## Reference data:

Out-ofclass target languagerelated time use

## Brad Visgatis

Osaka International University

TIME IS an important variable for language learning as learning is primarily a function of two variables: the amount of time allocated to the learning process and the way in which that time is used (Carroll, 1963; Bloom, 1974). In fact, there are essentially two types of time: time spent in class and time spent outside of class. The amount of time spent in class is a known figure determined by the curriculum. The way in which that time is used is determined by a number of different factors, including school policy, course materials, and teaching philosophy. However, a great deal of learning occurs outside of class. Its importance can be seen in the number of teachers who assign homework, schools that ask students on term-end feedback forms about the out-of-class study time necessary for completing a course, and educational ministries which set guidelines for the award of course credit based on both in class and out-of-class time (DAAD, 2010; MEXT, 2004, 2010).

Nevertheless, surprisingly little research has targeted the amount of out-of-class time use on a target language and none of the few studies located have used robust data collection methods or extended over more than a one-week period. Some time use studies have looked at how children and students spend time throughout the day (e.g., Larson \& Verma, 1999; Larson, 2001) by recording all activities, including time spent at home for school. Though some of these studies have used robust methods such as time diaries or experience sampling methodology (Harvey \& Pentland, 1999; Juster, Ono, \& Stafford, 2003; Michelson, 2005), they neither discriminate between out-of-class time spent on different skill areas nor extend over more than a one-week period. Other studies (e.g., Corno, 2000) have focused on homework in general, with time as a peripheral factor, but employ highly unreliable retrospective time estimates (e.g., Juster, et al., 2003; Plewis, Creeser, \& Mooney, 1990). Moreover, these types of homework studies focus almost exclusively on the core subjects of the typical U.S. high school curriculum (e.g., math, English, science) and commonly target either the impact of homework on grades or the affective experiences of the learners. Among the few homework studies that have included data collection on out-of-class time allocated to foreign languages are the studies by Trautwein (2006) and Trautwein and Lüdtke (2007), who examined secondary school learners in Switzerland. However, they, too, collected only one week of data using retrospective time estimates and specifically targeted homework to the exclusion of access of the target language for other purposes.

In short, extensive searches of available databases have revealed that little is actually known about out-of-class use of a target language, and the few studies that do exist have not used a methodology robust enough to actually provide reliable time use data. This lack of attention to the out-of-class time allocation to the target language is, in effect, an area left out of the box entirely in language education. In this paper, I discuss an exploratory longitudinal study that focuses specifically on out-
of-class time use that is allocated to the target language to begin the discussion of this overlooked aspect of language learning.

## The study

For this longitudinal study of Japanese university students' out-of-class time use of the target language I have been collecting data concerning time use episodes, including a) temporal characteristics (length, sequencing, and frequency of episode), b) typological characteristics (what activities occurred), c) motivational characteristics (what prompted the episodes), and d) affective characteristics (how students felt about the episodes).

## Method.

## Instrument.

Researchers have used a number of different methods for collecting time use information, depending upon their needs and the trade-offs they are willing to make (e.g. accuracy for ease of compliance) and each method has its respective strengths and weaknesses (cf. Harvey, 1999; Pentland, Harvey, Lawton, \& McColl, 1999; Robinson, 1999). After piloting several different forms over the past few years (Visgatis \& Swenson, 2007), I chose to use a type of ecological momentary assessment (e.g., Bolger, Davis, \& Rafaeli, 2003; Schiffman, Stone, \& Hufford, 2008) in the form of a prospective (i.e., questions are known to the participants in advance of the targeted phenomena) time diary as my primary instrument. This time diary is modeled on the time diary developed by Michelson (2005). This instrument was developed over several years, with each form tested by asking Japanese university students to maintain the various iterations for one week and provide comments on the ease of use. The final format, used for this study, has a number of advantages (see Appendix 1 for the English version of the instrument).

It is appropriate when a) the number of participants is small, b) the phenomenon under investigations is clearly defined (such as the out-of-class time use of English) but when there is wide variation in the frequency and duration of episodes of the phenomenon, and c) the danger of non-compliance is high if the instrument requires onerous reporting of the phenomenon under investigation (Bolger, Davis, \& Rafaeli, 2003). This final point is critical in a longitudinal context, where the primary threat is mortality. If too many participants withdraw, the dataset may not be sufficient to meet the objectives of the study.

In this time diary, titled the English-Access Time Use Survey (see Appendix 1), the anchor point is the episode. Each time a participant comes into contact with the target language (English) outside of class (the episode) they are asked to record 12 data points covering five areas: episodic (what occurred), temporal (start and end date and time), environmental (location and co-participants), teleological (relatedness to school, work, future goals), and affective (feelings about the episode). For this data collection, participants were asked to enter the diary data as soon as possible after each episode, but if that was not feasible, to enter the data each evening.

These data allow a response to several broad questions, including: How much time do participants spend outside of class in accessing the target language? How many episodes occur and what patterns occur during the day and over the week? What is the main purpose for accessing the target language? What are the affective features of the reported episodes?

## Participants

University students ( $n=61$ ) drawn from three schools in western Japan serve as participants in this study. Forty-one (firstyear) students were from an English and international studies department of a small private women's university, 12 (second-
year) students were from an intensive English program at a mid-sized private coeducational university, and eight (secondto fourth-year) students were from a department of education at a large private coeducational university. The researcher taught only eight of the students in the intensive English program and none of the other students. No other descriptive characteristics of the participants in these convenience samples were recorded. Although these samples make generalization to a broader population highly tentative, the exploratory nature of the project, combined with the difficulty of securing participants for longitudinal studies, makes that compromise unavoidable. Nevertheless, given that there are no other detailed data available on target-language related out-of-class time use, this study may provide a starting point for future research.

Data records were collected on a weekly basis, though some participants submitted record sheets at different intervals. As participation was voluntary, the number of weeks of data from each participant varies widely. Some participants agreed to submit data every week; some provided several weeks of data but not on a weekly basis; others only submitted the record for one week. The data collection period for this project was from September, 2010 through January, 2011. The data addressed in this paper comes from September, 2010 to December, 2010, extending the data reported at the JALT 2010 conference by approximately one month. Due to the longitudinal nature of the project, participation dropped throughout the data collection, a not unexpected occurrence.

## Results and discussion

The results of this study provide a preliminary indication of the out-of-class time use devoted to the target language. Table 1 provides an overview of the minutes devoted to English use outside of class by all participants regardless of the degree to which they are participating in the study in total minutes per

## VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

month, total minutes for each day of the week, and the total minutes during the period reported in this paper. Out-of-class time use for the entire period (see Appendix 2, Table B1) ranged from a low of 120 minutes (Subject $S \# 6$ ) to 6,630 minutes (S\#44). This, of course, ignores the number of weeks that a participant opted to maintain the time diary. By day of week, Monday (21,229 total minutes) and Thursday (20,021 total minutes) have the highest daily time use devoted to English during the period. Sunday, Wednesday, and Friday have an allocation of 14,401 to 14,901 total minutes. Individual time allocation by day of the week ranged from a low of 5 minutes to a high of 2,231 minutes on Thursday. Wide variation in the out-of-class time allocation to English use between participants was found even between those enrolled in the same program of study, taking the same number of classes. Even those enrolled in identical classes throughout the school week showed wide variation in the amount of time allocated to English during the week. Again, because the data do not represent equal numbers of weeks in the study, the time allocation to out-of-class English use between participants is not comparable. However, the variation does suggest that language learners, even those in the same class, use the target language for vastly different amounts of time.

Also of interest is when episodes occurred during the day. As
can be seen in Figure 1, episodes were reported at all times of the day on a 24 -hour clock by day of the week. In general, the pattern of episodes by time band shows a rising trend through the day with two peak times for each day of the week. One peak occurs around $8 o^{\prime}$ clock in the morning and most likely represents study before class. A second peak occurs around 8 o'clock in the evening. Monday episodes are generally more frequent than other days of the week, regardless of time of day, though similar patterns of episode reporting appear for all days of the week with the exception of Saturday and Sunday mornings when there is no peak in the reported number of episodes. Even the early morning hours ( 3 a.m. to 4 a.m.) have reported episodes at some point during the week. Note, as the length of an episode varies from a few minutes to several hours, the number of episodes should not be seen as equal to the number of minutes devoted to out-of-class target language use.

The number of episodes per participant by month and by day of the week also varies widely. As with the minutes per month, the highest number of episodes occurred in October $(1,013)$, the month in which most of the participants agreed to maintain a time diary for at least one week (see Appendix 2, Table B2). By day of the week, Monday had the highest number of episodes (322) and Sunday the lowest (181). (For complete data of partici-

Table I. Minutes by month and day of the week for all participants

|  | Minutes by Month |  |  |  | Minutes by Day of Week |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sep | Oct | Nov | Dec | Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| Sum | 9,512 | 76,691 | 26,195 | 10,363 | 14,901 | 21,299 | 19,847 | 14,401 | 20,021 | 14,528 | 17,764 |
| Minimum | 5 | 75 | 175 | 210 | 15 | 30 | 15 | 15 | 5 | 20 | 30 |
| Maximum | 1,080 | 7,860 | 4,390 | 2,040 | 1,640 | 3,590 | 3,900 | 1,116 | 2,310 | 1,621 | 3,170 |
| Mean | 280 | 1,300 | 1,541 | 942 | 310 | 387 | 368 | 282 | 400 | 291 | 378 |
| SD | 281 | 1389 | 1021 | 566 | 339 | 559 | 583 | 294 | 481 | 338 | 549 |



Figure I. Episodes for day of week by time band pants by reported episodes, see Appendix 2, Table B3.)

The total number of days of data ranged from 64 days (S\#35) to 1 (S\#22), with these two participants devoting 5,660 minutes and 120 minutes respectively to English use outside of class (see Table 2 and Appendix 2, Table B4). The participants averaged just over 121 minutes per day for days with data reported, with a range from 33 to 410 minutes. Again, wide variation in the amount of time devoted to the target language outside of class was found between participants in this exploratory study of Japanese university students' out-of-class Englishrelated time use. Variation was found in a) the total number of minutes devoted to out-of-class target language use, b) the average number of minutes per day for days where data was provided, and c) the average minutes per day for the period of participation. Clearly, the factors influencing the results included the wide variation in the dates over which the participant provided data, the total number of days during the study period
that the participant provided data, and the total number of days in the period in which each participant agreed to participate. However, the data obtained do provide us with a clearer understanding of the amount of time that Japanese university students spend using a target language outside of class and the ways in which individual students use this time.

Table 2. Descriptive data for all participants

|  | Days with <br> data | Days in <br> period | Total <br> minutes | Minutes per <br> day with <br> data | Minutes <br> per day in <br> period |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Max | 64 | 92 | 15,370 | 411 | 750 |
| Min | 1 | 1 | 105 | 34 | 8 |
| M | 16.20 | 24.46 | $2,012.48$ | 121.15 | 116.95 |
| Median | 7 | 7 | 845 | 99 | 79 |
| SD | 17.92 | 28.95 | $2,611.35$ | 71.20 | 116.53 |

In addition to the temporal data, the time diary also collected environmental, teleological, and affective data from the participants about each of the episodes reported in the time diaries. The vast majority of episodes occurred when the participant was alone ( $83.3 \%$ ), with the rest of the episodes split between those with friends ( $9.8 \%$ ) and others ( $6.9 \%$ ).
Most of the episodes occurred in the participants home environment ( $54.3 \%$ ). Participants also seemed to make use of their commuting time for accessing English (17.6\%), as well as time on campus, either at some special study place ( $9.9 \%$ ), such as a self-access center or resource center, or some other place on campus ( $11.5 \%$ ). A number of episodes occurred at part-time jobs ( $6.2 \%$ ). Other accounted for very few of the episodes ( $0.5 \%$ ), with "café" being a representative location.

Somewhat surprisingly, $1,051(61.0 \%)$ of the 1,722 total

## VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

episodes were considered by students to be directly related to school. These results differ from a previous study (Visgatis \& Swenson, 2007) with fewer participants, where most of the episodes were related to self-improvement. The 2007 data, however, were collected between terms, while the 2010 data were collected during one term. In terms of minutes, more than half $(66,481$ minutes) of the total minutes were associated with school. These episodes typically involved completion of homework assignments, review of materials, or study for a test. Enjoyment accounted for 340 ( $19.7 \%$ ) of the episodes, totaling 21,322 minutes. Here, the largest portion involved episodes related to listening to music from English-speaking groups. Self-improvement was named as the reason for 230 (13.4\%) of the episodes that consumed 18,254 minutes. Self-improvement included studying for standardized tests (e.g., TOEIC) that were not directly related to schoolwork. Finally, a small number of episodes were linked to part-time work 101 ( $5.9 \%$ ). These episodes focused mainly around teaching at a juku (cram school) or taking orders from foreign customers. By individual participant, however, the number of episodes and time given to various teleological categories varied widely, with some participants reporting no time devoted to school and others $100 \%$ school related. (See Appendix 2, Table B5 for teleological distribution of the data by participant.)

Regarding the affective factors, participants reported levels of concentration, effort, enjoyment, and anxiety ranging from 1 to 5 on a Likert scale (see Table 3). Levels of anxiety were generally low, while levels of concentration and effort were reported as somewhat strong to very strong ( 3 to 5 ). Levels of reported enjoyment varied widely. The levels of correlation between the affective factors were significant between all factors ( $p<.05$ ) (see Table 4). Effort and concentration had a moderately positive correlation ( $r=.591$ ), enjoyment and concentration had a weakly negative correlation ( $r=-.119$ ) and the rest were weakly positive. This may imply that participants consider concentration
on the target language to be more closely aligned with effort expended in learning the language than enjoyment in using the language. Episodes given high ratings for level of enjoyment, in contrast, weakly correlated with effort ( $r=.057, p<.05$ ). These findings have implications for motivation researchers and for language educators. For motivation research, links between various aspects of motivation clearly need to be made with the actual behavior of students. For language educators, efforts to reduce anxiety and improve enjoyment need to be balanced with language learners feelings about how they are concentrating on learning the target language and the effort expended in learning. This study does not address the question of how much "fun" out-of-class use of a target language should be for students. It does raise the issue that enjoyment and concentration on learning may be interpreted as mutually exclusive by language learners.

Table 3. Affective profile of episodes

|  | Lower |  |  | Higher |  |
| :--- | ---: | ---: | :---: | :---: | :---: |
|  | 1 | 2 | 3 | 4 | 5 |
| Concentration | 96 | 127 | 504 | 486 | 491 |
| Effort | 120 | 148 | 667 | 444 | 315 |
| Enjoyment | 531 | 292 | 387 | 168 | 322 |
| Anxiety | 1,100 | 171 | 220 | 112 | 55 |

Table 4. Correlation between affective aspects

## VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

|  | Effort | Enjoyment | Anxiety |
| :--- | :--- | :---: | :---: |
| Concentration | $.591^{* *}$ | $-.119^{* *}$ | $.180^{* *}$ |
| Effort |  | $.057^{*}$ | $.245^{* *}$ |
| Enjoyment |  |  | $.128^{* *}$ |

Notes: $\quad$ ** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).


## Conclusions

Though any conclusions regarding the data reported here must be considered preliminary in nature, the results indicate that for these participants, primarily first- and second-year university students, a large portion of the out-of-class time use during the term devoted to the target language is related more to schoolwork than to other areas. That time is spent studying before class, often while commuting, and during breaks between classes, not just in evenings and on weekends, is also apparent from the data. In fact, more episodes were reported during weekdays than on weekends. The results also point out that the amount of time devoted to the target language by individual learners varies widely regardless of the program in which the learners are enrolled. In short, these students showed wide variation in their out-of-class time use of the target language even when enrolled in the same program and classes.

One implication for language educators from this exploratory study is that though they may have the expectation that all the students enrolled in the same language class will allocate a similar amount of time to the target language outside of class, their actual time allocation will vary widely. This clearly must be considered when setting homework or requiring out-of-class group work. Further, it indicates that students must become more aware of their own out-of-class time use of the target language,
whether it be for school work or enjoyment, when setting and meeting their own learning goals.

Another implication of these results concerns other areas of research. Specifically, researchers investigating second language acquisition who do not consider or control for out-of-class target language time allocation may find their results distorted or skewed in ways that are unanticipated. Researchers are, therefore, urged to consider ways to control for this possibly confounding variable.
Further research must clearly be done to understand the types of target language activities that students engage in outside of class and the relationship between the types of activities and the affective factors. Moreover, time use needs to be linked to motivation in order to understand what role this plays in learner allocation of time outside of class to language learning. Furthermore, given the importance placed on learner motivation, and raising and maintaining motivation, it is essential to understand if motivation translates into time allocation by language learners.

## Bio data

Brad Visgatis is a professor in the Faculty of Human Sciences, Department of Psychology and Communication, Osaka International University.

## References

Bloom, B. S. (1974). Time and learning. American Psychologist, 682-688. Bolger, N., Davis, A., \& Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. Annual Review of Psychology, 54(1), 579-616. doi:10.1146/ annurev.psych.54.101601.145030

## VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

Carroll, J. B. (1963). A model of school learning. Teachers College Record, 64(8), 723-723.
Corno, L. (2000). Looking at homework differently. Elementary School Journal, 100, 529-548.
DAAD (Deutscher Akademischer Austausch Dienst). (2010). Credit systems and learning outcomes in ASEM member countries. ASEM Education Secretariat, German Academic Exchange Service. Retrieved from <www.asem-education-secretariat.org>.
Harvey, A. S., \& Pentland, W. E. (1999). Time use research. In W. W. Pentland, A. S. Harvey, M. P. Lawton \& M. A. McColl (Eds.), Time use research in the social sciences (pp. 3-18). New York.: Klewer Academic / Plenum Publishers.
Juster, F. T., Ono, H., \& Stafford, F. P. (2003). An assessment of alternative measures of time use. Sociological Methodology, 33, 19-54.
Larson, R. W. (2001). How U.S. children and adolescents spend time: What it does (and doesn't) tell us about their development. Current Directions in Psychological Science, 10(5), 160-164.
Larson, R. W., \& Verma, S. (1999). How children and adolescents spend time across cultural settings of the world: Work, play and developmental opportunities. Psychological Bulletin, 125, 71--736.
MEXT. (2004). FY2003 white paper on education, culture, sports, science and technology: Higher education to support a knowledgebased society full of creative vitalit: -New developments in higher education reform. Tokyo: Ministry of Education, Culture, Sports, Science and Technology. Retrieved from <www.mext.go.jp/english/ news/2004/05/04052401/003.pdf>.
MEXT. (2010). Guidelines for building organized and continuous cooperation including double and joint degree programs between university in Japan and university in foreign countries. Higher Education Bureau Higher Education Policy Planning Division Office for International Planning. Tokyo: MEXT. Retrieved from <http:/ / www. mext.go.jp/english/koutou/detail/1294463.htm>.
Michelson, W. (2005). Time use: Expanding the explanatory power of the social sciences. Bou, CO: Paradigm.

Pentland, W. E., Harvey, A. S., Lawton, M. P., \& McColl, M. A. (Eds.). (1999). Time use research in the social sciences. New York: Kluwer Academic/Plenum Publishers.
Plewis, I., Creeser, R., \& Mooney, A. (1990). Reliability and validity of time budget data: Children's activities outside school. Journal of Official Statistics, 6, 411-419.
Robinson, J. P. (1999). The time-diary method: Structure and uses. In W. W. Pentland, A. S. Harvey, M. P. Lawton \& M. A. McColl (Eds.), Time use research in the social sciences (pp. 19-45). New York: Klewer Academic / Plenum Publishers.
Schiffman, S., Stone, A. A., \& Hufford, M. R. (2008). Ecological momentary assessment. Annual Review of Clinical Psychology, 4, 1-32. doi: 10.1146/ annurev.clinpsy.3.022806.091415

Trautwein, U. \& Lüdtke, O. (2007). Students' self-reported effort and time on homework in six school subjects: Between-students differences and within-student variation. Journal of Educational Psychology, 99(2), 432-444.
Trautwein, U. (2006). The homework-achievement relation reconsidered: Differentiating homework time, homework frequency, and homework effort. Learning $\mathcal{E}$ Instruction, 17(3), 372-388.
Visgatis, B. \& Swenson, T. (2007). Time allocation and language learning. Paper presented at the JALT International Conference on Language Teaching and Learning \& Educational Materials Exposition, Tokyo, November 24.

## Appendix I

## English Version of the English-Access Time Use Survey Instrument



## PROCEEDINGS

JALT20IO CONFERENCE

## Appendix 2

## Additional Tables

Table BI. Minutes by Participant by Month in Study and Day of the Week


VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE


VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

|  |  | Minutes by Month |  | Minutes by Day of Week |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S \# | Sep | Oct | Nov | Dec | Sun | Mon | Tue | Wed | Thu | Fri | Sat | Sum |
| 58 | 155 | 1,210 |  |  | 180 | 340 | 225 | 240 | 195 | 140 | 45 | 1,365 |
| 59 |  | 420 |  |  |  | 40 | 60 | 90 | 70 | 55 | 105 | 420 |
| 60 | 475 | 1,628 | 1,759 | 486 | 440 | 837 | 658 | 502 | 583 | 505 | 823 | 4,348 |
| 61 | 120 | 1,470 |  |  | 120 | 180 | 120 | 450 | 180 | 180 | 360 | 1,590 |
| 62 |  | 475 |  |  | 75 | 75 | 30 | 70 | 5 | 60 | 160 | 475 |
| 63 |  | 175 | 175 |  | 120 | 30 | 135 | 25 | 10 |  | 30 | 350 |
| 64 | 72 | 145 |  |  |  | 67 |  | 72 |  | 78 |  | 217 |
| Sum | 9,512 | 76,691 | 26,195 | 10,363 | 14,901 | 21,299 | 19,847 | 14,401 | 20,021 | 14,528 | 17,764 |  |
| Min | 5 | 75 | 175 | 210 | 15 | 30 | 15 | 15 | 5 | 20 | 30 |  |
| Max | 1,080 | 7,860 | 4,390 | 2,040 | 1,640 | 3,590 | 3,900 | 1,116 | 2,310 | 1,621 | 3,170 |  |
| M | 280 | 1,300 | 1,541 | 942 | 310 | 387 | 368 | 282 | 400 | 291 | 378 |  |
| SD | 281 | 1389 | 1021 | 566 | 339 | 559 | 583 | 294 | 481 | 338 | 549 |  |

Table B2. Total Episodes by Month

| Episodes by Month |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Sep | Oct | Nov | Dec |
| Sum | 161 | 1,013 | 409 | 147 |
| Max | 17 | 66 | 53 | 20 |
| Min | 1 | 1 | 2 | 6 |
| M | 4.74 | 17.17 | 24.06 | 13.36 |
| Median | 3 | 11 | 21 | 13 |
| SD | 4.24 | 16.48 | 15.53 | 4.65 |

VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE
Table B3. Reported Episodes by Participant by Month and Day of Week


VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

| S Code | Episodes by Month |  |  |  | Sun | Mon | Episodes by DOW |  |  | Fri | Sat | Sum |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sep | Oct | Nov | Dec |  |  | Tue | Wed | Thu |  |  |  |
| 30 |  | 11 |  |  |  |  | 1 | 4 | 3 | 3 |  | 11 |
| 31 | 1 | 12 |  |  | 1 | 2 | 2 | 1 | 2 | 3 | 2 | 13 |
| 32 |  | 16 |  |  |  | 1 | 3 | 7 | 2 | 2 | 1 | 16 |
| 33 | 3 | 30 | 21 |  | 7 | 17 | 9 | 12 | 5 | 3 | 1 | 54 |
| 34 | 3 | 8 |  |  | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 11 |
| 35 | 2 | 20 | 25 | 17 | 3 | 12 | 9 | 9 | 11 | 11 | 9 | 64 |
| 36 | 4 | 13 |  |  | 2 | 3 | 3 |  | 4 | 2 | 3 | 17 |
| 37 |  | 8 |  |  |  | 2 | 3 |  | 1 | 1 | 1 | 8 |
| 38 | 1 | 5 |  |  | 1 | 1 | 1 |  | 1 | 1 | 1 | 6 |
| 39 |  | 4 |  |  | 1 |  | 1 |  |  | 1 | 1 | 4 |
| 40 |  | 9 |  |  | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 9 |
| 41 |  | 15 | 9 | 12 | 1 | 9 | 2 | 4 | 9 | 9 | 2 | 36 |
| 42 | 5 | 8 |  |  | 1 | 2 | 1 | 1 | 4 | 1 | 3 | 13 |
| 43 | 2 | 5 |  |  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 |
| 44 | 9 | 52 | 53 | 17 | 8 | 35 | 22 | 22 | 22 | 13 | 9 | 131 |
| 45 | 3 | 17 | 20 | 6 | 8 | 14 | 8 | 4 | 9 | 1 | 2 | 46 |
| 46 | 4 | 13 |  |  | 2 | 6 | 3 | 2 | 1 | 2 | 1 | 17 |
| 47 | 1 |  |  | 8 |  | 2 | 2 | 1 | 3 | 1 |  | 9 |
| 48 | 17 | 54 |  |  | 9 | 14 | 12 | 7 | 10 | 8 | 11 | 71 |
| 49 |  | 6 |  |  | 1 | 1 | 1 |  |  | 1 | 2 | 6 |
| 50 |  | 16 |  |  | 2 | 3 | 2 | 1 | 3 | 5 |  | 16 |
| 51 | 2 | 5 |  |  | 2 | 1 | 1 | 1 | 2 |  |  | 7 |
| 52 |  | 3 |  |  |  | 2 | 1 |  |  |  |  | 3 |
| 53 | 1 | 4 |  |  | 1 | 1 | 1 | 2 |  |  |  | 5 |
| 54 | 3 | 39 | 29 |  | 9 | 8 | 8 | 11 | 15 | 13 | 7 | 71 |
| 56 | 7 | 47 | 48 | 19 | 9 | 26 | 18 | 21 | 15 | 25 | 7 | 121 |
| 57 | 2 | 2 |  |  | 1 |  | 1 | 1 | 1 |  |  | 4 |
| 58 | 3 | 24 |  |  | 4 | 5 | 4 | 4 | 5 | 3 | 2 | 27 |
| 59 |  | 12 |  |  |  | 1 | 1 | 4 | 2 | 2 | 2 | 12 |


| Episodes by Month |  |  |  |  | Episodes by DOW |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S Code | Sep | Oct | Nov | Dec | Sun | Mon | Tue | Wed | Thu | Fri | Sat | Sum |
| 60 | 11 | 37 | 36 | 13 | 8 | 21 | 16 | 13 | 14 | 10 | 15 | 97 |
| 61 | 1 | 13 |  |  | 2 | 1 | 1 | 5 | 2 | 2 | 1 | 14 |
| 62 |  | 8 |  |  | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 |
| 63 |  | 5 | 5 |  | 2 | 2 | 2 | 2 | 1 |  | 1 | 10 |
| 64 | 1 | 2 |  |  |  | 1 |  | 1 |  | 1 |  |  |
| Sum | 161 | 1,013 | 409 | 147 | 181 | 322 | 284 | 248 | 280 | 219 | 191 | 1,730 |
| Min | 1 | 1 | 2 | 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |
| Max | 17 | 66 | 53 | 20 | 25 | 35 | 34 | 22 | 23 | 25 | 19 |  |
| M | 5 | 17 | 24 | 13 | 4 | 6 | 5 | 5 | 6 | 4 | 4 |  |
| SD | 4.17 | 16.34 | 15.06 | 4.44 | 4.36 | 7.63 | 6.98 | 5.17 | 5.94 | 4.80 | 4.28 |  |

Table B4. Minutes per Day by Participant (by Days with Data)

| S Code | Start | End | Days with Data | Days in Period | Total Minutes | Minutes per Day with Data | Minutes per Day in Period |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 35 | 2010/09/27 | 2010/12/20 | 64 | 84 | 5,660 | 88 | 67 |
| 44 | 2010/09/27 | 2010/12/15 | 60 | 79 | 5,825 | 97 | 74 |
| 20 | 2010/09/27 | 2010/12/15 | 57 | 79 | 4,428 | 78 | 56 |
| 60 | 2010/09/27 | 2010/12/09 | 57 | 73 | 4,348 | 76 | 60 |
| 56 | 2010/09/21 | 2010/12/22 | 54 | 92 | 5,349 | 99 | 58 |
| 16 | 2010/09/27 | 2010/12/19 | 53 | 83 | 6,560 | 124 | 79 |
| 54 | 2010/09/28 | 2010/11/19 | 49 | 52 | 6,630 | 135 | 128 |
| 13 | 2010/09/27 | 2010/11/28 | 47 | 62 | 3,922 | 83 | 63 |
| 24 | 2010/09/27 | 2010/12/16 | 46 | 80 | 15,370 | 334 | 192 |
| 11 | 2010/09/27 | 2010/11/21 | 39 | 55 | 3,725 | 96 | 68 |
| 41 | 2010/10/01 | 2010/12/17 | 33 | 77 | 4,250 | 129 | 55 |
| 15 | 2010/10/12 | 2010/12/19 | 33 | 68 | 6,338 | 192 | 93 |
| 33 | 2010/09/27 | 2010/11/14 | 30 | 48 | 3,844 | 128 | 80 |
| 45 | 2010/09/27 | 2010/12/12 | 29 | 76 | 2,140 | 74 | 28 |

VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

| S Code | Start | End | Days with Data | Days in Period | Total Minutes | Minutes per Day with Data | Minutes per Day in Period |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 48 | 2010/09/27 | 2010/10/17 | 21 | 20 | 5,990 | 285 | 300 |
| 58 | 2010/09/27 | 2010/10/17 | 18 | 20 | 1,365 | 76 | 68 |
| 21 | 2010/10/12 | 2010/11/01 | 17 | 20 | 3,875 | 228 | 194 |
| 9 | 2010/10/11 | 2010/11/05 | 14 | 25 | 1,730 | 124 | 69 |
| 25 | 2010/10/11 | 2010/10/24 | 13 | 13 | 1,280 | 98 | 98 |
| 50 | 2010/10/04 | 2010/10/29 | 12 | 25 | 1,060 | 88 | 42 |
| 46 | 2010/09/27 | 2010/10/17 | 12 | 20 | 785 | 65 | 39 |
| 61 | 2010/09/30 | 2010/10/10 | 10 | 10 | 1,590 | 159 | 159 |
| 63 | 2010/10/17 | 2010/11/18 | 9 | 32 | 350 | 39 | 11 |
| 5 | 2010/09/27 | 2010/10/04 | 8 | 7 | 1,120 | 140 | 160 |
| 18 | 2010/10/05 | 2010/10/12 | 8 | 7 | 3,285 | 411 | 469 |
| 19 | 2010/09/27 | 2010/10/04 | 8 | 7 | 1,970 | 246 | 281 |
| 29 | 2010/10/06 | 2010/10/13 | 8 | 7 | 890 | 111 | 127 |
| 31 | 2010/09/30 | 2010/10/07 | 8 | 7 | 1,330 | 166 | 190 |
| 47 | 2010/09/28 | 2010/12/16 | 7 | 79 | 602 | 86 | 8 |
| 51 | 2010/09/26 | 2010/10/14 | 7 | 18 | 295 | 42 | 16 |
| 32 | 2010/10/06 | 2010/10/13 | 7 | 7 | 975 | 139 | 139 |
| 12 | 2010/09/30 | 2010/10/06 | 7 | 6 | 490 | 70 | 82 |
| 26 | 2010/10/13 | 2010/10/19 | 7 | 6 | 690 | 99 | 115 |
| 34 | 2010/09/29 | 2010/10/05 | 7 | 6 | 637 | 91 | 106 |
| 40 | 2010/10/11 | 2010/10/17 | 7 | 6 | 845 | 121 | 141 |
| 42 | 2010/09/29 | 2010/10/05 | 7 | 6 | 1,410 | 201 | 235 |
| 43 | 2010/09/29 | 2010/10/05 | 7 | 6 | 420 | 60 | 70 |
| 62 | 2010/10/24 | 2010/10/30 | 7 | 6 | 475 | 68 | 79 |
| 30 | 2010/10/13 | 2010/10/22 | 6 | 9 | 486 | 81 | 54 |
| 49 | 2010/10/15 | 2010/10/23 | 6 | 8 | 205 | 34 | 26 |
| 27 | 2010/10/06 | 2010/10/12 | 6 | 6 | 1,145 | 191 | 191 |
| 59 | 2010/10/06 | 2010/10/12 | 6 | 6 | 420 | 70 | 70 |
| 36 | 2010/09/30 | 2010/10/05 | 6 | 5 | 815 | 136 | 163 |

VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

| S Code | Start | End | Days with Data | Days in Period | Total Minutes | Minutes per Day with Data | Minutes per Day in Period |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 38 | 2010/09/30 | 2010/10/01 | 6 | 1 | 750 | 125 | 750 |
| 53 | 2010/09/29 | 2010/10/06 | 5 | 7 | 395 | 79 | 56 |
| 8 | 2010/10/06 | 2010/10/12 | 5 | 6 | 460 | 92 | 77 |
| 10 | 2010/10/01 | 2010/10/06 | 5 | 5 | 450 | 90 | 90 |
| 37 | 2010/10/07 | 2010/10/12 | 5 | 5 | 515 | 103 | 103 |
| 17 | 2010/10/22 | 2010/10/26 | 5 | 4 | 1,200 | 240 | 300 |
| 28 | 2010/09/30 | 2010/10/04 | 5 | 4 | 630 | 126 | 158 |
| 1 | 2010/10/12 | 2010/10/18 | 4 | 6 | 600 | 150 | 100 |
| 57 | 2010/09/29 | 2010/10/05 | 4 | 6 | 135 | 34 | 23 |
| 3 | 2010/10/06 | 2010/10/11 | 4 | 5 | 355 | 89 | 71 |
| 39 | 2010/10/12 | 2010/10/17 | 4 | 5 | 720 | 180 | 144 |
| 52 | 2010/10/11 | 2010/10/18 | 3 | 7 | 390 | 130 | 56 |
| 2 | 2010/10/13 | 2010/10/18 | 3 | 5 | 240 | 80 | 48 |
| 6 | 2010/09/29 | 2010/10/04 | 3 | 5 | 105 | 35 | 21 |
| 64 | 2010/09/29 | 2010/10/04 | 3 | 5 | 217 | 72 | 43 |
| 23 | 2010/09/27 | 2010/10/01 | 3 | 4 | 185 | 62 | 46 |
| 7 | 2010/09/30 | 2010/10/03 | 3 | 3 | 375 | 125 | 125 |
| 22 | 2010/10/03 | 2010/10/03 | 1 | 1 | 120 | 120 | 120 |
| Max |  |  |  |  | 15,370 | 410.63 | 750.00 |
| Min |  |  |  |  | 105 | 33.75 | 7.62 |
| M |  |  |  |  | 2,012 | 121.16 | 116.96 |
| Median |  |  |  |  | 845 | 99 | 79 |

Table B5. Teleological Distribution of Minutes (by Participant from High to Low)

| S \# | School |  | PT Job |  | Self Improvement |  | Enjoyment |  | Sum |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24 | 8,990 | $60 \%$ | 5,600 | $38 \%$ | 120 | $1 \%$ | 150 | $1 \%$ | 14,860 |
| 54 | 2,375 | $36 \%$ | 1,765 | $27 \%$ |  |  | 2,490 | $38 \%$ | 6,630 |
| 16 | 6,480 | $99 \%$ |  |  | 80 | $1 \%$ |  |  | 6,560 |
| 15 | 42 | $1 \%$ |  |  | 5,958 | $94 \%$ | 338 | $5 \%$ | 6,338 |
| 48 | 1,475 | $25 \%$ | 2,070 | $35 \%$ |  |  | 2,445 | $41 \%$ | 5,990 |
| 44 | 4,504 | $77 \%$ |  |  | 60 | $1 \%$ | 1,261 | $22 \%$ | 5,825 |
| 56 | 4,924 | $90 \%$ |  |  | 384 | $7 \%$ | 152 | $3 \%$ | 5,460 |
| 35 | 4,010 | $75 \%$ |  |  | 180 | $3 \%$ | 1,170 | $22 \%$ | 5,360 |
| 20 | 3,980 | $90 \%$ |  |  | 175 | $4 \%$ | 273 | $6 \%$ | 4,428 |
| 60 | 2,918 | $68 \%$ |  |  |  |  | 1,400 | $32 \%$ | 4,318 |
| 41 | 290 | $7 \%$ | 3,600 | $85 \%$ |  |  | 360 | $8 \%$ | 4,250 |
| 13 | 1,595 | $41 \%$ |  |  | 390 | $10 \%$ | 1,937 | $49 \%$ | 3,922 |
| 21 |  |  |  |  | 3,875 | $100 \%$ |  |  | 3,875 |
| 33 | 3,688 | $96 \%$ |  |  |  |  | 156 | $4 \%$ | 3,844 |
| 11 | 3,325 | $89 \%$ |  |  | 30 | $1 \%$ | 370 | $10 \%$ | 3,725 |
| 18 | 2,610 | $79 \%$ |  |  | 240 | $7 \%$ | 435 | $13 \%$ | 3,285 |
| 45 | 1,950 | $91 \%$ |  |  | 20 | $1 \%$ | 170 | $8 \%$ | 2,140 |
| 19 | 900 | $46 \%$ |  |  | 90 | $5 \%$ | 980 | $50 \%$ | 1,970 |
| 9 | 600 | $36 \%$ | 60 | $4 \%$ | 200 | $12 \%$ | 810 | $49 \%$ | 1,670 |
| 61 | 180 | $11 \%$ |  |  | 900 | $57 \%$ | 510 | $32 \%$ | 1,590 |
| 25 | 660 | $44 \%$ |  |  | 630 | $42 \%$ | 200 | $13 \%$ | 1,490 |
| 42 | 330 | $23 \%$ | 360 | $26 \%$ | 360 | $26 \%$ | 360 | $26 \%$ | 1,410 |
| 58 | 1,100 | $81 \%$ |  |  | 45 | $3 \%$ | 220 | $16 \%$ | 1,365 |
| 31 | 30 | $2 \%$ | 420 | $32 \%$ | 660 | $50 \%$ | 220 | $17 \%$ | 1,330 |
| 5 | 470 | $39 \%$ |  |  | 740 | $61 \%$ |  |  | 1,210 |
| 50 | 30 | $3 \%$ |  |  | 1,030 | $97 \%$ |  |  | 1,060 |
| 17 | 180 | $18 \%$ |  |  | 120 | $12 \%$ | 720 | $71 \%$ | 1,020 |
| 32 | 975 | $100 \%$ |  |  |  |  |  |  | 975 |
| 27 | 645 | $70 \%$ |  |  |  |  | 270 | $30 \%$ | 915 |
|  |  |  |  |  |  |  |  |  |  |


| S \# | School |  | PT Job |  | Self Improvement |  | Enjoyment |  | Sum |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 29 | 690 | 78\% |  |  | 90 | 10\% | 110 | 12\% | 890 |
| 40 | 30 | 4\% | 5 | 1\% |  |  | 810 | 96\% | 845 |
| 36 | 170 | 21\% |  |  | 315 | 39\% | 330 | 40\% | 815 |
| 46 | 740 | 94\% |  |  |  |  | 45 | 6\% | 785 |
| 38 | 420 | 56\% | 240 | 32\% |  |  | 90 | 12\% | 750 |
| 39 |  |  | 720 | 100\% |  |  |  |  | 720 |
| 63 |  |  |  |  | 350 | 51\% | 340 | 49\% | 690 |
| 34 | 307 | 48\% |  |  |  |  | 330 | 52\% | 637 |
| 28 | 60 | 10\% | 450 | 71\% |  |  | 120 | 19\% | 630 |
| 47 |  |  |  |  | 482 | 80\% | 120 | 20\% | 602 |
| 1 | 240 | 40\% |  |  |  |  | 360 | 60\% | 600 |
| 26 | 540 | 95\% |  |  | 30 | 5\% |  |  | 570 |
| 62 | 75 | 14\% |  |  | 300 | 55\% | 175 | 32\% | 550 |
| 37 | 470 | 91\% |  |  |  |  | 45 | 9\% | 515 |
| 12 | 60 | 12\% | 160 | 33\% | 60 | 12\% | 210 | 43\% | 490 |
| 30 | 466 | 96\% |  |  |  |  | 20 | 4\% | 486 |
| 8 | 400 | 87\% |  |  | 30 | 7\% | 30 | 7\% | 460 |
| 10 | 360 | 80\% |  |  | 90 | 20\% |  |  | 450 |
| 43 |  |  |  |  |  |  |  |  | 420 |
| 59 | 365 | 87\% |  |  | 55 | 13\% |  |  | 420 |
| 53 | 390 | 99\% |  |  |  |  | 5 | 1\% | 395 |
| 52 | 180 | 46\% |  |  |  |  | 210 | 54\% | 390 |
| 7 | 330 | 88\% |  |  | 45 | 12\% |  |  | 375 |
| 3 | 330 | 93\% |  |  | 25 | 7\% |  |  | 355 |
| 51 | 20 | 7\% | 30 | 10\% |  |  | 240 | 83\% | 290 |
| 2 | 240 | 100\% |  |  |  |  |  |  | 240 |
| 64 | 67 | $31 \%$ |  |  |  |  | 150 | 69\% | 217 |
| 49 |  |  |  |  | 65 | 32\% | 140 | 68\% | 205 |
| 23 |  |  |  |  |  |  |  |  | 185 |
| 57 | 60 | 44\% |  |  | 30 | 22\% | 45 | 33\% | 135 |

VISGATIS • OUT-OF-CLASS TARGET LANGUAGE-RELATED TIME USE

| S \# | School | PT Job | Self Improvement | Enjoyment | Sum |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 22 | 120 | $100 \%$ |  |  |  |
| 6 | 95 | $90 \%$ | 10 | $10 \%$ |  |
| Sum | $66,481.00$ | $15,490.00$ | $18,254.00$ | $21,322.00$ | $122,152.00$ |
| Max | $8,990.00$ | $5,600.00$ | $5,958.00$ | $2,490.00$ | $14,860.00$ |
| Min | 20.00 | 5.00 | 20.00 | 5.00 | 105.00 |
| M | $1,231.13$ | $1,106.43$ | 507.06 | 473.82 | $2,002.49$ |
| Median | 410.00 | 390.00 | 147.50 | 240.00 | 845.00 |
| SD | $1,839.12$ | $1,657.07$ | $1,142.99$ | 595.78 | $2,561.90$ |

