre or Post test

Number of words written (total)

The number of tokens in the NOTES section on the front side of the paper. Arrows, plus symbols, crossed-out tokens not included.

Number of separate points

The number of separate units of information included in the NOTES section on the front side of the paper. Separate units were taken to be each line of notes or units separated by a dash or other co-ordinating symbol.

Number of organized points

The number of separate units of information transferred to the back side of the paper under the headings Problems, Advice, and Other Details.

Difference – separate/organized points

The difference between the number of separate points on the front side and the number of points transferred to the back side of the paper.

Number of points organized correctly

The number of points that matched the master sheet prepared before the test from the listening text transcript.

Difference - organized / correct points

The difference between the number of points organized into sections by the participant and those that matched the master sheet.

Success rate

The number of correctly organized points divided by the number of organized points (ex. 1.00 = 100% of points organized matched the master).

PRE to POST

The difference between the total number of words written in the Pre test and the Post test (ex. 1.00 = exactly the same number of words written Pre and Post; 1.25 = 25% increase in number of points written between the Pre and Post test).

Success rate comparison

The comparison between the success rate in the Pre and Post tests (ex. 1.00 = exactly the same success rate in the Pre and Post test; 1.25 = 25% improvement in the success rate between Pre and Post tests).

Improvement in identifying points

The comparison of the number of points organized correctly in the Pre test and Post test. Shows the improvement (or regression) in the skill of identifying relevant details from the text, an indicator of the ability of the students to identify points that help the overall understanding of the contents of the text.

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Class A

Participant Code	Activity	Pre							Activity	Post							Success rate comparison	Improvement in identifying points	
		Number of words written (Total)	Number of separate points	Number of organized points	Difference - separate / organized points	Number of points organized correctly	Difference - organized / correct points	Success rate		Number of words written (Total)	PRE to POST	Number of separate points	Number of organized points	Difference - separate / organized points	Number of points organized correctly	Difference - organized / correct points			Success rate
A1	Pre	41	6	7	1	5	-2	0.71	Post	22	0.54	8	7	-1	7	0	1.00	1.40	1.40
A2	Pre	29	9	9	0	7	-2	0.78	Post	18	0.62	8	12	4	10	-2	0.83	1.07	1.43
A3	Pre	48	9	9	0	6	-3	0.67	Post	30	0.63	8	10	2	6	-4	0.60	0.90	1.00
A4	Pre	19	7	7	0	5	-2	0.71	Post	18	0.95	6	9	3	6	-3	0.67	0.93	1.20
A5	Pre	20	3	5	2	3	-2	0.60	Post	21	1.05	7	6	-1	4	-2	0.67	1.11	1.33
A6	Pre	14	3	4	1	2	-2	0.50	Post	16	1.14	10	10	0	8	-2	0.80	1.60	4.00
A7	Pre	21	8	9	1	7	-2	0.78	Post	24	1.14	13	12	-1	10	-2	0.83	1.07	1.43
A8	Pre	12	5	6	1	4	-2	0.67	Post	14	1.17	8	6	-2	6	0	1.00	1.50	1.50
A9	Pre	21	7	6	-1	4	-2	0.67	Post	25	1.19	11	11	0	10	-1	0.91	1.36	2.50
A10	Pre	21	7	7	0	4	-3	0.57	Post	27	1.29	12	11	-1	10	-1	0.91	1.59	2.50
A11	Pre	22	8	7	-1	5	-2	0.71	Post	29	1.32	10	9	-1	7	-2	0.78	1.09	1.40
A12	Pre	16	6	7	1	6	-1	0.86	Post	22	1.38	9	9	0	7	-2	0.78	0.91	1.17
A13	Pre	22	5	5	0	4	-1	0.80	Post	31	1.41	12	9	-3	9	0	1.00	1.25	2.25
A14	Pre	29	8	4	-4	4	0	1.00	Post	43	1.48	14	10	-4	9	-1	0.90	0.90	2.25
A15	Pre	16	4	4	0	3	-1	0.75	Post	24	1.50	9	6	-3	4	-2	0.67	0.89	1.33
A16	Pre	22	3	5	2	2	-3	0.40	Post	35	1.59	11	10	-1	8	-2	0.80	2.00	4.00
A17	Pre	27	10	4	-6	3	-1	0.75	Post	44	1.63	14	10	-4	9	-1	0.90	1.20	3.00
A18	Pre	11	4	4	0	3	-1	0.75	Post	18	1.64	10	10	0	7	-3	0.70	0.93	2.33
A19	Pre	12	5	6	1	3	-3	0.50	Post	21	1.75	9	8	-1	8	0	1.00	2.00	2.67
A20	Pre	10	4	5	1	3	-2	0.60	Post	21	2.10	9	11	2	9	-2	0.82	1.36	3.00
A21	Pre	10	5	5	0	4	-1	0.80	Post	30	3.00	12	5	-7	4	-1	0.80	1.00	1.00
A22	Pre	13	6	6	0	6	0	1.00	Post	42	3.23	12	11	-1	11	0	1.00	1.00	1.83
		20.7	6.00	5.95	0.05	4.2	-1.73	0.71		26.1	1.26	10.1	9.18	-0.9	7.68	-1.5	0.83	1.23	2.02

Class B

Participant Code	Activity	Number of words written (Total)	Number of separate points	Number of organized points	Difference - separate / organized points	Number of points organized correctly	Difference - organized / correct points	Success rate	Activity	Number of words written (Total)	PRE to POST	Number of separate points	Number of organized points	Difference - separate / organized points	Number of points organized correctly	Difference - organized / correct points	Success rate	Success rate comparison	Improvement in identifying points
B1	Pre	22	8	9	1	6	-3	0.67	Post	49	2.23	9	7	-2	5	-2	0.71	1.07	0.83
B2	Pre	41	11	9	-2	9	0	1.00	Post	35	0.85	9	9	0	8	-1	0.89	0.89	0.89
B3	Pre	27	7	6	-1	5	-1	0.83	Post	25	0.93	10	8	-2	8	0	1.00	1.20	1.60
B4	Pre	26	9	12	3	9	-3	0.75	Post	28	1.08	7	10	3	6	-4	0.60	0.80	0.67
B5	Pre	33	9	10	1	7	-3	0.70	Post	36	1.09	10	10	0	8	-2	0.80	1.14	1.14
B6	Pre	31	11	11	0	9	-2	0.82	Post	37	1.19	11	13	2	8	-5	0.62	0.75	0.89
B7	Pre	24	7	5	-2	4	-1	0.80	Post	31	1.29	11	11	0	10	-1	0.91	1.14	2.50
B8	Pre	34	10	15	5	10	-5	0.67	Post	48	1.41	10	14	4	9	-5	0.64	0.96	0.90
B9	Pre	15	4	3	-1	2	-1	0.67	Post	23	1.53	7	6	-1	4	-2	0.67	1.00	2.00
B10	Pre	31	8	9	1	7	-2	0.78	Post	48	1.55	9	8	-1	5	-3	0.63	0.80	0.71
B11	Pre	15	5	5	0	2	-3	0.40	Post	28	1.87	9	8	-1	8	0	1.00	2.50	4.00
B12	Pre	18	4	6	2	3	-3	0.50	Post	17	1.56	4	7	3	7	0	1.00	2.00	2.33
B13	Pre	19	5	10	5	7	-3	0.70	Post	39	2.05	10	9	-1	7	-2	0.78	1.11	1.00
B14	Pre	21	8	3	-5	2	-1	0.67	Post	45	2.14	11	10	-1	8	-2	0.80	1.20	4.00
B15	Pre	18	7	5	-2	5	0	1.00	Post	36	2.50	9	11	2	10	-1	0.91	0.91	2.00
		25.0	7.53	7.87	0.31	5.80	-2.1	0.73		35.0	1.40	9.07	9.40	0.31	7.40	-2.0	0.80	1.17	1.70