

Experimental Research on College Students' Usage of Two Dictionaries: A Comparison of the Merriam-Webster Collegiate Dictionary and the Macmillan English Dictionary for Advanced Learners

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Abstract

We address three questions: Can the Macmillan English Dictionary for Advanced Learners (MEDAL), an ESL dictionary, meet the needs of native speakers of English? How do American college students perform on a comprehension task of "hard words" using either the MEDAL or the Merriam-Webster's Collegiate Dictionary, 11th Edition (MW)? Is the MEDAL easier to comprehend and use than the MW? The results demonstrate that of the 350 American college students tested, the groups aided by either the MEDAL or the MW performed well compared to the group aided only by a reading passage with the target words, and all three groups did much better than an unaided control group. The MEDAL users scored slightly higher than the MW users, performing much better on seven "hard words." This suggests that American college students might consider buying an ESL dictionary with adequate vocabulary coverage, such as the MEDAL.

1 Introduction

Learning new words, especially "hard words," from a dictionary requires considerable sophistication. In public schools in the US, these reference skills, if taught at all, tend to be glossed over because teachers are themselves unfamiliar with these skills. At the university level, students are encouraged to use a dictionary to improve their vocabulary level, although this encouragement tends to be pro forma in nature. College students expect guidance from teachers; however, the information available from publishers is designed to increase sales rather than to inform teaching staff or any buyer adequately. In fact, Merriam-Webster, the most popular dictionary purchased in the US, boasts in its promotional materials that over 250,000 of the 11th edition have been sold. The purpose of this research is to explore

whether a dictionary intended for international ESL students, the Macmillan English Dictionary (MEDAL) dictionary is easier to use by American college students (all native English speakers) and more accurate than a well regarded college desk dictionary, Merriam-Webster's Collegiate Dictionary (MW hereafter), on a discrete point task. The dictionaries will be tested with an experimental design first used by Fischer (1994) in *Applied Psycholinguistics* with independent and dependent variables. The null hypothesis is that the American college students tested will do equally well with either dictionary or with a reading passage, based on the results of a multiple choice vocabulary test.

2 Review of Literature

Prior to 1999, 36 articles out of 521 annotated in *Pedagogical Lexicography Today* (Dolezal and McCreary, 1999), were identified as experimental research with identifiable independent and dependent variables. Overall, in recent EURALEX proceedings (2000, 2002, 2004), we see four surveys of dictionary use, one case study, and three experimental designs to test dictionary use. In the IJL between 2000 and mid-2005, we see three experimental research articles, one survey and one case study. In Lexikos (2004) we see five papers on use, including one by Gouws (2004), although none are experimental. In conclusion, we can readily find eighteen articles in authoritative publications on dictionary use post-1999, but only six of them are experimental studies with clear independent and dependent variables. These are the two Bogaards and van der Kloot articles (2001, 2002), and articles by Nesi and Haill (2002), McCreary (2002), Dziemianko (2004), and Lew's experiment reported with his survey (2002). In addition, we find two case studies by Ronald (2002) and by van der Meer and Sansome (2001) on one Japanese user and six East Asians, respectively. Of these, the papers by Bogaards were more informative for this research because two dependent variables were evident: his subjects were timed for their speed using either LDOCE or COBUILD on a Dutch-English translation task and they also marked the part of the definition that they perceived to be helpful. This research incorporates that marking procedure.

The research design in this study is based on the design in Fischer (1994), which was replicated with international students in McCreary and Dolezal (1999). This design effectively separated the effect of context in a reading passage from the use of a dictionary with or without the context as an aid when taking a multiple choice test. Thus, this research is the third replication of this design; however, it studies native speakers of English at the college level, using collegiate dictionaries, a challenging reading passage of literary criticism, and a vocabulary test on a number of "hard words" at the college level. Over the past six years, we have readily found six experimental studies and four surveys of dictionary use in authoritative publications. This research is the seventh experimental study. Without additional testing of subjects on their actual dictionary use, it is difficult to pinpoint the strategies and potential pitfalls that may await students. One may conclude that the state of published experimental research on dictionary use is not as healthy or robust as it could be in the twenty-first century.

3 Research Design

The research design is a 6 X 1 factorial design. Six groups of subjects participated, four dictionary treatment groups, a reading passage group, plus a control group, numbering 350 in all. The independent variables are: MW use, MEDAL dictionary use, context aided use only (a reading passage as an aid with the target word in it), context-aided use plus MW use, and context aided plus MEDAL use. A sixth group, a control group took the multiple choice test with no aid from any dictionary or context. The dependent variables are the students' scores on a multiple choice vocabulary test and their marking of the dictionary entries for relevant information.

3.1 Subjects

The subjects (N=350) are all native English speakers, between 18-20 years old, enrolled either in first year composition classes or introduction to linguistics classes in a research university in the US. Each of the five groups and the control group has between 50-66 subjects.

3.2 Materials

A multiple choice test was constructed with twenty-two items with target words that had been pre-selected in prior research in the IJL by McCreary and Dolezal (1999) and McCreary (2002). These pre-selected items and the multiple choice test items were constructed with the help of a website, dictionary.com, well before MW and MEDAL were selected for comparison. Two dictionary packets with the entries for the target words were created by copying the entries from the MW and the MEDAL dictionary. The packets have 33 items in each with the thirteen target items embedded in them, in order to increase the density of the two-column page and to ensure that students replicate the looking-up strategies that students usually employ. The third item is a reading passage, "Alien Child," with the target words highlighted in it (see appendix III). It is a piece of literary criticism (Arnold, 1995) that was used as the context in the aforementioned article in the IJL (McCreary and Dolezal, 1999).

4 Procedure

A multiple choice test with five choices was developed for the task. It has three distracters for each question and an "I don't know" choice for choice "e.," in addition to the expected answer. The "I don't know" choice was included to eliminate random guessing. This multiple choice test was constructed only for this experiment and is not standardized. The test with 28 items was made shorter, and more accurate, during two pre-testing sessions with two different classes of 21 students each. The resulting test, 22 items, has 13 synonym type questions for 13 target words and nine antonym type questions for nine of the 13 words. The item, *aspersions*, was used as an example for each group tested. A synonym type question follows:

Debauchery is:

- a. unmitigated selfishness
- b. passionate longing

- c. vague bitterness
- d. extreme indulgence
- e. I don't know.

The expected answer is “d. extreme indulgence.” When the students select their choice, they are also asked to underline the part of the entry in the dictionary packet that they find useful. They have either the MW definition (left) or the MEDAL (right) in their packets.

Debauchery *n, pl -eries* (1642) **1 a:** extreme indulgence in sensuality **b pl:** *ORGIES 2 archaic:* seduction from virtue or duty

Debauchery noun [U] behavior that is considered to be immoral because it involves a lot of sex, alcohol, or illegal drugs.

The test takes ten to fifteen minutes to complete. A total of 350 first-year and second-year students were tested. In the context-aided group, the students are asked to look at and read the highlighted target words in the reading passage “Alien Child,” while taking the multiple-choice test. See Appendix III for the context for the item, “debauchery.” The subjects receiving the reading were asked to underline any relevant words that were helpful for them. In the control group, the students take the test alone with no aids. With these independent variables, the researchers attempted to isolate the effect of context on the learners’ ability to infer meaning from the information presented in a particular dictionary entry or the reading passage. The students were asked to underline the line or phrase most helpful to them. In doing so, the researchers attempted to ensure that the students were using the dictionary or context. This information was then used to determine positive outcomes on the test as well as potential induced errors that occurred based on misuse of the dictionary entries.

5 Results

A two-way analysis of variance (ANOVA) was run on the groups of students that used the MW, the MEDAL dictionary, the reading passage, and the control group that took the test alone without any aids. The results, from the two-way ANOVA, show that the group averages for the students (N=64) aided by MEDAL or by MW (N=66) were significantly higher than the groups aided by the reading passage or no aids at all.

Treatment	DF	Seq SS	Adj SS	Adj MS	F	P
Dictionary	2	2207.17	2133.85	1066.92	113.99	0.000
Read pass	1	69.41	84.48	84.48	9.03	0.003
Dict+rd ps	2	178.28	178.28	89.14	9.52	0.000

Table 1. Results of two way ANOVA.

The null hypothesis that the American college students tested would do equally well with either one of the dictionaries or with a reading passage as an aid was rejected. However, the students used both dictionaries with equal effectiveness. For the group using the MEDAL

dictionary, the average was 4.10 points higher than the group using the reading passage, while the MW was 3.69 points higher, which are both statistically significant ($p < .001$).

Treatment	N	Mean	St. Dev.	P value
MEDAL	64	17.52	2.69	.000
Mac + Read pass	59	17.12	2.29	.003
Merrin-Webster	66	17.11	3.05	.000
MW + Read pass	55	17.45	2.75	.003
Reading pass	50	13.42	3.69	.003
No Dic, No Rd ps	56	10.41	3.76	.000

Table 2. Treatment results of two-way ANOVA.

The scores for the groups with both dictionary aid and the “Alien Child” reading passage were equivalent, 17.12 for MEDAL ($N=59$) and 17.45 for MW ($N=55$). The results demonstrate that American users do equally well with a monolingual learners’ dictionary developed in the UK with college level vocabulary coverage intended for ESL students and with an American collegiate desk dictionary intended for American college students. The score for the reading passage group ($N=50$) was 13.42, significantly higher ($p < .003$) than the 10.41 scored by the group ($N=56$) that took the test only with no aids at all, indicating the advantage of seeing the word in context. In order to analyze the results from the scores of individual words on the test, a statistical analysis, a binary logistic regression, was used, which gives the odds ratios for giving the expected answer to the item compared to the chance of giving the expected answer with no help at all, the “no dictionary, no reading passage” condition. Individual words on the test, notably *emanate*, *fervid*, *poignant* and *variegated*, were problematic for students using MEDAL. For MW users, *debauchery*, *eccentric*, *emulate*, *exude*, *impetuous*, *invidious*, and *vicarious* were problematic. MEDAL users were more likely to get expected answers for eleven words and MW users for seven. Of the remaining four words, the dictionary scores for two items were almost equal, the antonym for “flippant” (8.77 vs. 8.03, $p < .0001$) and the synonym for “petulant” (2.01 vs. 2.00, $p < .10$). The results for the synonym and antonym items for “self-indulgent” were non-significant.

6 Discussion

American college students in first year composition classes have not been taught how to use a monolingual English collegiate dictionary efficiently, even though this type of dictionary is apparently targeted at these students. Finding the appropriate phrase inside the MW entry is sometimes difficult for them for three reasons: the use of low frequency words in the defining language, the ordering of senses, and the density of the column with many type-faces, abbreviations, multiple pronunciations, and etymological information. We can see with the item “debauchery” previously mentioned in the procedure section that occasional errors occur after using the definition in MW. These errors can be attributed to the low frequency defining vocabulary. After 121 MW users read this definition, fifteen errors were recorded. The 123 MEDAL users made eight errors.

Debauchery *n, pl -eries* (1642) **1 a:** extreme indulgence in sensuality **b pl:** ORGIES **2 archaic:** seduction from virtue or duty

Debauchery noun [U] behavior that is considered to be immoral because it involves a lot of sex, alcohol, or illegal drugs.

Even though “extreme indulgence” is in the MW entry and is the expected answer, fifteen students using MW chose a distracter as their answer. Apparently the challenge of reading the entry presented a reading comprehension problem for the MW users. Those using MEDAL chose callousness once and “I don’t know” once, only eight errors out of 123 using MEDAL. Thus, we see the error rate is about twice as much with the traditional collegiate dictionary. On the binary regression analysis for debauchery, the MEDAL users were 27 times more likely to get the expected answer compared to those with no aids at all. For the MW users, they were 13 times more likely to get the answer. Thus, the MEDAL users were twice as likely to get the expected answer as the MW users. For the antonym item for debauchery, the MEDAL users were 7.8 times more likely to get the answer as those with no aids. The MW users were only 1.6 times more likely, but the *p* level was non-significant.

The ordering of senses in MW (generally but not always historical) is the second of three factors that led students to induced errors, errors that the dictionary causes rather than solves, which can further confuse a student unnecessarily about a “hard word,” even a word that we expect students to know, “eccentric.” A well-attested tendency for dictionary users (McCreary 2002) has been to look up the word in the entry and use the first sense given; naïve users assume that the first sense is the most general and applicable to most contexts. The third factor, density of the column with many typefaces, abbreviations, pronunciations, and etymological information is very evident in the Merriam-Webster dictionary; however, density is noticeably lessened in the treatment in MEDAL. We see the low frequency words, the sense ordering issues, and the column density in the following example from MW for the target item, “eccentric,” divided into two entries, the first with four senses, and the second with two senses:

1Eccentric *adj* [ME, fr. ML *eccentricus*, fr. Gk *ekkentros*, fr. *ex* out of + *kentron* center] (ca. 1630) **1 a:** deviating from an established or usual pattern or style <~ products> **b:** deviating from conventional or accepted usage or conduct esp. in odd or whimsical ways <an ~ millionaire> **2 a:** deviating from a circular path; *esp:* ELLIPTICAL **1** <an ~ orbit> **b:** located elsewhere than at the geometrical center; *also:* having the axis or support so located <an ~ wheel> **syn** see STRANGE – **eccentrically** *adv*
2Eccentric *n* (1827) **1:** a mechanical device consisting of an eccentric disk communicating its motion to a rod so as to produce reciprocating motion **2:** an eccentric person

The word count in this entry is 122 words and abbreviations, nearly twice as many as the 64 words we count in the MEDAL entry below. When we see “deviating from conventional...odd or whimsical ways <an ~ millionaire>” in sense 1, sub-sense b, midway into the entry, we may note that the sense ordering does not conform to the learner’s strategy to look up the target word under the first sense given. The combination of wordiness plus the historical ordering creates looking up difficulties for naïve users. This dictionary also increases the students’ task by using several infrequent words, “deviating” and “whimsical” and the tilde in

"~ millionaire," which increases the density. The results yield some confusion with the underlined markings in the dictionary entry for "eccentric" when the students use MW. These errors, in my opinion, must be induced by the poor entry, because when the students (N=64) use MEDAL, they do not have any errors whatsoever with this word. The MEDAL definition follows:

Eccentric1 adj someone who is eccentric often behaves in slightly strange or unusual ways: *an eccentric, difficult genius. She's regarded as being rather eccentric.* **a.** used about actions, decisions, or things that people make that are considered strange or unusual: *a rather eccentric decision by the referee. An eccentric family tradition.* – **Eccentrically** adv **Eccentric**2 noun [C] someone who behaves in an eccentric way.

We can see from the entry above that the definition leaves little room for misinterpretation. The odds ratios we see from the statistical measure, binary logistic regression, follow.

Treatment	Odds Ratio	P Value
MEDAL	19.05	.005
MEDAL + reading	17.53	.007
Merriam-Webster	6.35	.006
Merriam-Webster + reading	8.01	.008

Table 3. Binary logistic regression with odds ratios for "eccentric."

Another example of the use of low frequency words in the defining language of the entry that may lead students to induced errors is evident with the item, "invidious." We can see the difference in the definition styles by examining the MEDAL entry first, the MW second.

Invidious adj likely to cause problems, for example by offending people or making them feel you have not treated them fairly: *invidious comparisons/choices/decisions.*

We can see the high frequency vocabulary and the usual collocations, "invidious comparisons," and so on. Next we give the MW definition:

Invidious *adj* [L *invidiosus* envious, invidious, fr. *invidia* envy – more at ENVY] (1606) **1:** tending to cause discontent, animosity, or envy <the ~ task of arbitration> **2:** ENVIOUS **3 a:** of an unpleasant or objectionable nature: OBNOXIOUS <~ remarks> **b:** of a kind to cause harm or resentment <an ~ comparison> – **invidiously** *adv* – **invidiousness** *n*

In this entry we can note the low frequency vocabulary, "discontent," "animosity," "arbitration," "obnoxious," "envious," and "objectionable." We also see the higher density reflected by the word count of 23 for MEDAL and 61 for M-W. The sense ordering in M-W appears to be historical, as it was in the "eccentric" entry, although this is not very clear. To test the results of the multiple choice item for "invidious," we did a binary logistic regression, which gives the odds ratios for getting the item correct with the dictionary or with the reading passage.

Treatment	Odds Ratio	P Value
MEDAL	23.04	0.000
Mac+reading	26.79	0.000
Merriam-Webster	5.42	0.001
MW+ reading	6.94	0.000
Reading pass	7.10	0.000

Table 4. Binary logistic regression with odds ratios for “invidious.”

The odds ratios, all highly significant ($p < .001$), indicate a definite advantage for MEDAL. Thus, the 7.10 ratio means that the student’s chance to answer correctly with the reading passage as an aid is seven times higher than with the test alone. The chance of getting the item correct with the reading passage alone, 7 times higher, was better than the chance of getting it right with the MW alone (5.42) or with both the MW and the reading together (6.94). This means that the use of the dictionary is not any more helpful than having only the context for the word. The chance of answering correctly with the MEDAL dictionary as an aid is 23 times higher. The odds may be compared to each other as well. The student using the MEDAL has a much better chance of answering correctly than the student using the reading as an aid, over three times higher (23.04 divided by 7.10). We can see that the chances of getting the item testing *invidious* correct were much higher with the aid of the MEDAL dictionary, 23 times higher with the dictionary and 26 times higher with the MEDAL plus the reading passage. Moreover, for this item, the chances of getting this item right with the MEDAL were four times higher than with the MW (23.04 divided by 5.42). For this item we can see that the MEDAL entry was much more helpful.

However, the overall results of the two-way ANOVA indicate a virtual tie between the scores of the two dictionaries. The differences in the odds ratios favoring the MEDAL dictionary did not occur with the items for petulant, poignant, and variegated, and six more items. For “petulant,” the expected answer was “ill-tempered.” The two dictionaries were tied in their odds ratios for improving the chances of getting this right, compared to the control group, MEDAL alone 2.01, MW alone 2.00, MEDAL with reading passage help, 1.98, MW with reading passage help, 1.49. These results are marginally significant ($p < .10$) for their improvement over the control group, but not compared to each other. Thus, we see a virtual tie. Here are the MEDAL and MW entries:

Petulant adj annoyed and behaving in an unreasonable way because you cannot get what you want: *a petulant child*. – **petulance** noun [U], **petulantly** adv

The Merriam-Webster entry follows:

Petulant *adj* [L or MF; MF, fr. L *petulant-*, *petulans*; akin to L *petere* to go to, attack, seek – more at FEATHER] (1598) 1: insolent or rude in speech or behavior 2: characterized by temporary or capricious ill humor: PEEVISH – **petulantly** *adv*

The MEDAL users were apt to choose “self-absorbed” or “unkind,” two of the distracters on the test, while MW users were apt to choose “unkind,” and were no doubt helped a little

by the phrase “ill humor” in the entry. As for the item, “poignant,” in MW, students did much better getting the expected answer, “profoundly moving,” no doubt because the word “moving” appears in caps in the entry. However, it appears that the Merriam-Webster editorial team does not make use of corpus data to inform itself of the most frequent senses of a lexical item, since sense 1 (below), “pungently pervasive,” is an infrequent sense. Aside from probable historical ordering on an *ad hoc* basis, there is no obvious policy about ordering senses. Since dictionary research has consistently pointed to the learners’ use of the first definition in an entry as a very frequent strategy, the first sense defined must be the most frequent contemporary sense. We can see this with the MEDAL entry here.

Poignant adj giving you feelings of sadness: *The roadside crosses are a poignant reminder of the fatal accidents. A poignant movie.*

The Merriam-Webster entry follows:

Poignant *adj* [ME *poynaunt*, fr. AF *poignant*, *poignant*, prp. of *poindre* to prick, sting, fr. L *pungere* – more at PUNGENT] (14c) **1**: pungently pervasive <a ~ perfume> **2 a** (1): painfully affecting the feelings: PIERCING (2): deeply affecting: TOUCHING **b**: designed to make an impression: CUTTING <~ satire> **3 a**: pleasurably stimulating **b**: being to the point: APT *syn* see PUNGENT, MOVING – **poignantly** *adv*

On the multiple choice test, the expected answer “profoundly moving,” has an identical word, “MOVING” in caps at the end of the MW entry; if noticed, this improved their scores. The students who used MEDAL were less likely to see the sense relationship between sadness and “profoundly moving.” As a result, those using MW alone were about 1.5 times more likely to get the expected answer; moreover, with the MW and the reading passage as aids, they were 3.5 times more likely to get the answer. This implies that for college level users, even if the senses are historically ordered or randomly ordered, they can still seek out the best sense that fits the context.

For “poignant” the odds ratio for the MW entry with the reading passage was about 7.08 times greater than that for the test only control group ($p < .001$). The odds ratio for the MEDAL users was 2.18 greater than the control group ($p < .10$). Thus the chance of getting the expected answer with the MW was about 3.5 times greater.

An advantage for MW was seen for a third item “variegated.” In this case, the expected answer on the test was “characterized by streakiness,” which was not readily matched with any word or phrase in either entry. We can see for the entries below the MEDAL entry (left) and the MW entry (right):

variegated *adj* **1** with different colors on the leaves or flowers: *variegated grasses/leaves* **2 formal** including a wide range of things or people. – **variegation** *noun* [U]

Variegated *adj* (1661) **1**: having discrete markings of different colors <~ leaves> **2**: VARIED **1**

We may note the differing word counts favoring MW for once, 17 words, numbers, and abbreviations in the MW entry, compared to 27 for MEDAL. In addition to the length and the use of only one word that is arguably difficult, “discrete,” the MW entry tended not to lead users to a distracter on the test, “characterized by abundance,” which the MEDAL users who erred tended to choose. This led to odds ratios that favored MW for both the synonym question and the antonym question for variegated.

Treatment	Variegated synon Odds Ratios	P value	Variegated anton Odds Ratios	P values
Muc, no reading	3.60	.005	5.26	.000
Muc, reading	3.57	.006	4.53	.000
Mw, no reading	16.00	.000	12.78	.000
Mw, reading	19.38	.000	13.22	.000
Reading passage	1.69	.304 ns.	1.29	.587 ns.

Table 5. Binary logistic regression with odds ratios for “variegated” and its antonym item.

Here we see that the reading passage alone was not helpful, compared to those who took the test with no aids, at least not enough to produce a significant difference. The use of the MW entry was very helpful, around 13 times more helpful than the use of the test alone. The MEDAL entry was about five times more helpful than the test alone. Compared to the MEDAL entry, the MW entry was nearly three times more likely to produce the expected answer. It seems that the phrase in the MEDAL entry, “a wide range of things or people,” which was underlined by 25 of the 64 of the MEDAL users, led them to choose the distracter, “characterized by abundance” on the synonym item and the distracter, “scarce,” on the antonym item on the test. These choices led to their lower scores on this item (25 incorrect responses on the synonym item and 17 incorrect on the antonym item). Another phrase in the MEDAL entry, “different colors,” led users who marked this to the correct answer, of 20 who marked it, 16 chose the correct answer and only 4 chose a distracter. The binary regression analyses providing the odds ratios for all of the items in descending order can be divided into those favoring MEDAL, MW, and the non-significant and tied items.

Target Word	MEDAL odds	MW odds	Advantage	P Value
Impetuous	31.67	5.67	MEDAL	P<.0001
Vicarious	35.77	14.71	MEDAL	P<.0001
Debauchery	27.00	13.05	MEDAL	P<.0001
Invidious	23.04	5.42	MEDAL	P<.001
Eccentric	19.05	6.35	MEDAL	P<.005
Exude	18.60	3.00	MEDAL	P<.01
Impetuous anton	15.28	7.21	MEDAL	P<.0001
Fervid antonym	15.00	10.00	MEDAL	P<.0001
Debauchery anton	7.80	1.61	MEDAL	P<.0001
Exude antonym	6.74	2.59	MEDAL	P<.01
Emulate	5.94	1.91	MEDAL	P<.05
Variegated	16.00	3.60	MW	P<.0001
Variegated anton	12.78	5.26	MW	P<.0001
Fervid	6.95	2.41	MW	P<.01
Invidious anton	6.18	3.75	MW	P<.001

Fervid	6.95	2.41	MW	P< .01
Invidious anton	6.18	3.75	MW	P< .001
Emanate no rp and with rp help	5.85 8.06	5.63 3.16	MW MW	P< .0001 P< .001
Emanate antonym	5.11	3.49	MW	P< .01
Poignant no rp and with rp help	2.78 7.08	1.67 2.18	MW MW	P< .05 P< .05

Table 6. Odds ratios per item grouped under MEDAL dictionary treatment with descending odds ratios given for the MEDAL assisted group with no reading passage.

7 Conclusion

This research demonstrates that by replicating previous research with an exacting and well thought out research design, important similarities and item-by-item differences can be highlighted between a collegiate dictionary and a learners' dictionary, when the students are assisted by the context in a reading passage. The results demonstrate that when testing American college level students, a monolingual learners' dictionary developed in the UK with college level vocabulary coverage intended for ESL students can match the results achieved by an American collegiate desk dictionary intended for American students. This means that native speakers of English enrolled in colleges and universities in the US might consider buying ESL learners' dictionaries. This result echoes a claim made over ten years ago. McKeown in her *Reading Research Quarterly* article (1993:29) stated "it might be appropriate to develop a 'learners' dictionary' for native speakers, explicitly oriented toward helping students learn unfamiliar words."

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Appendix I: Selected MEDAL English Dictionary for Advanced Learners Entries:

Aspersions noun **cast aspersions (on)** to say or write things about someone that attack their character, work, etc.: *I have no wish to cast aspersions on my opponent.*

Debauchery noun [U] behavior that is considered to be immoral because it involves a lot of sex, alcohol, or illegal drugs.

Eccentric1 adj someone who is eccentric often behaves in slightly strange or unusual ways: *an eccentric, difficult genius. She's regarded as being rather eccentric.* **a.** used about actions, decisions, or things that people make that are considered strange or unusual: *a rather eccentric decision by the referee. An eccentric family tradition.* – **Eccentrically** adv **Eccentric**2 noun [C] someone who behaves in an eccentric way.

Emanate verb **formal** 1 [I] [+from] to come from a particular place: *She could hear raised voices emanating from her parents' room. Wonderful smells emanated from the kitchen.* 2 [I/T] if you emanate a lot of a quality or feeling, you show it without expressing it in words: *A sense of joy emanated from him.* – **emanation** noun [C/U]

Fervid adj **formal** strong, violent, or extreme.

Invidious adj likely to cause problems, for example by offending people or making them feel you have not treated them fairly: *invidious comparisons/choices/decisions.*

Petulant adj annoyed and behaving in an unreasonable way because you cannot get what you want: *a petulant child.* – **petulance** noun [U], **petulantly** adv

Poignant adj giving you feelings of sadness: *The roadside crosses are a poignant reminder of the fatal accidents. A poignant movie.*

Variiegated adj 1 with different colors on the leaves or flowers: *variiegated grasses/leaves* 2 **formal** including a wide range of things or people. – **variiegation** noun [U]

Appendix II: Selected Merriam-Webster's Collegiate Dictionary Entries:

Aspersion *n* (ca.1587) **1**: a sprinkling with water esp. in religious ceremonies **2 a**: a false or misleading charge meant to harm someone's reputation <cast ~s on her integrity> **b**: the act of making such a charge: DEFAMATION

Debauchery *n, pl -eries* (1642) **1 a**: extreme indulgence in sensuality **b pl**: ORGIES **2** *archaic*: seduction from virtue or duty

1Eccentric *adj* [ME, fdr. ML *eccentricus*, fr. Gk *ekkentros*, fr. *ex* out of + *kentron* center] (ca. 1630) **1 a**: deviating from an established or usual pattern or style <~ products> **b**: deviating from conventional or accepted usage or conduct esp. in odd or whimsical ways <an ~ millionaire> **2 a**: deviating from a circular path; *esp*: ELLIPTICAL **1** <an ~ orbit> **b**: located elsewhere than at the geometrical center; *also*: having the axis or support so located <an ~ wheel> **syn** see STRANGE – **eccentrically** *adv*

2Eccentric *n* (1827) **1**: a mechanical device consisting of an eccentric disk communicating its motion to a rod so as to produce reciprocating motion **2**: an eccentric person

Emanate *vb -nated; -nating* [L *emanatus*, pp. of *emanare*, fr. *e-* + *manare* to flow] *vi* (1756): to come out from a source <a sweet scented *emanating* from the blossoms> ~ *vt*: EMIT <she seems to ~ an air of serenity> **syn** see SPRING

Fervid *adj* [L *fervidus*, fr. *fervere*] (1599) **1**: very hot BURNING **2**: marked by often extreme fervor <a ~ crusader> **syn** see IMPASSIONED – **fervidly** *adv* – **fervidness** *n*

Invidious *adj* [L *invidiosus* envious, invidious, fr. *invidia* envy – more at ENVY] (1606) **1**: tending to cause discontent, animosity, or envy <the ~ task of arbitration> **2**: ENVIOUS **3 a**: of an unpleasant or objectionable nature: OBNOXIOUS <~ remarks> **b**: of a kind to cause harm or resentment <an ~ comparison> – **invidiously** *adv* – **invidiousness** *n*

Petulant *adj* [L or MF; MF, fr. L *petulant-, petulans*; akin to L *petere* to go to, attack, seek – more at FEATHER] (1598) **1**: insolent or rude in speech or behavior **2**: characterized by temporary or capricious ill humor: PEEVISH – **petulantly** *adv*

Poignant *adj* [ME *poynaunt*, fr. AF *poinant*, *poignant*, prp. of *poindre* to prick, sting, fr. L *pungere* – more at PUNGENT] (14c) **1**: pungently pervasive <a ~ perfume> **2 a** (1): painfully affecting the feelings: PIERCING (2): deeply affecting: TOUCHING **b**: designed to make an impression: CUTTING <~ satire> **3 a**: pleasurably stimulating **b**: being to the point: APT **syn** see PUNGENT, MOVING – **poignantly** *adv*

Variiegated *adj* (1661) **1**: having discrete markings of different colors <~ leaves> **2**: VARIED **1**

Appendix III Selected passages from "Alien Child":

Eccentric, maybe even half-crazy, Paul abhors the dull respectability of his neighborhood on Cordelia Street and his high school.... Once in New York he lives for several marvelous daysThe street fairly buzzes with stories of palaces in Venice, yachts on the Mediterranean, high stakes play at Monte Carlo, and lives of **debauchery**, stories absorbed greedily by the underlings of the "various chiefs and overlords" whom Paul would like to **emulate**. In his **invidious** comparison with Pittsburgh, the town of steel mills, Carnegie Hall constructs a golden vision of the world Paul longs to enter....

.... The author represents the Waldorf and its displaced occupant in repeated references to the **variegated** hothouse flowers that bloom "under glass cases" on the streets of New York, all the "more lovely and alluring....In the story's final scenes, Paul is equated symbolically with flowers out of place in a harsh environment. While walking along the tracks, having made the **petulant** decision never to return to Cordelia Street, Paul notices the carnations in his coat are drooping with the cold, their red glory over. As if prompted by this symbolic description of his own brief moment of splendor and its **poignant** but inevitable end, Paul buries a blossom in the snow, acknowledging his death in a cold world that holds no lasting home for him.

Appendix IV: Selected Multiple Choice Test Items:

1. *Debauchery* is:
 - a. unmitigated selfishness
 - b. passionate longing
 - c. vague bitterness
 - d. extreme indulgence
 - e. I don't know
2. An *eccentric* person is:
 - a. strange
 - b. intelligent
 - c. depressed
 - d. rich
 - e. I don't know
3. To *emanate* something is:
 - a. to radiate it
 - b. to illuminate it
 - c. to pull it in
 - d. to eliminate it
 - e. I don't know
4. To *emulate* something is:
 - a. to try to encapsulate it
 - b. to try to imitate it
 - c. to try to improve it
 - d. to try to create it
 - e. I don't know
5. Someone who is *impetuous* is:
 - a. impulsive
 - b. angry
 - c. impolite
 - d. untrustworthy
 - e. I don't know
6. Something that is *invidious* is:
 - a. likely to cause bad luck
 - b. likely to cause discrimination
 - c. likely to cause physical pain
 - d. likely to cause regret
 - e. I don't know
7. Someone who is *petulant* is:
 - a. ill-tempered
 - b. unkind
 - c. self-absorbed
 - d. enraged
 - e. I don't know
8. Something that is *poignant* is:
 - a. mildly acerbic
 - b. physically painful

- c. profoundly moving
 - d. ill-conceived
 - e. I don't know
9. Something that is *variegated* is:
- a. characterized by jerkiness
 - b. characterized by abundance
 - c. characterized by grace
 - d. characterized by streakiness
 - e. I don't know
10. Something that is *vicarious* is:
- a. barely remembered
 - b. almost thrilling
 - c. experienced through another person
 - d. experienced during childhood
 - e. I don't know