

Use of the GMAT[®] Analytical Writing Assessment: Past and Present

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Abstract

The recent addition of writing requirements to several admission testing programs implies that higher education institutions believe these skills are essential for college success. To assess whether this interest is true for management education, a survey was conducted to evaluate attitudes toward writing assessments among programs that use the Graduate Management Admission Test[®] (GMAT[®]). This study compared current uses and usefulness of the AWA to advantages originally anticipated in 1993 and previously reported in 1998. Results from 109 respondents indicated that the section was used and found effective for selection and writing deficiency diagnosis. Additionally, programs with high concentrations of non-native English speaking applicants found the section to be more effective than those with lower concentration.

During the past few decades, writing assessments have gained both positive and negative attention from practitioners in need of evaluation strategies beyond standard multiple-choice question formats (Bridgeman & Carlson, 1984; Quellmalz, 1984). There has also been increased interest in the inclusion of writing as a part of admissions testing (Powers & Fowles, 2002), and the SAT and the ACT have recently added writing components. However, other admissions tests have more mature writing assessments, and the Analytical Writing Assessment (AWA) has been a component of the Graduate Management Admission Test[®] (GMAT[®]) for over a decade.

The purposes of the present study were to add to the previous research and reevaluate current uses and usefulness of the AWA for graduate business programs. This included a general evaluation of use and usefulness of the section for several different purposes, including those originally anticipated. The current study also explored differences in uses and usefulness for the AWA section for different subgroups of respondents. Responses were examined separately for different program types and for programs with different concentrations of non-native English speaking applicants. Finally, to determine if the section was still meeting its original purposes of admission

selection and writing deficiency diagnosis, results from the current study were compared to previous research findings on anticipated and early use of the AWA.

This study provides an overview of the past and present AWA. The results of the current survey are presented and different uses for the section are evaluated to determine how the section may be meeting various program needs. Additionally, the inspection of subgroup differences in terms of use and usefulness of the AWA provides information about the needs in different types of programs.

History of the GMAT[®] Analytical Writing Assessment

Perceptions of Analytical Writing

More than 20 years ago, the Graduate Management Admission Council[®] (GMAC[®]) embarked on a journey to determine if analytical writing ability, as measured by a writing task, was a skill deemed necessary to be successful in graduate management education (Bruce, 1984; Bruce, 1992; Bruce, 1993). As a part of this process, exploratory research and surveys were conducted to evaluate institutional needs and potential use of an analytical writing section as an addition to the GMAT[®] exam.

A 1983 survey of management education programs revealed positive support for the concept of a writing assessment. Of the 355 respondents, 88% strongly or moderately approved (Bruce, 1984). The vast majority believed that it would be very or somewhat useful in selecting applicants for admission and determining if students needed additional work on this area, 85% and 88%, respectively. In addition, 87% indicated that they would strongly or moderately encourage the inclusion of a writing assessment. Those who discouraged the inclusion cited their reasons as satisfaction with their current evaluation system, doubt regarding the reliability and validity of the AWA score, and apprehension over increased cost and time commitments required of applicants. Though the overall results were encouraging, there was some trepidation, particularly from top-tier graduate management programs, regarding the usefulness of a writing section.

As a follow-up to the previous survey, telephone interviews were conducted in 1991 to gain specific information on the writing assessment concept and potential design (Bruce, 1992). Respondents were asked questions about attitudes toward essay scoring, issues of pricing, and level of interest in a writing component. Inquiries were made to determine if schools would like GMAC® to score the essay(s) and provide programs with copies of examinee-written essays. Most of the interviewees stated that they would prefer to have both a score for the writing assessment and a copy of the examinee-written essay(s). They believed the combination of both would provide them with a way to personally validate scores using their own criteria, while still providing a consistent, objective score based on trained readers. In addition, when asked if the new writing section should be optional, the majority of interviewees believed that requiring a scored writing section for all examinees taking the GMAT® exam would be the most consistent and fair approach. Ultimately, respondents felt the quality of the writing assessment and the validity of the scores it produced would determine whether or not it would be useful and valued by schools. However, reservations remained regarding the increased cost to the examinee and the adverse impact this cost might have on applications to business school.

In 1993, a final survey was conducted to determine potential uses and attitudes surrounding the addition of a

writing assessment to the GMAT® exam (Bruce, 1993). This proposed assessment would include one or two analytical writing tasks, which would be holistically scored. The essay(s) and the holistic score(s) would be provided to the institution and test takers along with the traditional GMAT® exam Verbal, Quantitative, and Total scores. The results of this survey revealed that respondents, mostly deans and directors from graduate management programs currently using the GMAT® exam, approved of and encouraged the addition of an AWA section. Moreover, they believed it would be useful in diagnosing student deficiencies and selecting students for admission. Respondents further stated that “effective writing skills are needed in order to succeed in both graduate school and business” (p. 32).

In 1994, after years of research that revealed favorable recommendations and encouragement, the AWA was added to the GMAT® exam with the expectation that it would assist in admission selection and diagnosis of writing deficiencies for applicants to graduate management education programs (GMAC®, n.d.). During the AWA, examinees are asked to respond to two questions, each using an essay format. One essay provides an analysis of an issue and the examinee’s personal views on a provided topic. The second essay requires examinees to critique a provided argument. Each examinee receives one holistic score based on responses to both questions (GMAC®, n.d.). Both the AWA score and the essays are reported for each examinee.

Actual Uses of the AWA

Several years after the implementation of the GMAT® AWA section, research was conducted to evaluate actual use of the AWA in comparison with the original stated purposes and perceived uses of the section (Noll & Stowers, 1998). The results from 59 respondents revealed that the AWA was used for admissions decisions, but was not as helpful at placing students in appropriate writing courses. Though 86% of respondents said that AWA scores were used to aid admissions decisions, diagnostic uses and usefulness of the scores were less clear. Fewer than 10% of respondents specified that scores were used for placing students in writing development courses or to waive communication course requirements. This was unexpected given the original purposes of the AWA and positive perceptions potential users provided in the first survey

(Bruce, 1993). However, 37% said that they used the section to determine admission if the program was previously uncertain about the applicant's English language skills or believed that these skills could be potentially problematic.

In 2002, Bruce examined satisfaction with the usefulness of the different sections of the GMAT® exam for 288 respondents. The results revealed that, among the four GMAT® exam scores that schools are provided—GMAT® Verbal, GMAT® Quantitative, GMAT® Total, and GMAT® AWA—respondents were least satisfied with the usefulness of the analytical writing scores.

Additionally, a portion of the respondents indicated that they used the AWA section for other purposes. Of this subset, 42%, or 54 respondents, reported that they often use the AWA section to determine if English language deficiencies might require the applicant to do additional work in this area, which was not one of the original perceived uses of the section. Overall, research has suggested that the section provides, “useful information that is not currently available”, but that “the AWA only partially meets the expectations of management education” (Rogers & Rymer, 1995, p. 361). Ultimately, respondents were using the AWA for admissions decisions, but not for diagnosing writing deficiencies.

Methods

During a two-week period in 2005, GMAC® conducted a survey of graduate business school usage of AWA scores and essays. A link to the survey was electronically mailed to 417 graduate program faculty and administrators, along with three follow-up reminder e-mails. This yielded a final response rate of 26% (n = 109). The sample of respondents was mostly program directors, admission directors, and assistant deans. In total, respondents represented 104 different institutions, including 15 non-U.S. schools. Program enrollment for these different programs for the 2005 school year ranged between 40 and 1,800 students. The sample of programs that responded to the current study was comparable to those used in previous studies, and the programs represented a range of program types, sizes, and selectivity.

The current survey served several purposes. First, the general findings regarding reported use and usefulness of AWA essays and scores were examined across a variety of potential

uses. This provided information about the use of the section for its original purposes. Moreover, information on the most frequent uses and usefulness of the section for a variety of admission needs were presented. Secondly, responses based on subgroup membership were examined. Specifically, respondents were categorized based on the percentage of non-native English speaking applicants they typically receive as well as the type of program (i.e., full-time, part-time, executive, doctoral) their responses represented. This component of the study provides information about variations in use and usefulness depending on a program's needs. Finally, current use and usefulness of the AWA for its original purposes were compared with anticipated and previously reported use and usefulness. This analysis provides evidence to determine if AWA essays and scores are being frequently and effectively used for admission selection and writing deficiency diagnosis. The specific methods used to evaluate the data for these three purposes are described here.

Evaluating AWA Use and Usefulness for the Current Study

Many of the survey questions required respondents to indicate their frequency of use (always, frequently, sometimes, rarely, and never) and perceived usefulness (extremely useful, very useful, somewhat useful, not very useful, and not at all useful) of AWA scores and essays separately. Responses of “never” or “not at all useful” were assigned a score of “1”. Response scores increased incrementally up to a score of “5” for a response of “always” or “extremely useful,” as shown in Table I. This scoring system was used to provide information on average responses provided for analyses. However, the majority of the results presented focus on the percentage of respondents selecting specific response options. These percentages provide information on how many respondents used the section and found the section useful for a variety of purposes. As a result, the general response trend of the sample can be determined for each of the purposes examined.

For usefulness questions, respondents were given the option to select “not applicable” instead of indicating the degree of usefulness of the AWA for a specified purpose. Responses of “not applicable” were essentially treated as missing data. Because respondents did not have an opinion regarding the usefulness of the specified purpose, numerical scores were not assigned to “not applicable” responses. Sample sizes for these questions were smaller as a result.

Score	Response	
	Use	Usefulness
1	Never	Not at all useful
2	Rarely	Not very useful
3	Sometime	Somewhat useful
4	Frequently	Very useful
5	Always	Extremely useful

Comparing Current AWA Use and Usefulness across Subgroups

To determine if AWA use and usefulness varied depending on the type of program using the section, respondents were separated into subgroups. First, programs were asked to estimate the percentage of applicants who were non-native English speakers. Programs were then categorized into those with an applicant pool of 25% or less versus those with greater than 25% non-native English speakers. Uses and usefulness for a variety of purposes were compared for the two groups.

Additionally, respondents were asked to select all program types (i.e., full-time, part-time, executive, doctoral) for which their responses were representative. If a respondent selected multiple program types, they were not asked to respond to separate surveys for each program type, rather their responses were represented in the results for each program type they selected. As such, one respondent's opinions may be represented up to four times, once for each program type the respondent selected. The resulting survey responses were representative of: 78 full-time, 61 part-time, 19 executive, and 11 doctoral business programs. Findings for doctoral and executive programs should be cautiously interpreted, as the sample size for these groups are limited and may not be representative of all programs within these specified types. The subgroup analyses allow for comparison of use and usefulness for programs with different needs and purposes.

Comparing Current AWA Use and Usefulness to Previous Findings

In previous research examining the anticipated (Bruce, 1984, 1992, 1993) and actual (Noll & Stowers, 1998)

use and usefulness of the AWA section, the response option formats for survey questions varied across studies. Bruce (1993) used three different response option sets to gauge perceived usefulness, approval, and encouragement for the addition of the AWA section. Specifically relevant to this study was how responses were collected regarding perceived usefulness of the section. Bruce used a four-point response scale including these options: very useful, somewhat useful, not very useful, and not at all useful. On the other hand, Noll and Stowers used a two-point scale to collect responses about usage of the AWA section, yes and no. As mentioned previously, the current study evaluated responses using five-point scales to measure frequency of use (always, frequently, sometimes, rarely, and never) and usefulness (extremely useful, very useful, somewhat useful, not very useful, and not at all useful).

To allow for comparisons between the previous and current research, despite the noted differences in option choices, the percentage of respondents selecting specific options were combined across several response categories. For instance, Bruce (1993) combined the responses very useful and somewhat useful to provide the percentage of respondents who perceived the addition of the AWA to be useful. Similarly, Noll and Stowers response choices only allowed for a dichotomous division of respondents into those who used the AWA section and those who reported that they did not use the section. Following this pattern, the present study combined responses from categories of always, frequently, or sometimes to identify the percentage of respondents who reported using scores or essays. Likewise, responses of extremely useful, very useful, somewhat useful were combined to indicate the percentage of respondents who found scores or essays to be useful. Though percentages combined in this manner

are reported in the text to compare previous and current results, distribution of all response options are also provided for a complete description of the current study findings.

Additionally, the present study examined use and usefulness separately for each component of the AWA section, essays and scores. While this separation provides more detailed information about exactly which component of the AWA section is used more often and effectively, it is difficult to compare the current results to previous section-level findings. As such, the results of the present study are presented using three different methods to allow for a complete comparison of current and previous results.

Specifically, results are presented separately for AWA essays and scores, as well as combined into a category called “either.” The inclusion of the either category to evaluate frequency of use compares respondents who indicated that either essays or scores were always, frequently, or sometimes used for a specified purpose versus the percentage who indicated that they rarely or never used scores and essays for that purpose. Similarly, the either category utilized to rate usefulness compares the percentage of respondents who indicated that either essays or scores were extremely useful, very useful, or somewhat useful for a particular purpose versus the percentage who indicated essays and scores were not very useful or not at all useful for this same purpose. The either category therefore compares two groups of respondents, those who found AWA scores or essays to be used or useful for a particular purpose versus those who found that neither the AWA score nor the essays were used or useful. The

multiple groupings of responses allow for various comparisons between the previous research and the current study.

Results

Evaluating AWA Use and Usefulness for the Current Study

Nine potential uses of the AWA sections were identified through a review of the literature: selecting applicants for admission, granting assistantships and scholarships, evaluating applicant English grammar skills, validating essays written as a part of the program application process, diagnosing individual applicant writing deficiencies, planning programs and designing course curriculum, placing applicants in courses, requiring pre-enrollment training, and advising on a career path. Though the original purposes of the AWA section were for applicant selection and deficiency diagnosis, previous research (Bruce, 2002) suggested that alternative uses for the section were common. Respondents were asked to reflect on the frequency of use and usefulness of the section for all of these potential uses. Appendix A provides information on average use and usefulness responses provided for the different purposes examined.

AWA Scores

Table 2 provides the percentage of respondents selecting each of the frequency of use response options. These percentages indicate that AWA scores are being used by the majority of programs to meet the original purposes of the section, but scores are more often being used for admission selection than for deficiency diagnosis.

Table 2. Frequency of Use for AWA Scores for Admission Selection and Deficiency Diagnosis

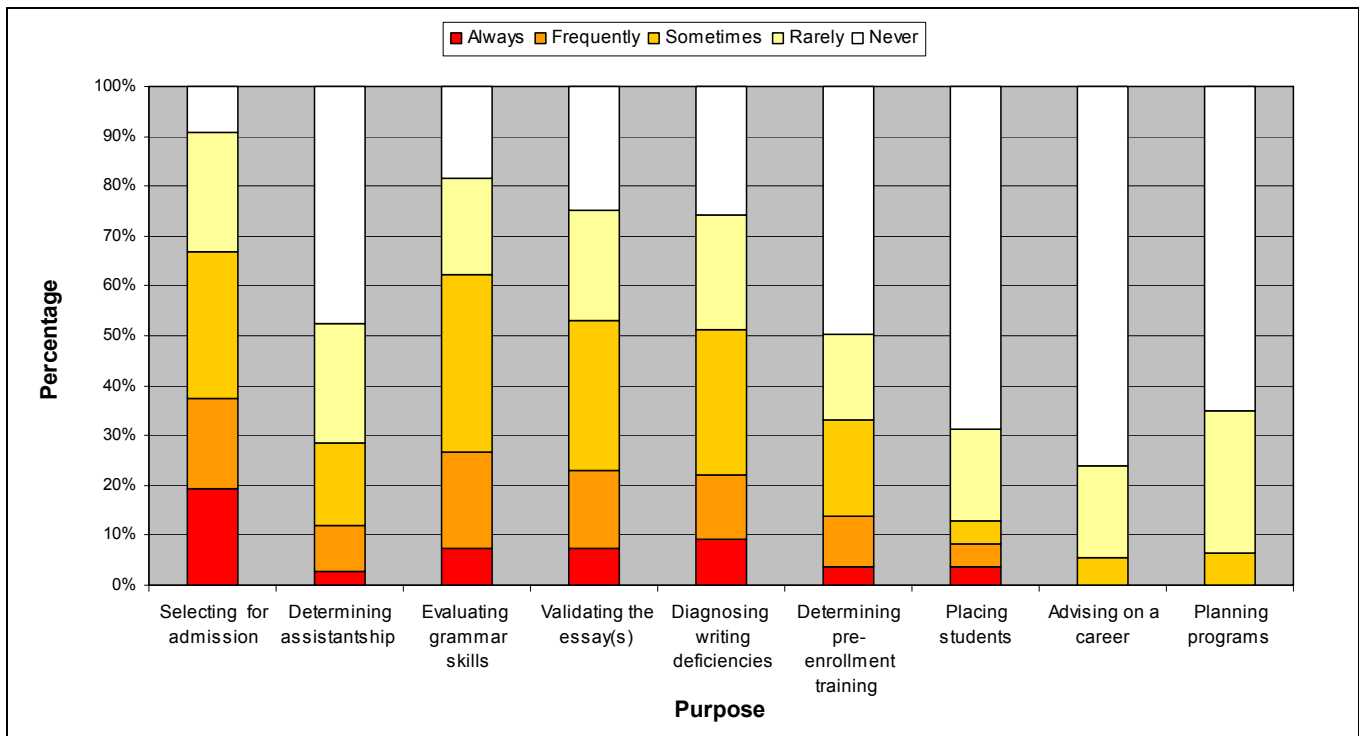
Response categories	Admission		Diagnosis	
	N	%	N	%
Never	10	9.2	28	25.7
Rarely	26	23.9	25	22.9
Sometimes	32	29.4	32	29.4
Frequently	20	18.3	14	12.8
Always	21	19.3	10	9.2

*Note. Percentages may not sum to 100 due to rounding.

Figure I displays the distribution of responses detailing the frequency with which AWA scores were used for a variety of purposes. Given the original purposes of the AWA were to aid in admission selection and deficiency diagnosis, it was hoped that respondents would indicate that scores and essays were especially used and found to be useful for these purposes. When results for AWA scores were examined, the findings revealed that scores were used

most often for selection and to a lesser extent for deficiency diagnosis. When alternative uses were examined, scores were at least sometimes used by a minimum of 50% of respondents for evaluating grammar skills and validating the program application essay. On the other hand, scores were not often used for career advising, student placement, or program planning.

Figure I: Frequency of Use for AWA Scores



The usefulness of AWA scores was also evaluated. Table 3 provides the distribution of responses indicating score usefulness for the original purposes of the AWA. Scores

were similar in terms of their usefulness ratings for selecting applicants for admission and diagnosing deficiencies.

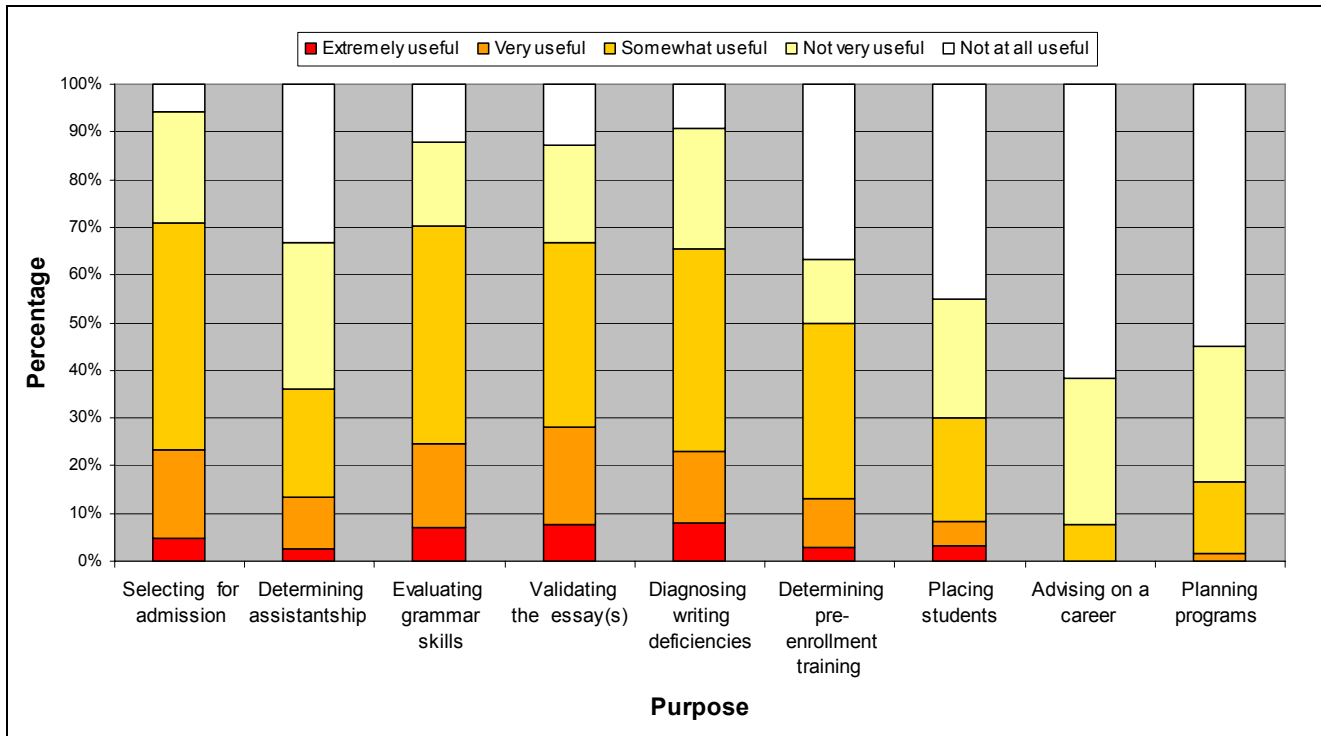
Response categories	Admission		Diagnosis	
	N	%	N	%
Not at all useful	6	5.8	8	9.2
Not very useful	24	23.3	22	25.3
Somewhat useful	49	47.6	37	42.5
Very useful	19	18.4	13	14.9
Extremely useful	5	4.9	7	8.0

Note. Percentages may not sum to 100 due to rounding.

Figure 2 demonstrates the usefulness of AWA scores for nine different purposes, including the original section uses. Very few respondents indicated that AWA scores were extremely useful for any of the purposes examined.

However, over 50% of respondents indicated that scores were at least somewhat useful for admission selection, grammar evaluation, program application essay validation, and deficiency diagnosis.

Figure 2: Usefulness of AWA Scores



AWA Essays

Table 4 provides information on the frequency with which essays were used to fulfill the original purpose of the AWA. As with the results for AWA scores, essays

were used more for admission than they were for diagnosis. However, when score and essay usage are compared, using Tables 2 and 4, it can be seen that scores are used more often for these purposes than essays.

Response categories	Admission		Diagnosis	
	N	%	N	%
Never	25	22.9	44	40.4
Rarely	29	26.6	19	17.4
Sometimes	32	29.4	32	29.4
Frequently	16	14.7	12	11.0
Always	7	6.4	2	1.8

*Note. Percentages may not sum to 100 due to rounding.

Figure 3 depicts frequency of use responses for AWA essays regarding the nine purposes identified earlier. When compared to the AWA score results, respondents indicated that they were less likely to use AWA essays than they were to use AWA scores, though use of essays

was still reasonable. For instance, approximately 50% of respondents indicated that they at least sometimes used essays for admission selection and grammar skill evaluation compared to score usage of 67% and 63%, respectively.

Figure 3: Frequency of Use for AWA Essays

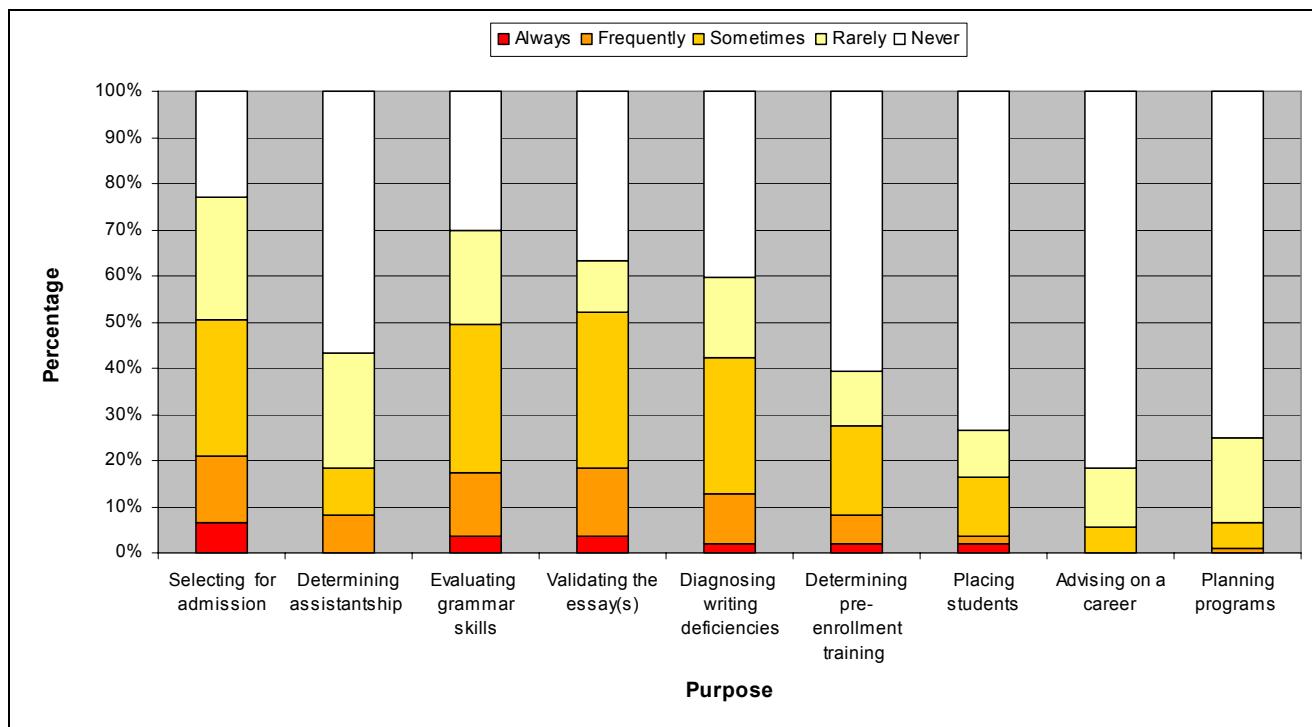


Table 5 presents the distribution of responses indicating the usefulness of essays to meet the original purposes of the AWA. Essays were rated as similarly useful for

admission selection and deficiency diagnosis. Additionally, for these two purposes, reported usefulness was similar for both essays and scores.

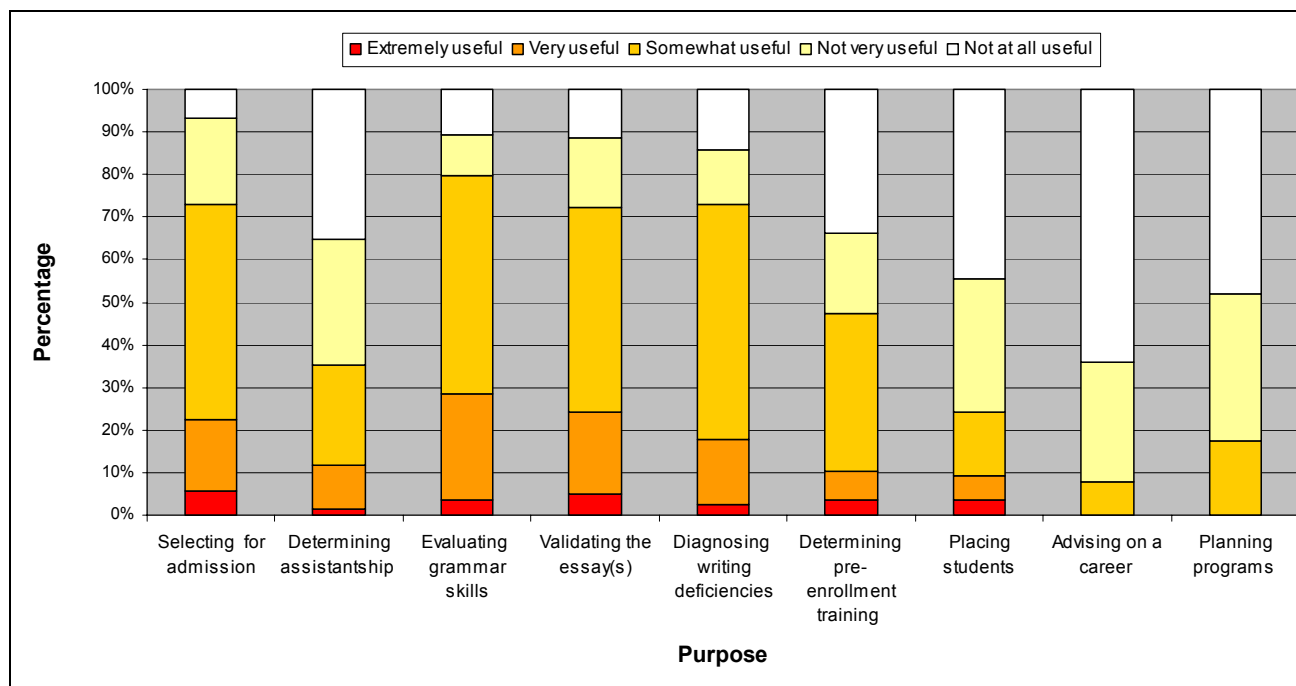
Response categories	Selection		Diagnosis	
	N	%	N	%
Not at all useful	6	6.7	11	14.1
Not very useful	18	20.2	10	12.8
Somewhat useful	45	50.6	43	55.1
Very useful	15	16.9	12	15.4
Extremely useful	5	5.6	2	2.6

*Note. Percentages may not sum to 100 due to rounding.

Figure 4 reveals that the essays were deemed at least somewhat useful by no less than 70% of respondents for the following purposes: admission selection, grammar skill evaluation, program application essay validation, and writing deficiency diagnosis. This was similar to the

findings for AWA scores. Though AWA essays were currently being used to a lesser extent than the scores, both components of the AWA were deemed useful for the original, and some alternative, purposes of the section.

Figure 4: Usefulness of AWA Essays



The results for use and usefulness of AWA scores and essays provides evidence that the different components of the AWA are informative and used to varying degrees, depending on the purposes expected. Though AWA scores were more frequently used than AWA essays for all purposes examined in this study, both were used and useful for meeting the original goals of the AWA section, namely admission selection and deficiency diagnosis. Scores and essays were also effective for evaluating grammar skills and validating the program application essay, which were uses not originally anticipated for the section. While programs do not frequently use the AWA section for purposes of advising and course placement, respondents found it was useful for selecting applicants for admission, evaluating applicant grammar abilities, validating the program application essay, and determining deficiencies. It is also feasible that programs use AWA scores and essays differently depending on their admission needs. As such, it is important to determine if program

differences are related to reported use and usefulness of the AWA.

Comparing Current AWA Use and Usefulness across Subgroups

Use for Non-Native English Speaking Applicants

While there are positive findings regarding the use and usefulness of the AWA section for its original purposes, the section is also being used to accomplish other program needs. Previous AWA research found that scores and essays were being used to evaluate grammar, validate the essay applicants write as a part of a program’s admission requirements, and determine if English was a second or potentially problematic language for applicants (Bruce, 2002; Noll & Stowers, 1998).

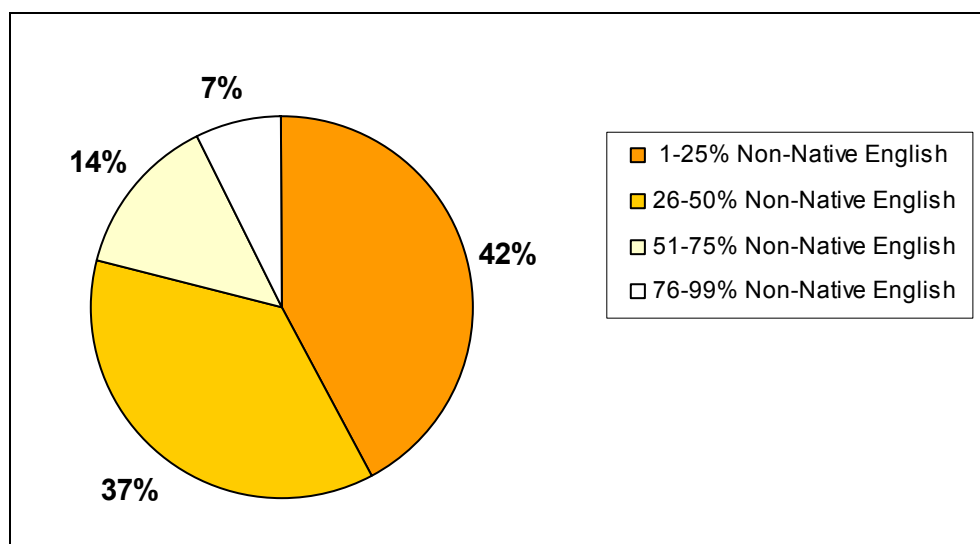
As a part of the current study, respondents were asked to indicate the proportion of native vs. non-native English

speaking applicants for which AWA essays were read prior to admission selection. Respondents indicated that they were more likely to read both or at least one of the AWA essays for non-native English speaking applicants when compared to their native English speaking counterparts. Specifically, 27% of respondents indicated that they read both essays for all or most of their non-native English speaking applicants compared to only 9% of respondents who read both essays for all or most of their native English applicants.

Respondents to the current survey were also asked to select the proportion of applicants to their program who

were non-native English speakers (see Figure 5). Of the respondents, 42% indicated that 25% or less of their applicants were non-native English speakers. An additional 37% indicated that non-native English speakers composed 26–50% of their applicant pool, and the remaining 21% of programs reported that more than 50% of their applicants were non-native English speakers. Thus, programs can be distinguished based on the percentage of non-native English speaking applicants, and perhaps their need for and use of an instrument to identify student writing or grammar deficiencies.

Figure 5: Proportion on Non-Native English Applicants



Figures 6–9 compare the distribution of responses for the group of programs that reported their applicant pool was composed of more than 25% non-native English speakers to a group of programs reporting that less than 25% of their applicants were non-native English speakers. The four categories demonstrated in Figure 5 were divided into two groups, rather than four, to allow for comparisons of similar sample size. These two groups may have unique needs and uses for the AWA section because of the varying concentration of non-native English speaking applicants. Figures 6-9 represent some uses of the AWA scores and essays that demonstrated variability in use and usefulness between the two groups. The most notable distinctions between programs with different

concentrations of non-native English speakers were in the reported uses and usefulness of AWA scores for writing deficiency diagnosis and uses and usefulness of AWA essays for grammar score evaluation. Tables comparing frequency of use and usefulness of the AWA section for these two groups for various purposes can be found in Appendix B.

Figure 6 compares variations in the frequency with which AWA scores were used for diagnosing writing deficiencies. It can be seen from this figure that programs with an applicant pool composed of more than 25% non-native English speakers reported more frequent use of AWA scores for diagnosis of writing deficiencies.

Similarly, programs with a higher concentration of non-native English speaking applicants were more likely to report that AWA scores were extremely or very useful for diagnosing writing deficiencies, as shown in Figure 7.

Programs with fewer non-native English speaking applicants were less likely to use AWA scores and found scores to be less useful for writing deficiency diagnosis.

Figure 6: AWA Score Use for Writing Deficiency Diagnosis by Non-native English Applicant Pool

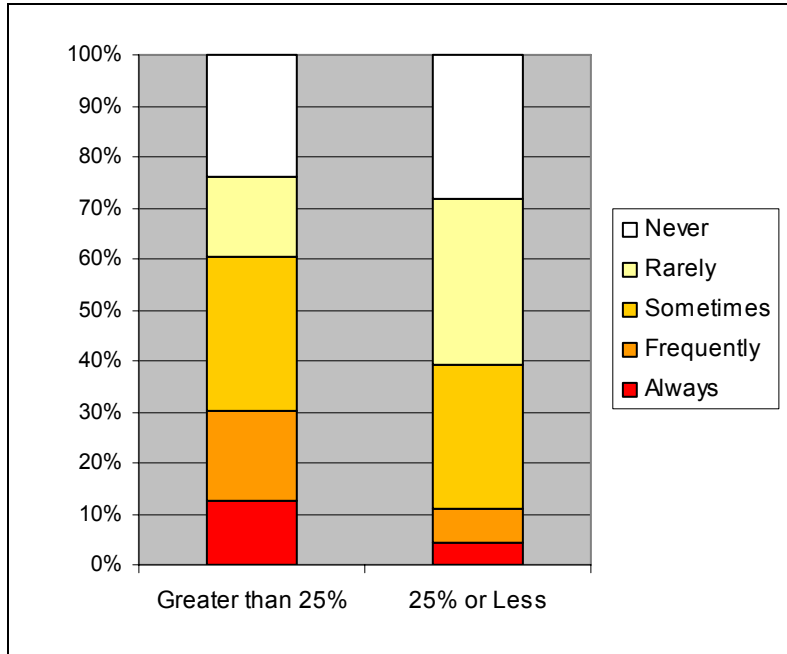
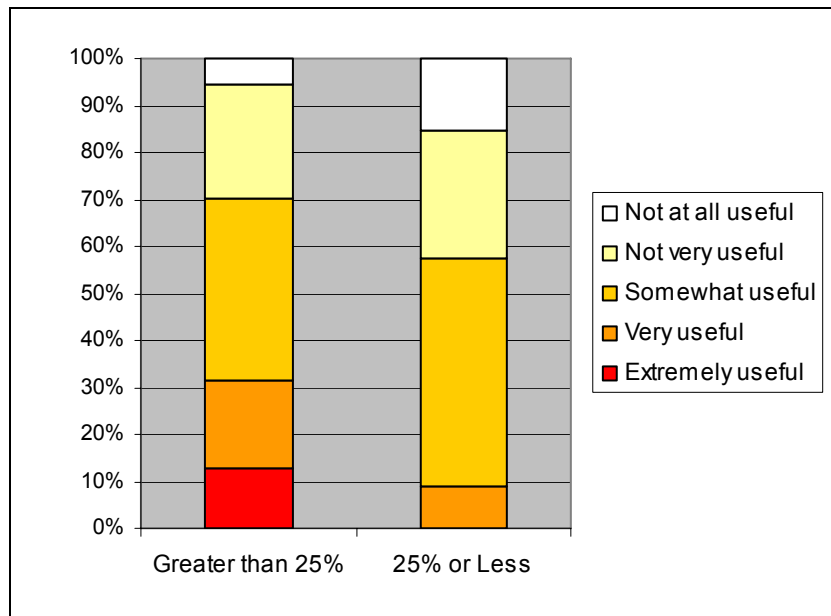


Figure 7: AWA Score Usefulness for Writing Deficiency Diagnosis by Non-Native English Applicant Pool



Figures 8 and 9 provide information on use and usefulness of AWA essays for the evaluation of applicant grammar skills. When responses were examined separately based on concentration of non-native English speaking applicants, differences were found between the two groups. Programs with a greater concentration of non-native English speaking applicants reported greater use and usefulness of AWA essays for evaluation of grammar ability. Overall, programs with greater concentrations of non-native English applicants reported more frequent use of AWA scores for diagnosis and essays for grammar skill evaluation; this distribution of responses varied from that demonstrated for the comparison group. Additionally, a

greater percentage of programs with more than 25% non-native English speaking applicants indicated that scores and essays were very or extremely useful for these two purposes compared to programs with fewer non-native English speaking applicants.

Overall, it appears that some differences exist in terms of perceived use and usefulness of the AWA section based on the number of non-native English speaking applicants a program receives. Figures 6–9 and Appendix B detail these differences for nine specific purposes for both AWA scores and essays. The variation in response patterns were more pronounced for those purposes related to evaluating grammar ability and validating applicant writing samples.

Figure 8: AWA Essay Use for Evaluation of Grammar Skills by Non-Native English Applicant Pool

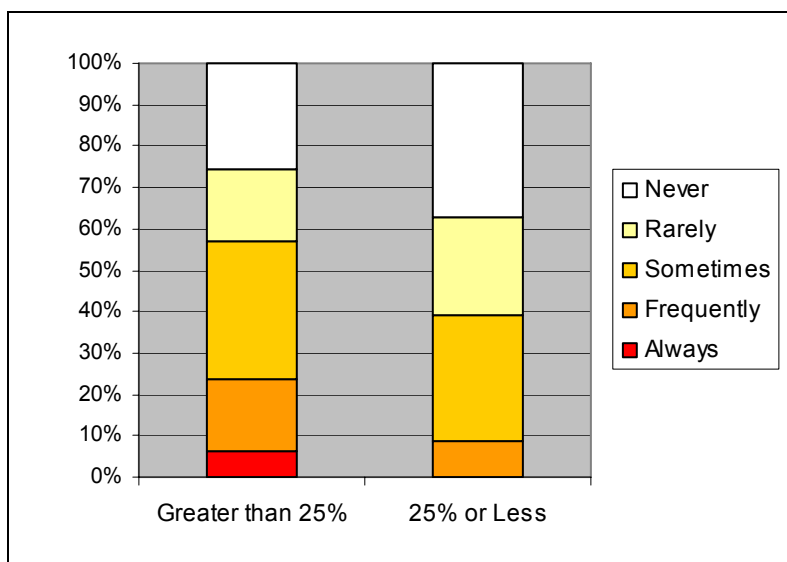
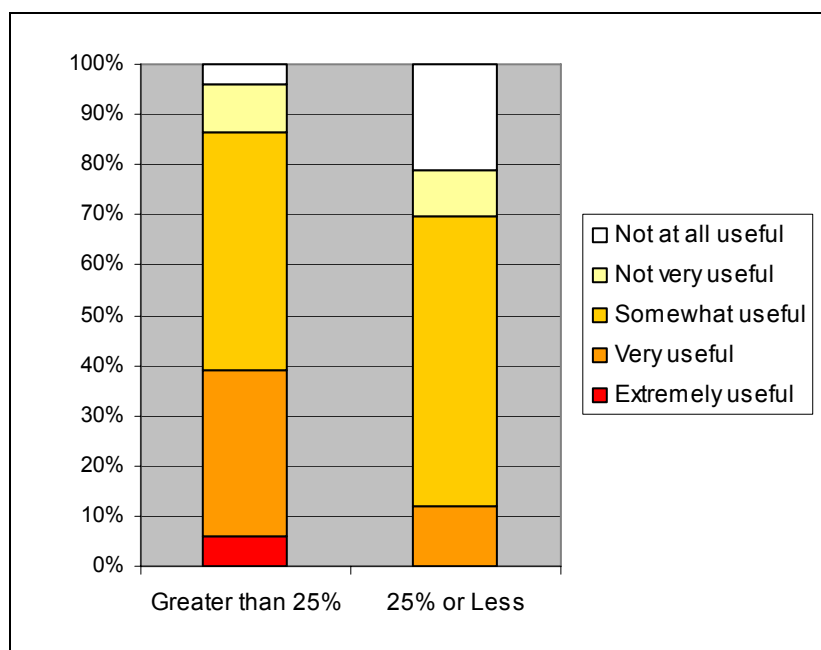


Figure 9: AWA Essay Usefulness for Evaluation of Grammar Skills by Non-Native English Applicant Pool



Use by Program Type

Results were also examined separately for the different program types (i.e., full-time, part-time, executive, and doctoral) and can be found in Appendix C. Differences between the program types in terms of frequency of use and reported usefulness of the AWA section for the variety of purposes described earlier are noted. When comparing response patterns across program types, there was little variability in terms of frequency of use and usefulness of the AWA section for the various purposes examined.

Overall, the distribution of responses regarding use and usefulness of the AWA section were similar across the different program types. One notable difference was that executive MBA programs tended to select the response option extremely useful less often than the other program types when asked about the usefulness of the AWA section for many of the purposes examined. However, the infrequent selection of extremely useful to describe the value of essays and scores for pre-enrollment training, course placement, career advisement, and program planning was consistent across program types. For all program types, scores and essays were most often used for selecting applicants for admission. There were some slight differences among program types in terms of the purposes

for which scores and essays were most useful. For example, full- and part-time programs indicated that scores were most useful for validating the application essays, while executive MBA and doctoral programs found scores most useful for selecting applicants for admission. However, it does not appear that use and usefulness of AWA essays or scores varies greatly depending on program type.

Based on the results from the current study, it appears that AWA scores and essays are meeting their original purposes for admission selection and deficiency diagnosis in addition to alternative purposes. Also, programs with larger concentrations of non-native English speaking applicants find scores and essays especially useful for deficiency diagnosis and grammar skill evaluation.

Discussion

Further perspective on the use and usefulness of the AWA was obtained by comparing the findings from the current study to previously reported perceptions of the section. The following discussion examines changes in the perceived use and usefulness of the AWA for admissions and for diagnosis since the section's addition to the GMAT® exam.

Comparing Current AWA Use and Usefulness to Previous Findings

Use for Admission Selection. Previous research indicated that programs anticipated the addition of an AWA section to the GMAT® exam would be used and useful for selecting applicants for admission into graduate management programs (Bruce, 1984, 1992, 1993). In the present study, actual use and usefulness for admission selection were examined. The results revealed that the majority of respondents always, frequently, or sometimes use AWA scores and essays to select applicants for admission, with combined percentages of 67% and 51%, respectively. Additionally, 69% of respondents indicated that either the scores or essays were always, frequently, or sometimes used for admission selection, as shown in Figure 10. Thus, about two-thirds of respondents indicated use of AWA scores and one-half responded they used AWA essays for admission selection.

Overall, respondents indicated that the AWA is currently being used for admission selection for the majority of the programs represented in this study. In the Noll and

Stowers (1998) study, 86% reported that, yes, they did use the AWA section. However, Noll and Stowers did not differentiate between scores and essays in terms of use for admission selection. In order to make a dual comparison between Noll and Stowers and the current study, responses to scores and essays were combined. This combined category is labeled “Either-2005” in Figure 10. Figure 10 shows that previous reported frequency of use of the section for admission selection in 1998 was higher than in the 2005 study. However, scores and essays are still being used to accomplish this goal by a number of programs.

The perceived and actual usefulness of AWA scores and essays for admission selection were lower in 2005 but comparable to results from Bruce’s 1993 study. Figure 11 shows that 71% of respondents reported AWA scores were extremely, very, or somewhat useful as a part of the selection process, and 73% specified that AWA essays were extremely, very, or somewhat useful for selection. Approximately 77% of respondents indicated that either the AWA scores or essays were extremely, very, or somewhat useful for admission selection.

Figure 10: Comparison of 1998 and 2005 Survey Results on Reported Use of the AWA for Admission Selection

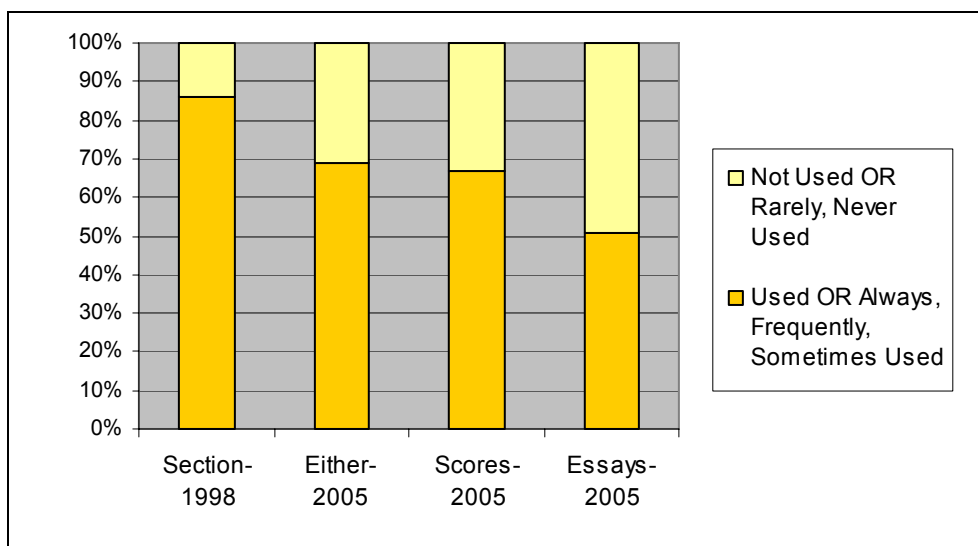
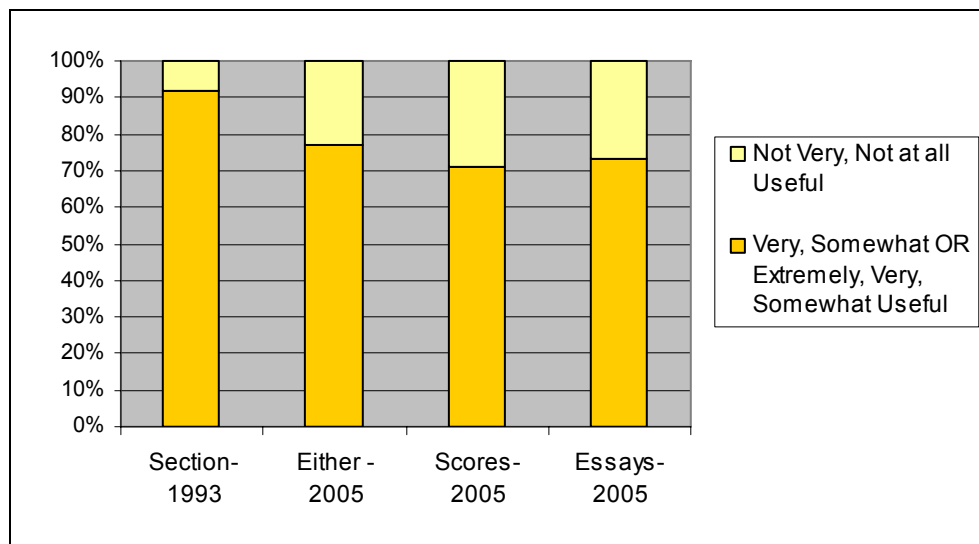


Figure II: Comparison of 1993 and 2005 Survey Results on Reported Usefulness of the AWA for Admission Selection



Overall, respondents found AWA scores and essays to be similar in terms of usefulness when used to select applicants for admission. Bruce (1993) found that 91% of respondents perceived the addition of the AWA would be very or somewhat useful for admission selection.

In summary, frequency of use for selection was lower in 2005 than previously reported in 1998, but the AWA was still used by the majority of respondents. In addition, a higher percentage of respondents found it to be as useful for selecting applicants for admission, as was previously anticipated in 1993.

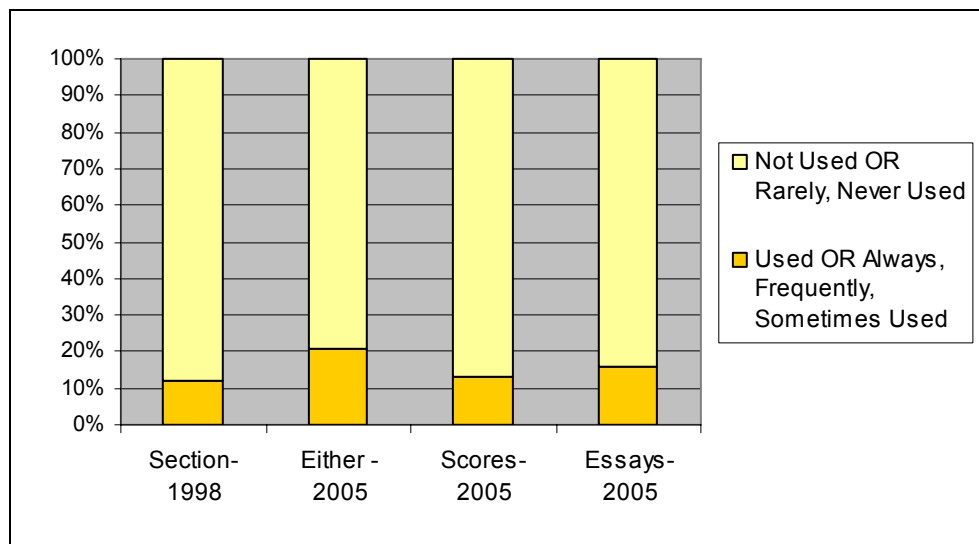
Use for Diagnostic Purposes

To further explore whether the AWA was meeting its original purposes, current use and usefulness of the section for diagnostic purposes were examined. Noll and Stowers (1998) and Bruce (1993) included course placement as a component of deficiency diagnosis. For comparison purposes, the diagnostic results for the current study included analyses for both deficiency diagnosis and course placement.

Overall, respondents to the current study did not use the AWA as frequently for course placement or diagnosis as they did for admission selection. The percentage of respondents indicating that AWA scores were always, frequently, or sometimes used to place students in courses or to diagnose writing deficiencies was 13% and 51%, respectively. In terms of AWA essays, 16% and 42% said that essays were always, frequently, or sometimes used to place students into courses or diagnose deficiencies, respectively.

Similar results for course placement were found by Noll and Stowers (1998); 12% said yes they used the AWA section to place students in writing courses. By examining respondents who indicated that they always, frequently, or sometimes used either the scores or essays for course placement, a better understanding of use of the entire section can be achieved. From this, it was revealed that approximately 21% of respondents reported using either scores or essays for course placement. A comparison of the current results to previous findings of AWA use for course placement can be found in Figure I2.

Figure 12: Comparison of 1998 and 2005 Survey Results on Reported Use of the AWA for Course Placement

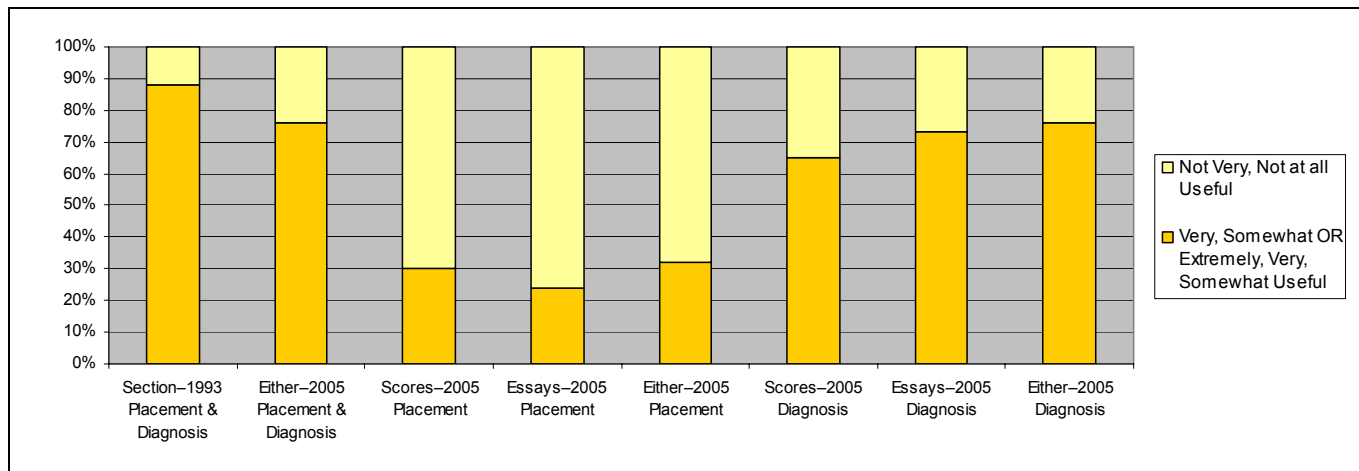


Few respondents felt that the AWA essays or scores were helpful in placing students in courses, but more felt that the section was at least somewhat useful for diagnosing student writing deficiencies. Of those who responded, 30% said scores were extremely, very, or somewhat useful for placing students in courses, and 65% said AWA scores were extremely, very, or somewhat useful in diagnosing writing deficiencies. Only 24% of respondents indicated that essays were extremely, very, or somewhat useful for placing students in courses, whereas 73% indicated that AWA essays were extremely, very, or somewhat useful for diagnosing writing deficiencies. When respondents who indicated that either scores or essays were extremely, very, or somewhat useful were

examined, the percentages increased slightly to 32% and 76%, for course placement and diagnosis, respectively.

Bruce (1993) reported that 88% perceived the AWA would be very or somewhat useful as a diagnostic component or for course placement. A comparison of the 1993 and the 2005 results can be found in Figure 13. For the 2005 study, respondents who indicated that either scores or essays were extremely, very, or somewhat useful for course placement or diagnosis of writing deficiencies were combined into a category labeled “Either-2005-Placement & Diagnosis” in Figure 13. Approximately 76% of respondents indicated that essays or scores were useful for course placement or writing deficiency diagnosis.

Figure I3: Comparison of 1993 and 2005 Survey Results on Reported Usefulness of the AWA for Course Placement and Writing Deficiency Diagnosis



Conclusion and Implications

The present study provided an examination of the AWA section of the GMAT® exam a decade after its original implementation. The findings suggest the GMAT® AWA is fulfilling its original goals. Approximately, 77% of respondents find either the scores or essays useful for admission, and 76% reported them useful for diagnosis. Though the percentage of use and reported usefulness demonstrated that the section was currently meeting programs' needs, fewer programs were using the section than was originally anticipated. The section was also not as used or useful for course placement as was originally expected. This is not surprising given that course placement was not technically one of the original purposes of the AWA section.

This investigation of the AWA use and usefulness revealed that programs with higher concentrations of non-native English speaking applicants found the AWA section to be of greater use. Programs with more non-native English speaking applicants reported that the section was used more often and was more useful in evaluating English grammar skills and diagnosing writing deficiencies. Since programs with more non-native English speaking applicants likely have a greater need to identify writing and grammar deficiencies, it appears that the section is especially meeting the requirements of this group. When results were examined by program type, differences in reported frequency of use and usefulness were not apparent.

As with most research, there were limitations to the current study. First, the sample size was small given the larger number of programs surveyed. As such, the results may not be representative of all graduate business programs. Additionally, one of the purposes of the present study was to compare findings to previous research. Because there were a number of differences between this study and those conducted by other researchers, results were presented and combined in several ways to allow findings to be comparable. However, relevant information can be lost or misinterpreted when categories and groups are combined and separated. Though every effort was made to accurately represent these findings, additional research more closely replicating the previous studies would allow for more exact comparisons.

Finally, future research should also examine ways to enhance the AWA to meet the needs of all types of programs with varying applicant populations. This may include the use of the section for purposes not originally intended. For instance, the AWA may be effective for English grammar skill evaluation and application essay validation if it is modified to more adequately meet these needs. Additionally, a comparison of use and usefulness of the AWA for graduate management programs with findings for other analytical writing tasks could provide additional insight. This would allow for a comprehensive understanding of the usefulness of analytical writing assessments in selecting applicants for admission to higher education institutions. As these results may extend to many

assessment programs, other organizations should consider re-investigating the use and usefulness of their own assessments to determine if they are still meeting their desired purposes.

Contact Information

For questions or comments regarding study findings, methodology or data, please contact the GMAC® Research and Development department at research@gmac.com.

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Appendix A: Descriptive Statistics

Table A-I: Descriptive Statistics for All Purposes								
Purposes	Use				Usefulness			
	N	M	Med.	SD	N	M	Med.	SD
Scores								
Admission	109	3.15	3.00	1.25	103	2.93	3.00	0.92
Assistantships	109	1.95	2.00	1.13	75	2.19	2.00	1.10
Grammar	109	2.78	3.00	1.17	98	2.90	3.00	1.06
Validation	109	2.59	3.00	1.23	93	2.89	3.00	1.11
Writing	109	2.57	3.00	1.26	87	2.87	3.00	1.04
Programs	109	1.41	1.00	0.61	60	1.63	1.00	0.80
Placement	109	1.56	1.00	1.03	60	1.97	2.00	1.09
Pre-training	109	2.01	2.00	1.20	68	2.29	2.50	1.16
Career	109	1.29	1.00	0.57	52	1.46	1.00	0.64
Essays								
Admission	109	2.55	3.00	1.18	89	2.94	3.00	0.93
Assistantships	109	1.70	1.00	0.96	68	2.13	2.00	1.06
Grammar	109	2.40	2.00	1.16	84	3.01	3.00	0.96
Validation	109	2.38	3.00	1.22	79	2.90	3.00	1.01
Writing	109	2.17	2.00	1.14	78	2.79	3.00	0.96
Programs	109	1.32	1.00	0.62	52	1.69	2.00	0.76
Placement	109	1.49	1.00	0.92	54	1.93	2.00	1.08
Pre-training	109	1.77	1.00	1.09	59	2.27	2.00	1.11
Career	109	1.24	1.00	0.54	50	1.44	1.00	0.64

Appendix B: Use and Usefulness of the AWA by Non-Native English Speaking Applicant Concentration

Table B-1: Use and Usefulness of AWA for Admission Selection				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	6.35	13.04	23.81	21.74
Rarely	17.46	32.61	23.81	30.43
Sometimes	31.75	26.09	30.16	28.26
Frequently	19.05	17.39	15.87	13.04
Always	25.40	10.87	6.35	6.52
Overall statistics				
N	63	46	63	46
Mean	3.40	2.80	2.57	2.52
Median	3.00	3.00	3.00	2.00
SD	1.23	1.20	1.20	1.17
% Usefulness				
Not at all useful	3.33	9.30	3.77	11.11
Not very useful	21.67	25.58	16.98	25.00
Somewhat useful	45.00	51.16	52.83	47.22
Very useful	23.33	11.63	16.98	16.67
Extremely useful	6.67	2.33	9.43	0.00
Overall statistics				
N	60	43	53	36
Mean	3.08	2.72	3.11	2.69
Median	3.00	3.00	3.00	3.00
SD	0.93	0.88	0.93	0.89

Table B-2: Use and Usefulness of AWA for Determining Assistantships				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	46.03	50.00	58.73	54.35
Rarely	26.98	19.57	26.98	21.74
Sometimes	15.87	17.39	9.52	10.87
Frequently	9.52	8.70	4.76	13.04
Always	1.59	4.35	0.00	0.00
Overall statistics				
N	63	46	63	46
Mean	1.94	1.98	1.60	1.83
Median	2.00	1.50	1.00	1.00
SD	1.08	1.20	0.85	1.08
% Usefulness				
Not at all useful	30.95	36.36	43.59	24.14
Not very useful	30.95	30.30	17.95	44.83
Somewhat useful	26.19	18.18	25.64	20.69
Very useful	9.52	12.12	10.26	10.34
Extremely useful	2.38	3.03	2.56	0.00
Overall statistics				
N	42	33	39	29
Mean	2.21	2.15	2.10	2.17
Median	2.00	2.00	2.00	2.00
SD	1.07	1.15	1.17	0.93

Table B-3: Use and Usefulness of AWA for Evaluating Grammar Skills				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	17.46	19.57	25.40	36.96
Rarely	14.29	26.09	17.46	23.91
Sometimes	36.51	34.78	33.33	30.43
Frequently	23.81	13.04	17.46	8.70
Always	7.94	6.52	6.35	0.00
Overall statistics				
N	63	46	63	46
Mean	2.90	2.61	2.62	2.11
Median	3.00	3.00	3.00	2.00
SD	1.19	1.15	1.22	1.02
% Usefulness				
Not at all useful	6.90	20.00	3.92	21.21
Not very useful	13.79	22.50	9.80	9.09
Somewhat useful	46.55	45.00	47.06	57.58
Very useful	22.41	10.00	33.33	12.12
Extremely useful	10.34	2.50	5.88	0.00
Overall statistics				
N	58	40	51	33
Mean	3.16	2.53	3.27	2.61
Median	3.00	3.00	3.00	3.00
SD	1.02	1.01	0.87	0.97

Table B-4: Use and Usefulness of AWA for Validating the Application Essay				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	23.81	26.09	31.75	43.48
Rarely	15.87	30.43	6.35	17.39
Sometimes	31.75	28.26	38.10	28.26
Frequently	17.46	13.04	19.05	8.70
Always	11.11	2.17	4.76	2.17
Overall statistics				
N	63	46	63	46
Mean	2.76	2.35	2.59	2.09
Median	3.00	2.00	3.00	2.00
SD	1.30	1.08	1.25	1.13
% Usefulness				
Not at all useful	9.09	18.42	6.12	20.00
Not very useful	14.55	28.95	12.24	23.33
Somewhat useful	41.82	34.21	53.06	40.00
Very useful	23.64	15.79	20.41	16.67
Extremely useful	10.91	2.63	8.16	0.00
Overall statistics				
N	55	38	49	30
Mean	3.13	2.55	3.12	2.53
Median	3.00	3.00	3.00	3.00
SD	1.09	1.06	0.95	1.01

Table B-5: Use and Usefulness of AWA for Diagnosing Writing Deficiencies				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	23.81	28.26	38.10	43.48
Rarely	15.87	32.61	14.29	21.74
Sometimes	30.16	28.26	28.57	30.43
Frequently	17.46	6.52	15.87	4.35
Always	12.70	4.35	3.17	0.00
Overall statistics				
N	63	46	63	46
Mean	2.79	2.26	2.32	1.96
Median	3.00	2.00	2.00	2.00
SD	1.33	1.08	1.23	0.97
% Usefulness				
Not at all useful	5.56	15.15	8.33	23.33
Not very useful	24.07	27.27	8.33	20.00
Somewhat useful	38.89	48.48	58.33	50.00
Very useful	18.52	9.09	20.83	6.67
Extremely useful	12.96	0.00	4.17	0.00
Overall statistics				
N	54	33	48	30
Mean	3.09	2.52	3.04	2.40
Median	3.00	3.00	3.00	3.00
SD	1.09	0.87	0.90	0.93

Table B-6: Use and Usefulness of AWA for Determining Pre-Enrollment Training				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	46.03	54.35	52.38	71.74
Rarely	11.11	26.09	9.52	15.22
Sometimes	23.81	13.04	26.98	8.70
Frequently	14.29	4.35	9.52	2.17
Always	4.76	2.17	1.59	2.17
Overall statistics				
N	63	46	63	46
Mean	2.21	1.74	1.98	1.48
Median	2.00	1.00	1.00	1.00
SD	1.30	1.00	1.16	0.91
% Usefulness				
Not at all useful	27.91	52.00	26.32	47.62
Not very useful	6.98	24.00	7.89	38.10
Somewhat useful	46.51	20.00	55.26	4.76
Very useful	13.95	4.00	5.26	9.52
Extremely useful	4.65	0.00	5.26	0.00
Overall statistics				
N	43	25	38	21
Mean	2.60	1.76	2.55	1.76
Median	3.00	1.00	3.00	2.00
SD	1.18	0.93	1.11	0.94

Table B-7: Use and Usefulness of AWA for Placing Students into Courses				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	63.49	76.09	71.43	76.09
Rarely	19.05	17.39	7.94	13.04
Sometimes	7.94	0.00	15.87	8.70
Frequently	6.35	2.17	3.17	0.00
Always	3.17	4.35	1.59	2.17
Overall statistics				
N	63	46	63	46
Mean	1.67	1.41	1.56	1.39
Median	1.00	1.00	1.00	1.00
SD	1.08	0.96	0.98	0.83
% Usefulness				
Not at all useful	37.14	56.00	41.18	50.00
Not very useful	22.86	28.00	26.47	40.00
Somewhat useful	28.57	12.00	20.59	5.00
Very useful	5.71	4.00	5.88	5.00
Extremely useful	5.71	0.00	5.88	0.00
Overall statistics				
N	35	25	34	20
Mean	2.20	1.64	2.09	1.65
Median	2.00	1.00	2.00	1.50
SD	1.18	0.86	1.19	0.81

Table B-8: Use and Usefulness of AWA for Advising on a Career Path				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	79.37	71.74	84.13	78.26
Rarely	17.46	19.57	11.11	15.22
Sometimes	3.17	8.70	4.76	6.52
Frequently	0.00	0.00	0.00	0.00
Always	0.00	0.00	0.00	0.00
Overall statistics				
N	63	46	63	46
Mean	1.24	1.37	1.21	1.28
Median	1.00	1.00	1.00	1.00
SD	0.50	0.65	0.51	0.58
% Usefulness				
Not at all useful	62.07	60.87	56.67	75.00
Not very useful	31.03	30.43	36.67	15.00
Somewhat useful	6.90	8.70	6.67	10.00
Very useful	0.00	0.00	0.00	0.00
Extremely useful	0.00	0.00	0.00	0.00
Overall statistics				
N	29	23	30	20
Mean	1.45	1.48	1.50	1.35
Median	1.00	1.00	1.00	1.00
SD	0.63	0.67	0.63	0.67

Table B-9: Use and Usefulness of AWA for Planning Programs and Courses				
Use/Usefulness	Scores		Essays	
	>25%	≤25%	>25%	≤25%
% Use				
Never	66.67	63.04	76.19	73.91
Rarely	26.98	30.43	17.46	19.57
Sometimes	6.35	6.52	4.76	6.52
Frequently	0.00	0.00	1.59	0.00
Always	0.00	0.00	76.19	73.91
Overall statistics				
N	63	46	63	46
Mean	1.40	1.43	1.32	1.33
Median	1.00	1.00	1.00	1.00
SD	0.61	0.62	0.64	0.60
% Usefulness				
Not at all useful	48.57	64.00	38.71	61.90
Not very useful	31.43	24.00	38.71	28.57
Somewhat useful	20.00	8.00	22.58	9.52
Very useful	0.00	4.00	0.00	0.00
Extremely useful	0.00	0.00	0.00	0.00
Overall statistics				
N	35	25	31	21
Mean	1.71	1.52	1.84	1.48
Median	2.00	1.00	2.00	1.00
SD	0.79	0.82	0.70	0.68

Appendix C: Use and Usefulness of the AWA by Program Type

Table C-I: Use and Usefulness of AWA for Admission Selection by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	10.26	13.11	15.79	0.00	23.08	19.67	15.79	18.18
Rarely	17.95	22.95	26.32	27.27	23.08	29.51	31.58	9.09
Sometimes	35.90	29.51	15.79	36.36	30.77	26.23	26.32	54.55
Frequently	16.67	19.67	26.32	9.09	17.95	14.75	15.79	18.18
Always	19.23	14.75	15.79	27.27	5.13	9.84	10.53	0.00
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	3.17	3.00	3.00	3.36	2.59	2.66	2.74	2.73
Median	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SD	1.23	1.25	1.37	1.21	1.18	1.24	1.24	1.01
% Usefulness								
Not at all useful	5.41	5.45	15.79	0.00	4.62	6.25	12.50	0.00
Not very useful	21.62	23.64	31.58	18.18	18.46	22.92	18.75	11.11
Somewhat useful	48.65	47.27	26.32	54.55	53.85	45.83	43.75	55.56
Very useful	17.57	18.18	15.79	27.27	18.46	20.83	25.00	0.00
Extremely useful	6.76	5.45	10.53	0.00	4.62	4.17	0.00	33.33
Overall statistics								
N	74	55	19	11	65	48	16	9
Mean	2.99	2.95	2.74	3.09	3.00	2.94	2.81	3.56
Median	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SD	0.94	0.93	1.24	0.70	0.87	0.93	0.98	1.13

Table C-2: Use and Usefulness of AWA for Determining Assistantships by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	46.15	47.54	57.89	36.36	51.28	47.54	57.89	54.55
Rarely	24.36	18.03	15.79	27.27	30.77	26.23	15.79	27.27
Sometimes	19.23	18.03	10.53	18.18	10.26	14.75	10.53	9.09
Frequently	7.69	11.48	10.53	18.18	7.69	11.48	15.79	9.09
Always	2.56	4.92	5.26	0.00	0.00	0.00	0.00	0.00
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	1.96	2.08	1.89	2.18	1.74	1.90	1.84	1.73
Median	2.00	2.00	1.00	2.00	1.00	2.00	1.00	1.00
SD	1.10	1.26	1.29	1.17	0.93	1.04	1.17	1.01
% Usefulness								
Not at all useful	29.09	30.43	56.25	14.29	32.69	24.39	46.15	20.00
Not very useful	36.36	26.09	25.00	42.86	28.85	34.15	23.08	40.00
Somewhat useful	21.82	23.91	6.25	28.57	26.92	26.83	23.08	20.00
Very useful	9.09	15.22	12.50	14.29	9.62	12.20	7.69	20.00
Extremely useful	3.64	4.35	0.00	0.00	1.92	2.44	0.00	0.00
Overall statistics								
N	55	46	16	7	52	41	13	5
Mean	2.22	2.37	1.75	2.43	2.19	2.34	1.92	2.40
Median	2.00	2.00	1.00	2.00	2.00	2.00	2.00	2.00
SD	1.08	1.20	1.07	0.98	1.07	1.06	1.04	1.14

Table C-3: Use and Usefulness of AWA for Evaluating Grammar Skills by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	17.95	16.39	15.79	18.18	24.36	31.15	21.05	36.36
Rarely	16.67	21.31	31.58	27.27	19.23	18.03	31.58	18.18
Sometimes	35.90	34.43	31.58	27.27	34.62	31.15	31.58	9.09
Frequently	20.51	16.39	21.05	27.27	17.95	16.39	15.79	27.27
Always	8.97	11.48	0.00	0.00	3.85	3.28	0.00	9.09
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	2.86	2.85	2.58	2.64	2.58	2.43	2.42	2.55
Median	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00
SD	1.20	1.22	1.02	1.12	1.16	1.19	1.02	1.51
% Usefulness								
Not at all useful	8.57	11.32	27.78	11.11	4.92	13.04	33.33	14.29
Not very useful	10.00	16.98	22.22	22.22	6.56	10.87	0.00	0.00
Somewhat useful	51.43	43.40	33.33	33.33	52.46	45.65	53.33	42.86
Very useful	21.43	18.87	16.67	22.22	32.79	26.09	13.33	28.57
Extremely useful	8.57	9.43	0.00	11.11	3.28	4.35	0.00	14.29
Overall statistics								
N	70	53	18	9	61	46	15	7
Mean	3.11	2.98	2.39	3.00	3.23	2.98	2.47	3.29
Median	3.00	3.00	2.50	3.00	3.00	3.00	3.00	3.00
SD	1.00	1.10	1.09	1.23	0.82	1.04	1.13	1.25

Table C-4: Use and Usefulness of AWA for Validating the Application Essay by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	21.79	22.95	31.58	36.36	29.49	36.07	31.58	45.45
Rarely	17.95	21.31	15.79	27.27	11.54	11.48	15.79	0.00
Sometimes	33.33	32.79	31.58	18.18	37.18	29.51	31.58	27.27
Frequently	17.95	13.11	21.05	18.18	17.95	16.39	21.05	27.27
Always	8.97	9.84	0.00	0.00	3.85	6.56	0.00	0.00
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	2.74	2.35	2.42	2.45	2.55	2.46	2.42	2.36
Median	3.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
SD	1.24	1.08	1.17	0.93	1.20	1.31	1.17	1.36
% Usefulness								
Not at all useful	7.46	9.80	17.65	22.22	5.17	11.63	23.08	14.29
Not very useful	16.42	21.57	29.41	11.11	17.24	13.95	15.38	0.00
Somewhat useful	40.30	33.33	23.53	44.44	46.55	41.86	53.85	42.86
Very useful	26.87	21.57	29.41	22.22	24.14	25.58	7.69	42.86
Extremely useful	8.96	13.73	0.00	0.00	6.90	6.98	0.00	0.00
Overall statistics								
N	67	51	17	9	58	43	13	7
Mean	3.13	3.08	2.65	2.67	3.10	3.02	2.46	3.14
Median	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SD	1.04	1.18	1.12	1.12	0.95	1.08	0.97	1.07

Table C-5: Use and Usefulness of AWA for Diagnosing Writing Deficiencies by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	21.79	24.59	15.79	36.36	35.90	39.34	26.32	54.55
Rarely	21.79	22.95	47.37	18.18	15.38	16.39	36.84	9.09
Sometimes	32.05	29.51	15.79	27.27	32.05	31.15	31.58	9.09
Frequently	15.38	14.75	5.26	9.09	15.38	11.48	5.26	18.18
Always	8.97	8.20	15.79	9.09	1.28	1.64	0.00	9.09
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	2.68	2.59	2.58	2.36	2.31	2.20	2.16	2.18
Median	3.00	3.00	2.00	2.00	2.00	2.00	2.00	1.00
SD	1.23	1.24	1.31	1.36	1.15	1.14	0.90	1.54
% Usefulness								
Not at all useful	6.25	6.67	12.50	25.00	10.34	11.63	33.33	16.67
Not very useful	20.31	24.44	37.50	12.50	6.90	16.28	6.67	16.67
Somewhat useful	46.88	44.44	37.50	37.50	60.34	51.16	53.33	16.67
Very useful	17.19	13.33	12.50	12.50	20.69	18.60	6.67	33.33
Extremely useful	9.38	11.11	0.00	12.50	1.72	2.33	0.00	16.67
Overall statistics								
N	64	45	16	8	58	43	15	6
Mean	3.03	2.98	2.50	2.75	2.97	2.84	2.33	3.17
Median	3.00	3.00	2.50	3.00	3.00	3.00	3.00	3.50
SD	1.01	1.06	0.89	1.39	0.88	0.95	1.05	1.47

Table C-6: Use and Usefulness of AWA for Determining Pre-Enrollment Training by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	44.87	54.10	63.16	54.55	55.13	65.57	63.16	54.55
Rarely	15.38	21.31	15.79	18.18	10.26	9.84	15.79	18.18
Sometimes	24.36	13.11	15.79	9.09	24.36	18.03	10.53	9.09
Frequently	12.82	8.20	0.00	9.09	8.97	4.92	5.26	9.09
Always	2.56	3.28	5.26	9.09	1.28	1.64	5.26	9.09
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	2.13	1.85	1.68	2.00	1.91	1.67	1.74	2.00
Median	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SD	1.20	1.14	1.11	1.41	1.13	1.04	1.20	1.41
% Usefulness								
Not at all useful	30.19	40.00	60.00	28.57	29.79	30.30	66.67	20.00
Not very useful	11.32	20.00	10.00	28.57	14.89	30.30	11.11	20.00
Somewhat useful	43.40	25.71	10.00	28.57	46.81	24.24	11.11	40.00
Very useful	13.21	11.43	20.00	0.00	6.38	12.12	11.11	0.00
Extremely useful	1.89	2.86	0.00	14.29	2.13	3.03	0.00	20.00
Overall statistics								
N	53	35	10	7	47	33	9	5
Mean	2.45	2.17	1.90	2.43	2.36	2.27	1.67	2.80
Median	3.00	2.00	1.00	2.00	3.00	2.00	1.00	3.00
SD	1.12	1.18	1.29	1.40	1.05	1.13	1.12	1.48

Table C-7: Use and Usefulness of AWA for Placing Students into Courses by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	65.38	67.21	78.95	54.55	67.95	68.85	78.95	63.64
Rarely	20.51	19.67	15.79	18.18	11.54	13.11	0.00	9.09
Sometimes	5.13	3.28	0.00	9.09	16.67	14.75	15.79	9.09
Frequently	5.13	4.92	0.00	9.09	2.56	1.64	0.00	9.09
Always	3.85	4.92	5.26	9.09	1.28	1.64	5.26	9.09
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	1.62	1.61	1.37	2.00	1.58	1.54	1.53	1.91
Median	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SD	1.06	1.10	0.96	1.41	0.95	0.92	1.12	1.45
% Usefulness								
Not at all useful	40.91	41.67	70.00	28.57	40.48	34.38	55.56	20.00
Not very useful	25.00	30.56	10.00	28.57	30.95	43.75	44.44	40.00
Somewhat useful	25.00	19.44	20.00	14.29	19.05	12.50	0.00	0.00
Very useful	6.82	5.56	0.00	14.29	7.14	6.25	0.00	20.00
Extremely useful	2.27	2.78	0.00	14.29	2.38	3.13	0.00	20.00
Overall statistics								
N	44	36	10	7	42	32	9	5
Mean	2.05	1.97	1.50	2.57	2.00	2.00	1.44	2.80
Median	2.00	2.00	1.00	2.00	2.00	2.00	1.00	2.00
SD	1.08	1.06	0.85	1.51	1.06	1.02	0.53	1.64

Table C-8: Use and Usefulness of AWA for Advising on a Career Path by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	78.21	72.13	68.42	54.55	82.05	78.69	78.95	63.64
Rarely	19.23	22.95	21.05	27.27	14.10	14.75	15.79	9.09
Sometimes	2.56	4.92	10.53	18.18	3.85	6.56	5.26	27.27
Frequently	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Always	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	1.24	1.33	1.42	1.64	1.22	1.28	1.26	1.64
Median	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SD	0.49	0.57	0.69	0.81	0.50	0.58	0.56	0.92
% Usefulness								
Not at all useful	63.16	56.67	63.64	42.86	62.16	56.67	77.78	40.00
Not very useful	34.21	36.67	36.36	28.57	32.43	33.33	22.22	40.00
Somewhat useful	2.63	6.67	0.00	28.57	5.41	10.00	0.00	20.00
Very useful	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Extremely useful	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overall statistics								
N	38	30	11	7	37	30	9	5
Mean	1.39	1.50	1.36	1.86	1.43	1.53	1.22	1.80
Median	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00
SD	0.55	0.63	0.51	0.90	0.60	0.68	0.44	0.84

Table C-9: Use and Usefulness of AWA for Planning Programs and Courses by Program Type								
Use/Usefulness	Scores				Essays			
	FT	PT	EMBA	DOC	FT	PT	EMBA	DOC
% Use								
Never	61.54	63.93	73.68	63.64	70.51	70.49	68.42	63.64
Rarely	32.05	31.15	21.05	9.09	21.79	21.31	26.32	9.09
Sometimes	6.41	4.92	5.26	27.27	6.41	6.56	5.26	18.18
Frequently	0.00	0.00	0.00	0.00	1.28	1.64	0.00	9.09
Always	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overall statistics								
N	78	61	19	11	78	61	19	11
Mean	1.45	1.41	1.32	1.64	1.38	1.39	1.37	1.73
Median	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SD	0.62	0.59	0.58	0.92	0.67	0.69	0.60	1.10
% Usefulness								
Not at all useful	51.11	52.94	70.00	16.67	42.50	46.67	66.67	20.00
Not very useful	31.11	32.35	20.00	50.00	37.50	33.33	22.22	20.00
Somewhat useful	15.56	11.76	10.00	33.33	20.00	20.00	11.11	60.00
Very useful	2.22	2.94	0.00	0.00	0.00	0.00	0.00	0.00
Extremely useful	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overall statistics								
N	45	34	10	6	40	30	9	5
Mean	1.69	1.65	1.50	2.17	1.78	1.73	1.44	2.40
Median	1.00	1.00	1.00	2.00	2.00	2.00	1.00	3.00
SD	0.82	0.81	0.97	0.75	0.77	0.79	0.73	0.89

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