

## Curriculum Alignment: Exploring Student Perception of Learning Achievement Measures

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The importance of constructively aligned curriculum is well understood in higher education. Based on the principles of constructive alignment, this research considers whether student perception of learning achievement measures can be used to gain insights into how course activities and pedagogy are assisting or hindering students in accomplishing course learning goals. Students in a Marketing Principles course were asked to complete a voluntary survey rating their own progress on the intended learning goals for the course. Student perceptions of learning achievement were correlated with actual student learning, as measured by grade, suggesting that student perceptions of learning achievement measures are suitable for higher educators. Student perception of learning achievement measures provide an alternate means to understand whether students are learning what was intended, which is particularly useful for educators faced with large classes and associated restrictions on assessment. Further, these measures enable educators to simultaneously gather evidence to document the impact of teaching innovations on student learning. Further implications for faculty and future research are offered.

“Learning goals can be established at different levels in the education process. At the course level, faculty members normally have detailed learning goals, which are addressed via the course plan or syllabus. Course level assessments are each faculty member’s responsibility” (AACSB, 2007a, p. 4). Higher education researchers suggest that if we are to understand learning, a student’s viewpoint is important. As recommended by Pratt (1997), to understand the effects of teaching on student learning, educators must move beyond seeking to understand teacher and teaching method competence. Educators need to consider the students’ learning experience, as it is this that should guide course design. Methods that directly consider student perspectives on the activities of teaching and learning enable educators to develop a richer understanding of the contributions of various learning activities to the achievement of specific learning outcomes (Karns, 2005).

In addition to measuring student satisfaction with the quality of teaching received, Engelland (2004), consistent with the principle of constructive alignment, suggests educators need to evaluate whether students have learned what was intended. By seeking to understand student learning, higher educators can receive diagnostic information that can result in actionable changes. Researchers heeding this call (Rundle-Thiele, 2006) have demonstrated how student perceptions of their own learning achievement for course learning goals can provide insightful information to inform course development. While complementing course and marketing educator evaluations, student perceptions of learning achievement provide additional insight, allowing educators to understand a student’s perspective of

which learning goals are being met and which learning goals can be improved.

We acknowledge that student perceptions are not the only means available for faculty members seeking to understand whether students are learning what is intended. Marketing faculty can evaluate whether students have learned what was intended via assessment, such as marking student papers or reviewing quiz responses. However, large class sizes can prevent such assessments from being made due to institutional, faculty, or department restrictions on the number of assessment items or the amount of time allocated per student for marking. Indeed, large classes present many challenges (c.f. Davis, 2007). Alternate measures are required for higher educators dealing with course enrolments that number in the hundreds and even thousands. Therefore, it is important to know if student perceptions of learning achievement are suitable measures to consider student learning at a course level. The current paper reports research that relates student perceptions of their learning achievement for intended learning goals to actual student learning for a first year Principles of Marketing course in a public University. This research will assist us to understand whether student perception of learning achievement measures should be considered by higher educators.

### Literature Review

There is significant debate in the higher education literature concerning the most effective way for students to learn and the role of higher educators in the learning process (e.g. Allan & Clarke, 2007; King, 1993). Biggs (2003) has been influential in the field of higher education with his work in the area of what he

calls 'constructive alignment.' The basic premise of constructive alignment is that the curriculum is designed so that the learning activities and assessment tasks are aligned in order to support students to attain the goals intended for the course. This concept considers students to be responsible for their own learning. In fact, Chonko (2003) advises that the most important thing higher educators can do is persuade students to take full responsibility for their own education. This requires their active participation to manage the process (Loranger, 1994). If students construct their own learning, then it makes sense that the real learning can only be managed by them. In light of this view, the higher education literature (e.g. King, 1993) prefers educators to think of themselves more as 'guides on the side, not sages on the stage.' This role leaves educators in charge of coordinating the activities required to facilitate the learning experience and adopting the necessary supportive learning strategies.

Learning outcomes are typically defined as behaviors that students can perform after the learning has taken place. As a starting point, higher educators can align their courses by determining what the students must become able to do. In practice this can be a difficult task. Research into learning outcomes has identified that business students perceive interpersonal skills, leadership, and global economy issues to be most important (Duke, 2002), while practitioner's value creative thinking as well as communication, interpersonal, leadership and teamwork skills (Carnevale, Gainer & Meltzer, 1990; Kelley & Gaedeke, 1990). Marketing faculty on the other hand consider a number of other skills to be important, such as management (decision-making and leadership), cognitive (problem-solving and critical thinking), communication, bridging (cross-cultural competence and foreign language), and interpersonal skills (which they rank as being more important than do practitioners) (Hyman & Hu, 2005). Decisions concerning learning outcomes should consider multiple viewpoints including educator, practicing marketer, and student views, in addition to other stakeholders (for example parents and society as a whole). Multiple perspectives are required since education serves multiple customers (Bayer, 1996).

Once the required learning outcomes are determined, higher educators then develop learning goals, usually stated as course aims and objectives, to achieve the desired outcomes. Learning goals are established at different levels in the educational process (AACSB, 2007b). At the course or topic level, faculty members normally have very detailed learning goals. Without clear goals and tasks, students will probably lack the willingness to apply effort (Archer & Schevak, 1998; Campbell & Campbell, 1988). Setting clear expectations, however, provides alignment between the

objectives intended by the instructor and the inputs and outcomes sought for the student (McKone, 1999). Research shows that clearly stated goals that emphasize learning, as communicated through course aims and objectives, can increase intrinsic motivation (Stipek, 1996; Young, 2005), enhance performance (Campbell & Campbell, 1988), and improve perceptions of instructor effectiveness (McKone, 1999).

Next, teaching and learning activities must be designed to enable students to achieve the intended learning goals. O'Toole, Spinelli and Wetzel's (2000) study illustrates that students as well as educators feel the delivery of material is an important learning dimension. Young (2005) advises that an active application-oriented experience, delivered by enthusiastic faculty who provide high interaction and supportive feedback, is important. Karns (1993) found the use of guest speakers in lectures to be students' most preferred learning activity, followed by class discussions. His follow-up study (2005) revealed multiple-choice tests and field trips to be most important, with internships, class discussion, and case analysis identified by students as activities that contribute most strongly to learning. Young, Klemz, and Murphy (2003) found that student learning outcomes (e.g. actual grades and self reported learning) improve when students prefer the learning activities. Overall, a variety of tasks are needed to enhance student motivation, learning, engagement, and satisfaction (Ames, 1992; Blumenfeld, 1992; Lengnick-Hall & Sanders, 1997; Yair, 2000). A good deal of research exists to assist educators in designing teaching and learning activities.

The final step to determine if a course is successfully aligned requires faculty members to evaluate whether students have learned what was intended. While prior research has considered student perceptions of learning, researchers have not focused on measuring student perceptions of learning achievement for stated course learning goals. Maher and Shaw Hughner (2005), for example, considered student perceptions of their learning to compare simulated and real client assessment items, finding no (statistically) significant difference in student perceptions for the activities considered. Young et al. (2003) considered the simultaneous effects of multiple influences on three learning outcomes including student grades, self reported learning, and pedagogical affect.

The higher education literature acknowledges the importance of constructive alignment to inform course design and redesign, but a review of the higher education literature suggests that a study has not been conducted to measure student perceptions of learning achievement for course learning goals. Further, no study appears to have been conducted in the marketing domain to understand whether student perceptions of

learning can be used as a surrogate for measuring actual learning. Young et al. (2003) investigated the effects of learning styles, instructional technology, instructional methods, and student behavior on learning outcomes including students' perceived learning performance, pedagogical affect, and grade, but even here the relationship between students' perceptions of learning achievement and grade earned was not examined.

This research responds to several gaps in the literature. The current study seeks to address two aims. First, it seeks to understand whether students have learned what was intended in a Marketing Principles course, using student perceptions of learning achievement as a measure. Second, the study considers whether student perceptions of learning achievement for course learning goals can be considered as a measure of student learning at the course or single-topic level. We present the methodology next.

### Method

Mark spreadsheets and a student perception survey were the two sources of data used to explore student perceptions of learning achievement measures in Principles of Marketing, a core course offered at an Australian public university. This course had a sixteen-week duration, with contact options for students that comprised thirteen two-hour lectures, ten one-hour tutorials, and a one-hour essay-writing workshop. Four assessment items were set for the course, including two group oral presentations, an individual essay, and a final exam. The course is explained in detail in Rundle-Thiele and Kuhn (2008). Consistent with University policy, student marks for each of the four assessment items were recorded in an Excel spreadsheet for the purpose of calculating an overall grade for the course.

A questionnaire based on recommendations by Pratt (1997) was distributed in lectures in the second-last scheduled teaching week of the semester. The questionnaire contained one seven-point item for each course goal. Students were asked to rate their progress for each course learning goal using a 7-point nominal scale where zero was none, one was little and six was extraordinary progress. Students had received feedback on their first three assessment items at the time of rating (individual written feedback was provided for each piece of assessment). Completion of the questionnaire was voluntary. Further, students were not required to provide their student identification numbers, which permit students to be personally identified. (Because the researchers were teaching the course, students were allowed the option to withhold their student identification number.) Where provided by respondents, these were used to link data collected in the survey to the students' grades.

Nine intended learning goals guided the design of the constructively aligned Principles of Marketing course. These are summarized in Table 1.

### The Student Sample

One thousand and seventy-eight (1078) students were enrolled in the first-year Principles of Marketing course on two geographically separated campuses. Of the 1078 students enrolled, 1034 received grades. The remaining 44 students either formally withdrew from the course or failed to submit any pieces of assessment (indicating their withdrawal). Surveys were distributed to all students, and a total of 325 learning perception surveys were returned, representing a 31.4% response rate. Of the returned surveys, 51 did not provide their student identification number, which precluded these 51 cases from inclusion in categorical regression analysis ( $n=274$ ). Independent t-tests were conducted to determine if there were differences between the two campuses in terms of student grades and student perceptions of learning achievement. No significant differences were found so results are reported for all students in the course.

### Data Analysis

Learning goals are established at different levels in the educational process (AACSB, 2007b), including course or single topic level and faculty level. At a course level, actual learning can be measured using: 1) individual assessment items, 2) course grades, or 3) student self-reports of their own performance. Course grades have been used in other studies (e.g. Brokaw & Merz, 2000; Devadoss & Foltz, 1996; Mattern, 2005; Romer, 1993; Young et al., 2003), while self reported measures of learning have been used to a lesser extent (Maher & Shaw Hughner, 2005; Young et al., 2003). "Course grades, by intentional design, measure student learning associated with content and activities specific to a course" (AACSB, 2007a, p. 12). In this study, actual student learning was measured using course grades for two reasons. First, course grades have been used most frequently by education researchers. Second, the course was constructively aligned, with marking criteria linked to each learning goal. Students could earn a maximum of between eight and twelve marks for each learning goal.

Categorical regression analysis was used to consider whether student perceptions of learning achievement are related to actual learning, as measured by student grade. Categorical regression analysis was the most appropriate method of analysis because actual learning measured by student grades - a categorical dependent variable - may be related to student perceptions of learning achievement, which was

Table 1  
Intended Learning Goals and Assessment Methodology

Learning goals	Assessment Items 1 and 2 (15% each):	Item 3 (30%):	Item 4 (40%):
	Group assessments (4-5 students) involving a 5 minute oral presentation to pitch the idea developed. Ideas had to be based on market insights gained through research Team Problem 1: Develop a beer concept that would appeal to 18 to 25 year olds Team Problem 2: Develop an advertising concept to reduce electricity demand in peak demand periods	Individual essay – 1,500 words	Individual exam – 2 hours, 5 short answer questions and one case study with three questions (all questions compulsory)
1. Demonstrate awareness that marketing thinking starts and ends with customers.	Students had to develop a solution for the problem at hand that was based on market needs and wants.		
2. Appreciate the responsibilities of marketers in our society.		Students had to decide whether marketers were responsible for the way alcohol is consumed	
3. Demonstrate an understanding of the importance of market research in the marketing process.	Teams were encouraged to use primary or secondary data to research the problem at hand.		One question was set in the exam to assess student understanding of the importance of market research in the marketing process.
4. Appreciate the role of marketing in business.			One question was set in the exam to assess student understanding of the importance of marketing in firm performance.
5. Analyze and evaluate marketing opportunities.	Teams had to use their data sources to identify an opportunity to solve the problem at hand.		Students were presented with a case study. Students had to analyze the situation presented in the case.
6. Critically evaluate, at a basic level, marketing issues and the marketing literature.		Students had to use five peer reviewed journal articles to justify their point of view.	Students had to determine whether a market existed for a service. The case was presented in such a way that students could argue for or against market entry. Their answers had to be justified using data from the case.
7. Formulate, at a basic level, innovative solutions to solve marketing problems.	Teams had to develop an innovative solution to solve the specified marketing problem e.g. develop a product concept or an advertising story board.		Students had to present a strategy overview to guide the service concept that would be used to enter the competitive marketplace presented in the case.
8. Use oral skills to persuade a target audience.	Teams had 5 minutes to present their solution. Students voted for the best concept developed.		
9. Participate as an effective member of a team.	Students were placed in teams of up to 5. Team members had to work together to solve a problem. Effective teams earned higher marks.		

measured as a nominal variable in this study. Categorical regression mirrors conventional multiple Ordinal and nominal variables can undermine traditional regression. For ordinal variables the scale is arbitrary, and different scales yield disparate findings. For nominal variables, the output is difficult to interpret and may not provide information

regression. Categorical regression can be used when a study contains nominal and ordinal variables. about all of the relevant comparisons. When categorical regression is used, the researcher does not need to recode categorical variables into binary variables. In categorical regression (called CTAREG in SPSS), nominal and ordinal variables are

effectively transformed into interval variables. Multiple regression analysis is then applied to these transformed variables.

**Results**

This section commences by presenting descriptive statistics relating to student perceptions of learning achievement for course learning goals and actual learning judged from student grades. The results of the categorical regression analysis are then presented.

**Student Perceptions of Their Own Progress and Student Grades**

The learning goals for the Principles of Marketing course are summarized in Table 2, along with student perceptions of their progress on each of these goals.

One-half of students perceived excellent to extraordinary progress on stated course goals relating to team participation and the importance of market research in the marketing process. Around three-quarters of students felt they had made good to excellent progress in appreciating the role of marketing in business, the societal responsibilities of marketers, and the concept that marketing thinking starts and ends

with customers. In general, students who completed the learning survey perceived they had made good (median=4) progress on the stated course goals. These results indicate that, overall, students perceive there is considerable room for improvement to attain excellence. These perceptions are mirrored in the grades assigned to students, with only 11% of students achieving a grade of ‘distinction’ (U.S equivalent B to C+), or ‘high distinction’ (U.S equivalent A+ to B+). Student performance in the course (measured by grade) is presented in Table 3. This table also indicates how the Australian grade scale is aligned with the U.S grade scale.

Eleven percent of students achieved a high distinction (HD) or distinction (D) in the course, 36% received a credit (C), 41% a pass (P) or pass conceded (PC), while 9% of students who enrolled failed. A further 4% deferred the exam, had their results withheld, withdrew from the course, or failed as a result of non-submission of assessment. The marks indicate that three-quarters of students in the Principles of Marketing course gained a credit or pass. Overall, this suggests the majority of students demonstrated an adequate or high-level understanding, with a smaller proportion (11%) demonstrating a complete and comprehensive understanding.

Table 2  
Student Perceptions of Learning  
Achievement for Course Learning Goals

Course Learning Goals	Learning Perceptions (Perceived Progress)							Median
	Extraordinary	Excellent	Good	Average	Some	Little	None	
Demonstrate an awareness that marketing thinking starts and ends with customers	7%	29%	42%	18%	3%	1%	-	4
Appreciate the responsibilities of marketers in our society	2%	24%	50%	16%	6%	2%	-	4
Demonstrate an understanding of the importance of market research in the marketing process.	12%	38%	34%	13%	3%	-	-	4
Appreciate the role of marketing in business	6%	34%	41%	13%	5%	1%	-	4
Analyze and evaluate marketing opportunities	2%	16%	43%	30%	7%	2%	-	4
Critically evaluate, at a basic level, marketing issues and the marketing literature	1%	13%	43%	32%	9%	2%	-	4
Formulate, at a basic level, innovative solutions to solve marketing problems	-	16%	47%	27%	7%	3%	-	4
Use oral skills to persuade a target audience	7%	20%	37%	27%	7%	2%	-	4
Participate as an effective member of a team	14%	36%	34%	13%	2%	-	1%	4

Table 3  
Student Grades for the Principles of Marketing Course

Grade	Proportion of students receiving grade	Mark cut-offs	US equivalent
High distinction	2%	85-100%	B+ to A+
Distinction	9%	75-84%	C+ to B
Credit	36%	65-74%	D to C-
Pass	39%	50-64%	D-
Pass Conceded	2%	48-49%	F
Fail	9%	Less than 48%	F
No result	3%		

n=1034

**Do students' perceptions of learning achievement measure learning?** The data were analyzed using categorical regression, using as regressors the students' perceptions of learning achievement for each stated course goal (perceptions one through nine). The results of the categorical regression analysis are presented in Table 4. All nine student perceptions of learning achievement measures have a significant impact on student grade ( $p=0.05$  or less). Our results indicate that 27% of the variance in grade is explained by student perceptions of learning achievement for the nine stated course learning goals ( $R^2 = 27\%$ ,  $F = 2.041$ ,  $p < 0.00$ ). The magnitude of the  $R^2$  is consistent with prior studies (see Note 2 in Young et al., 2003, p. 143).

According to our results, learning goal 3 – demonstrate an understanding of the importance of market research in the marketing process – was the most important learning goal. The standard coefficient (Beta) for learning goal 3 was 0.278. Increasing learning goal three by 1 point on the scale while holding the other learning goals constant would increase the standard deviations of grade achieved by 0.278 (3%). It is interesting to note that some learning goals (goals 4, 6, 7 and 8) were negatively related to grade in this course.

As we would expect, multi-collinearity among the nine independent variables is evident (see collinearity statistics). Of the nine variables in the equation, two have tolerance values just under 0.50, indicating that half of their variance is accounted for by other variables in the equation. Multicollinearity reduces the overall  $R^2$  that can be achieved and hence the predictive ability. However, our purpose is not to predict student grades. Rather, our purpose was to consider whether student perceptions of learning achievement can be used to judge student learning. The multiple R was 0.45, suggesting that the dependent variable, namely student grade, is moderately associated with the combined effects of the independent variables, namely the nine student perceptions of learning achievement. These results

suggest that student perceptions of learning achievement for course learning goals may be used as surrogate measures of actual student learning for higher educators seeking insights into student progress during the term. It is important to note at this juncture that we do not expect self-report measures to be entirely predictive of student grades.

**The relationship between self report learning measures and grades.** Prior research (e.g. Clayson, 2005; Kennedy, Lawton & Plumlee, 2002) indicates that students tend to overestimate their performance. Kruger and Dunning (1999) suggest that students are not able to estimate their own performance because they are not yet fully informed and hence are unable to make an informed judgment about their ability. While student perceptions of learning achievement can explain some of the variance in actual student learning measured by course grade, the perceptions can not be thought of as sole predictors of student grades. We expect this result for two main reasons.

We expect that success in a University course is a complex phenomenon likely to be driven by a myriad of variables, many of which probably interact with each other. Indeed, research seeking to predict success in tertiary study highlights the importance of many variables. Pre-enrolment performance measures or tertiary entrance scores (McKenzie & Schweitzer, 2001), language ability for foreign students (Spinks & Ho, 2004), the choice to perform, level and persistence of effort (Campbell & Campbell, 1988), the level of financial assistance and student work/life pressures (McKenzie & Schweitzer, 2001; Young et al., 2003), supportive class behaviors (Young et al., 2003), teaching strategies, and student approaches to study have all been identified as key factors that can predict success (or course performance) at the university level. Therefore, while we expect that student perceptions of whether they have learned what was intended may assist in explaining student performance in a course, we do not expect these perceptions to explain grades in isolation.

Table 4  
Categorical Regression Analysis

	Regression Coefficients		Statistical Significance		Collinearity Statistics	
	Beta	Std. Error	t	Significance	Tolerance	VIF
Demonstrate an awareness that marketing thinking starts and ends with customers	.199	.060	10.980	.000	0.55	1.81
Appreciate the responsibilities of marketers in our society	.137	.061	5.107	.000	0.54	1.85
Demonstrate an understanding of the importance of market research in the marketing process	.278	.062	20.226	.000	0.54	1.85
Appreciate the role of marketing in business	-.238	.059	16.318	.000	0.51	1.96
Analyze and evaluate marketing opportunities	.095	.060	2.490	.044	0.54	1.85
Critically evaluate, at a basic level, marketing issues and the marketing literature	-.180	.059	9.346	.000	0.49	2.04
Formulate, at a basic level, innovative solutions to solve marketing problems	-.197	.060	10.738	.000	0.45	2.22
Use oral skills to persuade a target audience	-.421	.063	45.375	.000	0.69	1.44
Participate as an effective member of a team	.158	.058	7.361	.000	0.74	1.35

n=274

Dependent Variable: Grade ( $R^2 = 0.27$ )

Further, the moderate explanatory capability of the nine learning goals may suggest the course goals are not sufficiently aligned with the teaching and learning activities occurring in the course. In response to the question, 'What else have you learned in this course?' students noted additional learning achievements. They commented that they had learned something about different industries in teaching and learning activities; that marketing can be adapted in every business; marketing is everywhere; marketing influences their own lives; and that developing effective marketing strategy is significant for business performance. This suggests that a review of the learning goals for the course is warranted in order to more closely align teaching and learning activities with the learning achieved by students.

It is important to note at this point that the purpose of our paper was not to predict actual student learning as measured by grades. We sought to consider whether student perception of learning achievement can be used by higher educators. We recommend the use of student perception of learning achievement for two main purposes: 1) as a means for higher educators to document their teaching effectiveness for teaching award submissions and annual performance reviews, and 2) to highlight the effectiveness of course activity and pedagogical changes on student learning by benchmarking on previous offerings or against peers. Additionally, student perception of learning achievement measures can be used during term for faculty who need a quick diagnostic to assess the progress of their students on stated course learning

goals. Some faculty, particularly those charged with the responsibility of large classes and assessment number restrictions, may require additional means to understand if students are learning what was intended (Biggs, 2003).

### Limitations and Future Research Directions

The results of the current study must be viewed in light of some key limitations. First, this study reports on one first-year Marketing course in one Australian public university. More evidence is needed to draw a definitive conclusion. Second, the student perceptions of learning achievement were measured using a nominal scale recommended by Pratt (1997). This scaling system involves scale point descriptions, which are not clear progressions along a scale. In this paper, student perceptions of learning achievement were treated as a nominal variable with separate perception categories. Future research is required, with scale improvements called for, to enhance our analytical capabilities. Analysis was restricted in the current paper by the nominal scale. Third, our university mark system required marks to be entered for each assessment item overall, so we did not enter marks at the criterion level. This level of marks entry would have allowed us to judge actual student learning for each of the nine course goals, enabling a more detailed assessment to be made concerning the appropriateness of student perceptions of learning achievement.

The results of this study must be viewed in light of the fact that, generally, students perceived an average

performance, which was reflected in student grades. A lower proportion of high achieving students occurred in the course (e.g. 11%) when compared to typical grade distributions (25% of students achieving 75% or higher is considered normal). A further limitation is the timing of the survey. Student perceptions of learning achievement were measured in Week 12 of the course, a little over two weeks prior to the final exam. It is likely that additional learning occurred during study for the examination and following its completion, when answers to questions were compared with peers and grade feedback was supplied. This additional learning would have improved students' ability to judge the learning achieved for the course. Administration of the perception survey at a later point is likely to result in different learning perceptions. A final limitation of this study is that perceptions were measured at one point in time (toward the end of the course). There is a slim possibility that student perceptions may not have varied as a result of taking the Principles of Marketing course. It may be more appropriate to measure perceptions at two or three points in time during the course to identify the degree of change (and hence learning) that students perceive they have attained. If students do not perceive a change, then student perceptions of learning achievement are likely to be of limited use for higher educators.

Further opportunities to extend our understanding of the relationship between student perceptions of learning achievement and actual learning are available. First, refinement of the measures utilized in this study is warranted, with attention to the scale categories recommended. At a minimum, ordinal scales are required to permit the use of different types of analyses. Our paper was concerned with understanding learning at a course level. Future research is recommended to understand course learning at an individual level. To do this, researchers would need to compare student perceptions of learning achievement with actual student performance for each stated course goal. To do this, criterion-based assessment would be necessary, with marks recorded at the criteria level. MANOVA could then be used to provide a more robust test for the ability of student perceptions of learning achievement to act as a surrogate for actual student learning. In the analysis, the dependent variables would be actual student performance for each stated course goal (with marks summated for relevant assessment item criteria). The independent variables would be student perceptions of learning achievement for each course goal.

Third, an understanding of student perceptions of their marketing knowledge at the start of the course is warranted. Marketing is taught in high schools, and some students may have been exposed to key marketing theories prior to enrolling at a university. Students with prior marketing knowledge may learn differently than

students who have no prior marketing exposure. Finally, further consideration of the student population would provide greater insight. For example, students electing to study the course may have different perceptions of learning achievement than students who are required to study the course.

### **Implications for Higher Educators**

Student learning is a complex phenomenon and learning goals must be established at different levels in the educational process, from single-topic to course, minor, major, and finally program level. This paper considered student learning at the course level, where nine goals were set to guide student learning in the course. Our findings have important implications for higher educators and their course learning goals. Each implication will now be discussed in turn.

Higher educators requiring interim measurement of student learning during a course term can use student perceptions of learning achievement measures. Measures of student perception of learning achievement can provide insights into the learning goals that require further emphasis. In this study, student perceptions of learning achievement highlighted that students on average perceived they could improve their ability to analyze and evaluate marketing opportunities, critically evaluate marketing issues and the marketing literature, formulate innovative solutions to solve marketing problems, and use oral skills to persuade a target audience. These insights suggest that more emphasis needed to be placed on these learning goals for actual learning to be improved. Measurement of student perceptions of learning achievement can occur in class, taking no more than five to ten minutes of student time, but it provides instant feedback for higher educators. Those who choose to implement measures of student perceptions, however, must take caution when reviewing student perception results. Students tend to overestimate their performance (c.f. Clayson, 2005; Kennedy et al., 2002), and higher educators must review results keeping this 'overestimating bias' in mind.

Student perceptions of learning achievement can be used to judge the impact of teaching innovations or assessment changes on student learning between course offerings. This can assist marketing faculty to judge whether changes to a course are likely to improve student learning, thus providing an additional measure to support teaching innovations. For example, Rundle-Thiele (2006) considered the impact of assessment changes on student perceptions of learning and found that the use of active learning pedagogies improved MBA student learning on five out of six stated course learning goals. Students perceive some teaching innovations negatively for reasons such as increased

workload and difficulties associated with the task, resulting in lower teaching ratings for marketing faculty. Alternative measurements, such as measures of student perceptions of learning achievement, offer a different metric to judge the impact of teaching innovations, or assessment changes, for course assessment. If teaching ratings fall as a result of a teaching innovation, but student perceptions of learning achievement rise, marketing faculty can demonstrate merit for the change.

The theory of constructive alignment (see Biggs, 2003) should be considered by higher educators in course design. This paper reports a constructively aligned Marketing Principles course. Table 1 summarized the nine learning goals, indicating how each learning goal was assessed. The use of criterion based assessment (Sadler, 1996) enabled marks to be assigned to each learning goal, thereby encouraging student effort for each goal. Higher educators recording marks for each individual criterion can directly assess actual student learning for each course learning goal. In our case, students could receive a maximum of eight to twelve marks for each of the nine learning goals.

Finally, these results indicate that the measurement of student performance by grades is a complex phenomenon. Grades in a marketing course are influenced by factors both inside and outside of the classroom. Higher educators are unable to control many of the factors influencing student achievement. Those seeking to understand how they can enhance actual student learning are encouraged to gain background information on their students to understand student commitments, study habits, and preferences, in addition to measuring student perceptions of learning achievement. This information will assist higher educators in developing a series of guidelines and recommendations to promote awareness of the requirements for academic success in marketing.

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