

## **The Potential of “Extra Credit Pop Quizzes” in University English Language Instruction in Italy**

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### **Abstract**

This article reports the results of a classroom experiment on the effects of *extra credit pop quizzes* on course attendance, classroom participation, and successful course completion. In response to low and sporadic attendance and a high fail rate within the context of an English for Specific Academic Purposes (ESAP) course at an Italian university, an extra credit scheme was devised in an attempt to increase and stabilize attendance and participation and lower the fail rate. The aim was to accomplish these goals without augmenting learning objectives and assessment criteria, lowering educational standards, or causing grade inflation. The results indicate that such a reward scheme can improve regular attendance, active participation, and the overall pass rate for a course, without the common drawbacks associated with extra credit. There was however no indication of an increase in average performance and there is some doubt regarding the effect that attendance and pop quiz performance had on performance on end-of-course assessment. It also remains uncertain if the students were merely responding to the novelty of “extra credit” and “pop quizzes”, which are not common practices in Italian higher education, and whether these effects could be sustained. Several other challenges, such as increased workload for the instructor and less individualized feedback for students, arose as a result of increased attendance.

*Keywords:* extra credit pop quiz; motivation; continuous assessment; English for Specific Academic Purposes, ESP, higher education.

### **Introduction**

#### **The challenges of teaching English as a Foreign Language at Italian universities**

Most university degree programs in Italy have two language requirements for graduation: 1) the passing of general language proficiency exams, which certifies the achievement of a

minimum CEFR (Common European Framework of References for Languages) level, and 2) the passing of language courses integrated into degree programs curricula.

To this end, there are three broad categories of language courses common across the Italian higher education system:

- 1 *Corsi d'insegnamento ufficiali* (direct translation: “official teaching courses”) are required lectures or seminars on formal linguistic features of the language or specific language skills (also English for Specific Purposes or English for Academic Purposes) which award academic credit within a degree program upon the passing of an *esame ufficiale* (“official exam”) and are therefore organized directly by the degree program.
- 2 *Esercitazioni* are practical “exercise” courses which often complement a lecture course and give students the opportunity to apply and practice the target language and skills covered in the lectures in smaller classes, but which do not offer academic credit at all institutions and may therefore be organized directly by the degree program or in collaboration with an independent university language center.
- 3 *Corsi di lingua* (“language courses”) are optional courses, typically offered by a language center for the entire university community, which primarily serve to increase general language proficiency, often in preparation for obligatory language proficiency exams which certify university or degree general language requirements for graduation, where the courses themselves rarely offer academic credit, but the exams do offer credit at many universities.

All universities in Italy have minimum language requirements for graduation and most undergraduate degree programs offer some combination of the aforementioned typologies of language courses and exams. The context of this study was a *corso d'insegnamento ufficiale* with an *esame ufficiale*.

In my experience, the principal challenges faced by language instructors assigned a *corso d'insegnamento ufficiale* within the Italian higher education system are associated with standard university regulations and guidelines, Italian university tradition and culture, and high student-to-teacher ratios. The purpose of these language courses is to facilitate the acquisition of a set of skills and/or knowledge about the language, often at a particular CEFR level, where these specific objectives are predetermined by the degree program and/or the instructor. Meeting these objectives can be challenging due to the facts that 1) it is common at both large and small universities for one hundred or more students to be placed in such a course, and 2) the Italian system is, traditionally, structured for *teaching to the test*. Italian university students technically do not enroll for required degree courses, as is the case in other countries; rather they are only obliged to enroll for, to attend, and to pass the associated *esami ufficiali*, which in most cases consist entirely of high-stakes end-of-course exams. Within the Italian university system, descriptions of degree programs, catalogues of course offerings, and student transcripts tend to list *esami ufficiali* rather than the *corsi d'insegnamento*. In fact, course attendance and participation is explicitly optional according to the regulations of most universities. In my experience, many students arrive at the first

lesson of the semester with the expectation that the instructor will outline the structure and content of the course assessment and offer detailed study tips so that they can “study for the exam” on their own.

In addition, university students are allotted two or more attempts to pass each of their exams per academic year, and can simply repeat the exam the next year if they fail all their attempts—albeit possibly with a new instructor, syllabus, and/or assessment procedure. A further challenge is that while all universities have language proficiency requirements for matriculation, there is often a large gap between the minimum proficiency required for enrollment and the minimum proficiency students are required to demonstrate to pass the language exams required by their degree programs; yet there are rarely pre-requisites or formal placement tests for most *corsi d'insegnamento* offered within degree programs although many universities do have language proficiency requirements and pre-requisite courses to enroll for the *esami ufficiali* for language courses. These challenges, in my opinion, are compounded by the fact that a large number of the instructors of these courses work as *professori a contratto* (the Italian equivalent of adjuncts), who are regarded as *esperti esterni* (“external experts”) with near complete freedom in course and assessment design, but limited voice in larger curricular decisions and burdensome teaching loads, also at other institutions.

The Italian higher education context is not always conducive to the use of prevailing language teaching methodologies. It tends to over-emphasize testing while de-emphasizing the role of teaching, thereby resulting in negative washback. *Corsi d'insegnamento* tend to serve many students with dissimilar language proficiencies, and instructors are rarely able to learn all the students' names, let alone adapt the course to their disparate learning needs. The learning objectives are ultimately based upon the catalogue objectives of the degree program or the current teaching and research interests of the instructor, and rarely the dynamic needs of the students themselves. In most cases, the instructor has little idea of learner progress and there are few opportunities for any form of feedback until after the final exam has been marked. Within this context, the language instructors often adopt a teacher-centered approach that resembles a lecture or exam preparation course; learner motivation can rapidly decline as indicated by rapidly declining and sporadic course attendance and participation; and many courses end with disconcertingly high fail rates during the first exam session. At many Italian universities, only a minority of students take advantage of the optional *esercitazioni* or *corsi di lingua* intended to support exam preparation and/or general language acquisition, and the *corsi d'insegnamento* therefore serve as the primary language learning activity for most students not majoring in foreign languages and literatures. The net result is that many students continue to take the exam, without putting forth actual effort to learn until they eventually “get lucky” and pass (for a further discussion see Ennis, 2015, pp. 373-376).

### **English for Tourism Studies at the Free University of Bozen-Bolzano**

The specific teaching context of this study was a *corso d'insegnamento* on English for Tourism Studies required during the first semester of an undergraduate degree program in Tourism, Sport, and Event Management (TSE) at the Free University of Bozen-Bolzano (unibz) in northern Italy. The unique characteristic of this context, in comparison to other Italian

universities, is that unibz is comparatively small in size and trilingual. Approximately 50% of the courses in the TSE degree program are conducted in English, 25% in German, and 25% in Italian. The 30-hour course, worth three *crediti formativi universitari* (university credit hours, where each credit hour entails approximately 25 hours of coursework, including summative assessment), is thus conceptualized as an English for Specific Academic Purposes (ESAP) course, which teaches and assesses English language skills necessary for studying in the program at the B2+ level.

Despite the small size of the Free University of Bozen-Bolzano and the TSE program in particular in comparison to similar programs at other Italian universities, the English for Tourism Studies course has served as many as 130 students per offering in recent years, with 90 or more of these students attending at least one lesson during the semester. Students in the program have above average English proficiency at matriculation (three-fourths of new students enter with at least B2 certification), but there is variance in proficiency (course participants range from A2 to C2), and even the most proficient students tend to lack the necessary academic speaking and writing skills and the field-specific lexis (see Ennis, 2015). Students also enter with high levels of intrinsic and instrumental motivation to improve their English (as measured by needs analyses, see Ennis, 2015), but motivation to complete the course rapidly declines after the initial lessons (as measured by class attendance and participation). Figure 1 plots the attendance rate per lesson during the 2012-13 ( $N = 90$ ) and 2013-14 ( $N = 88$ ) academic years as a percentage of all students who attended at least one lesson during the semester, clearly depicting a similarly sharp and volatile downward trend in both years.

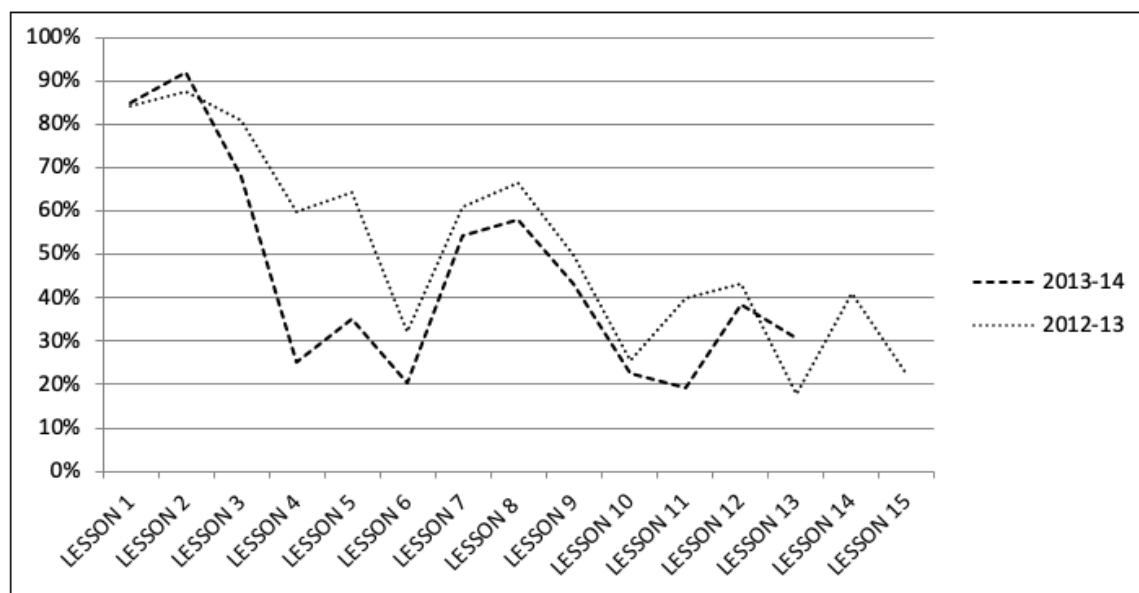


Figure 1. Attendance rate per lesson\*

\*Exact attendance was not recorded for the final two lessons during the 2013-14 academic year, during which students engaged in exam review and practice. Between 20 and 30 students attended both lessons. Had this data been accurately recorded, it would have reduced

the average attendance rate for that cohort, thereby increasing the statistical significance of the results presented below.

The academic years 2012-13 and 2013-14 were not chosen at random to illustrate the typical decline in attendance during the course. There were in fact two important changes to the course offered in 2013-14. The first was that the instructor required students to pass a reading, grammar, and vocabulary module of the exam before being admitted to the writing component, and then required the students to pass the writing component in order to be admitted to the oral exam, whereas in the previous two years students were only required to earn a passing average score on the first two components in order to proceed to the oral exam. This adaptation was made in response to the facts that academic writing had been identified as the most important English language skill within the degree program and that a large number of students were failing the writing component but still passing the course (Ennis, 2015).

The second change was that in response to student complaints, the degree program lowered the pre-requisite to enroll for the exam from documentation of general English proficiency at the B2 level in 2012-13 to B1 in 2013-14. This change was rooted in the misconception among students that the aim of the course was to develop general English proficiency, instead of specialized academic skills. The result of relaxing the requirement was a greater number of overconfident but underprepared students being admitted to the exam. Table 1 presents the slight decrease in average course attendance, the noticeable increase in exam attempts for the first exam session, and the large drop in the pass rate for the first session from 2012-13 to 2013-14, despite the relatively stable number of attending students.

Table 1. *Effect of changes in assessment procedure and exam enrollment pre-requisite*

Academic Year	Attending Students	Average Student Attendance Rate	Exam Attempts	Course Pass Rate
		<b>51.9%,</b>		<b>83.6%,</b>
<b>2012-13</b>	<i>N</i> = 90	95% CI [47.4%, 56.4%]	<i>N</i> = 61	95% CI [ <i>w</i> =71.5%, <i>w</i> <sup>+</sup> =91.5%]
		<b>45.6%,</b>		<b>53.9%,</b>
<b>2013-14</b>	<i>N</i> = 88	95% CI [40.8%, 50.4%]	<i>N</i> = 76	95% CI [ <i>w</i> =42.2%, <i>w</i> <sup>+</sup> =65.3%]

## A Classroom Experiment with Extra Credit Pop Quizzes

The common solution to low attendance and participation adopted by Italian university professors—that is, when it is not simply accepted as the norm—is to divide classes into “attending” and “non-attending” students and then offer attending students the opportunity to complete graded assignments during the semester as part of their course assessment. University regulations, however, dictate that all students must be assessed in the same manner, including working students, part-time students, students engaged in internships or foreign exchange, etc. Therefore, many professors at unibz give attending students a midterm exam during the semester and a final exam during the exam session, while non-attending students complete both exams during the exam session. Given that the English for Tourism

Studies course consists of only 30 instructional hours and because of the issue with course attendance and participation, it was decided to conduct an experiment with extra credit pop quizzes during the 2014-15 academic year rather than dedicating an entire lesson to a midterm exam. [1] The purpose of the experiment was to test the effect of extra credit pop quizzes on student effort, with the assumption that effort is an indication of motivation, and then test whether the expected increase in effort might lead to a higher course pass rate and improved performance on end-of-course assessment within this context. The effect on effort was measured by the net change in the average course attendance rate, in comparison to the 2013-14 cohort, while pop quiz performance served as an additional indicator of effort within the test cohort.

### **Extra credit pop quizzes**

*Extra credit pop quizzes* are an example of an extrinsic reward intended to increase and sustain—and ideally internalize—instrumental and/or resultative motivation, and thereby increase observable effort (for a complete overview of the role of motivation and extrinsic rewards in language education, see Dörnyei, 2005; Dörnyei & Skehan, 2003; Dörnyei & Ushioda, 2013; Gardner, 2010; Noels, Pelletier, Clément, & Vallerand, 2003; Ryan & Deci, 2000; Ushioda, 2001; Williams & Burden, 1997). Although the term “quiz” is widely used globally, the concepts of “pop quiz” and “extra credit” are more specific to North American educational culture. Where quizzes are often used in higher education outside of North America, especially as round-up activities on e-learning platforms and MOOCs, extra credit and pop quizzes are comparatively rare in higher education in other parts of the world, and the use of “extra credit pop quizzes” specifically is rare even in North America

In education a *quiz* is a “small test” which can be administered at any point during a course. It is a form of continuous assessment which is much shorter in length (i.e., number of items) and duration than an end-of-course test and is typically administered during a lesson in order to assess the student’s completion and/or comprehension of assigned homework (especially readings) or the achievement of the learning objectives of an individual activity, lesson, or learning unit. Quizzes typically involve only a few, quickly completed, and easily marked items (e.g., true-false, multiple choice, gap filling, matching, etc.), in order to “spot check” completion and/or comprehension. Quizzes are a very popular pedagogical and assessment tool in North America. Although the effectiveness of quizzes in educational contexts is under-researched, there is relevant empirical evidence that, especially when integrated into the students’ cumulative grades for a course, they can increase effort as well as performance on summative assessment (e.g., Geiger & Bostow, 1976; Landrum, 2007; Leeming, 2002; Tuckman, 1996).

A *pop quiz* is merely a specific type of quiz which, although similar in form and function to all quizzes, is administered without giving the students prior notification of the day and time on which it will occur. Students are typically aware that pop quizzes will be a component of course assessment and they are aware of the relative weight of the quizzes in the calculation of their cumulative course grades, but a pop quiz is a “surprise”, hence the word “pop.” The conventional wisdom supporting the use of pop quizzes is that where pre-announced quizzes temporarily increase the students’ effort to complete a particular assignment or to pay

attention and actively participate during a particular lesson, pop quizzes result in a sustained increase in effort because the students never know when a quiz will occur or which course content the quiz will assess. Students are therefore encouraged to attend and participate in lessons, and practice and review at home more regularly. Pop quizzes have also been found to be effective at motivating and improving the performance of students (Graham, 1999; Maurer, 2005; Padilla-Walker, 2006; Wilder, Flood, & Stromsnes, 2001) although their effectiveness in comparison to announced quizzes has rarely been empirically studied.

Though also very common in praxis in North America, the concept of *extra credit* is much more controversial than quizzes or pop quizzes, especially in tertiary education. Extra credit is a term that refers to optional coursework which students may complete in order to improve their cumulative grade. Such work can either be assigned on an ad hoc basis in order to give students the opportunity to compensate for un-submitted, incomplete, or insufficient work, or, more typically, it can be integrated into a course syllabus and assessment procedure as a motivational tool. Especially this latter form is rare outside North America.

There has been substantial research and commentary on “giving extra credit” at North American schools and universities. Oley (1992) found that awarding extra credit for tutoring sessions led to more students seeking tutoring, which in turn led to improved quality in written work, and Mays and Bower (2005) found that completing extra credit assignments was associated with increased knowledge about the subject and more favorable perceptions of the instructor. The students who are most likely to complete extra credit assignments tend to be the most motivated students who will likely receive the highest grades even without the extra credit (Silva & Gross, 2004; Moore, 2005; Maurer, 2006), and extra credit therefore likely makes little difference for “good” students; but students at risk of failing a course can greatly benefit from extra credit when the assignments focus on specific knowledge and skills relevant to end-of-course assessment (Junn, 1995). Students tend to have positive attitudes about extra credit (Norcross et al., 1989; Groves, 2000), and the practice is very common among American psychology professors (Hill IV et al., 1993). However, many university professors have negative attitudes toward extra credit and avoid offering extra credit assignments due to concerns about fairness, student autonomy and responsibility, student abuse, grade inflation, and the lowering of educational standards (Norcross et al. 1989; Norcross et al., 1993; Corsun, 2000). There is, indeed, empirical evidence that extra credit can contribute to grade inflation (Knore, 1996). Other commentators have responded to these criticisms by commending the critics’ desire to reflect on their teaching methods, but stressing that educational praxis should be informed by empirical evidence, rather than personal preference, and that there are much greater challenges facing education in the 21st century than the perceived negative impacts of extra credit (La Lopa, 2000). The potential for extra credit in language education has also been noted (e.g., Alley, 2011; Carroll, 2014), though, to my knowledge, never empirically studied prior to the present study.

Most of the research on extra credit focuses on other forms of coursework and assessment, and not specifically on giving extra credit for pop quizzes. But based on studies involving students enrolled mainly in psychology courses, but also tourism studies, computer science, and engineering and science, research has found that extra credit pop quizzes in particular can increase class attendance (Thorne, 2000; Wilder, Flood, & Stromsnes, 2001), and that

students tend to perform better on extra credit pop quizzes than on announced quizzes, presumably due to greater effort to study and learn (Fuad & Jones, 2010) although Marchant (2002) reports the opposite effect. Research suggests that announced extra credit quizzes can improve performance on end-of-course exams (Carroll, 2014; Maurer, 2005; Padilla-Walker, 2006), but there seems to have been no research on the effect extra credit pop quizzes in particular have on final exam performance.

Although these pedagogical practices are very common in language education in North America, especially at the tertiary level, prior to the present study their effectiveness had seemingly never been empirically studied in the context of language teaching and learning. Moreover, each of these concepts is foreign to most university instructors and university students in Italy, the context of this classroom study.

## Participants

The participants in the study included all students who attended at least one lesson during the 2014-15 offering of the English for Tourism Studies course ( $N=98$ ), and a subgroup of all first-year students who attempted at least one component of the exam during the first exam session in January and February 2015 ( $N=86$ ). The first group served for the purpose of collecting data on overall course attendance and pop quiz completion and performance, and the subgroup served for the purpose of collecting data on the pass rate and average performance on course assessment. Older students were excluded from the latter group, as the majority of older students who attempt the exam each year do so because they failed the previous year and rarely have time to attend the course due to scheduling conflicts.

The students in the sample were predominantly female, as was the case in previous years (see Table 2). Based on data collected on first-year students during the first lesson of the 2014-15 academic year ( $N = 82$ ), which was submitted optionally, the students in the test sample had a median age of 19 and a mean age of 19.6, 95% CI [19.3, 19.9], the majority spoke German or Italian as their first/dominant language, and the majority had documentation of B2 English language proficiency or higher according to the CEFR (see Table 3).

Table 2. *Gender of participants*

<i>Students who attended at least one lesson</i>			
<b>Year</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
14-15	17	80	97
13-14	23	65	88
12-13	21	69	90
<i>First-year students who attempted the exam during first exam session</i>			
<b>Year</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
14-15	15	71	86
13-14	19	57	76
12-13	12	49	61



Table 3. *Languages of participants*

<i>First/dominant language</i>	
<b>German</b>	36
<b>Italian</b>	35
<b>Both</b>	4
<b>Other</b>	7
<b>Total</b>	82
<i>English language proficiency</i>	
<b>B1</b>	12
<b>B2</b>	53
<b>C1</b>	6
<b>C2</b>	1
<b>Unknown</b>	10
<b>Total</b>	82

## Procedures

The English for Tourism Studies course consists of fifteen two-hour lessons. The same course syllabus and teaching material were used in 2014-15 as in the previous two years. Likewise, course assessment procedures and criteria were held constant, consisting of four equally weighted components:

- 1 A portfolio of relevant written genre, including a report (25%);
- 2 A written exam on a relevant theme (50%):
  - Part I: Reading, grammar, and vocabulary (25%);
  - Part II: Writing based on the readings (25%);
- 3 A formal oral presentation of the findings of the report (25%).

In Italian higher education, students are assessed on a 30-point scale. As was the case in 2013-14, students were required to earn a passing score of 18/30 on both parts of the written exam, a passing score of 18/30 on the oral exam, and a cumulative passing score of 18/30 in order to pass the course.

The extra credit scheme was designed to reward attendance and participation without punishing non-attending students and without resulting in substantial grade inflation. In order to be considered an attending student, students were required to attend at least ten of fifteen lessons. Ten pop quizzes were administered randomly at any point during ten of fifteen lessons, so that missing even part of one lesson implied a risk of missing a pop quiz. Each quiz consisted of a series of multiple-choice questions which tested the students' explicit knowledge of the vocabulary, grammar, and language skills covered in the course to-date, with an emphasis on the current lesson and any preparation students were asked to do before that lesson (see [Appendix 1](#) for an example). Students who achieved "attending status" at the end of the course would receive half a bonus point added to their final portfolio grade for each passed (score of 60% or above) quiz. In addition, students could earn half a point for

perfect attendance and/or if they finished the semester in the “Top Ten” for average quiz scores, where the leaderboard and perfect attendance list were published weekly on the course’s “secret” Facebook page. Thus, students could earn a maximum of six extra credit points on their portfolio score, effectively increasing the highest possible score on the portfolio to 36 out of 30 points. Since the points were only applied to the portfolio score, the maximum bonus on the cumulative grade was 1.5 points on a 30-point scale (see Table 4), effectively increasing the maximum cumulative mark to 31.5 points. Final grades above 30 (which was possible with the addition of the extra credit) were awarded the “30 cum laude” designation, which is coveted in Italian higher education. Extra credit had no bearing on whether a student passed or failed the course and merely served as a reward for passing students who attended regularly, made an effort to complete ungraded homework assignments, and actively participated during in-class learning activities.

Table 4. *Extra credit scheme for attending students*

Pop quizzes passed	Portfolio bonus	Cumulative bonus
1	0.5	0.125
2	1	0.25
3	1.5	0.375
4	2	0.5
5	2.5	0.625
6	3	0.75
7	3.5	0.875
8	4	1.0
9	4.5	1.125
10	5	1.25
One leaderboard	5.5	1.375
Both leaderboards	6	1.5

Without stressing the comparatively small size of the reward for attendance and participation, all students present during the first lesson ( $N=84$ ) were given a detailed explanation of the extra credit scheme. They were informed that the scheme was being implemented as an experiment attempting to improve their performance in the course, and were given the option to sign up as attending or non-attending students. Students not present during the first lesson ( $N=14$ ) were given the same explanation and the same option upon their first presence in the class. Students were regularly given the opportunity to change their status throughout the semester.

### Data collection and analysis

During 2014-15, for each lesson, attendance was collected by means of a real pop quiz, a “fake” pop quiz (see below), or a printed attendance sheet, all of which required students to sign next to their names. Both attendance data and grades on pop quizzes, as well as all grades for each component of course assessment, were recorded in a spreadsheet.

The significance of changes in student average course attendance and average scores on each component of course assessment between 2013-14 and 2014-15 were determined by means of the student's t-test, while pass rates were compared by means of the z-test for two proportions. Chi square tests were used to calculate the significance of differences in pass rates for attending versus non-attending students as well as between students who earned an average passing score on the pop quizzes and those who did not, while the significance of the comparative predictive power of attendance and pop quiz performance with regards to the likelihood of passing the course was tested with a z-test for two proportions with partially overlapping samples (Derrick, Dobson-Mckittrick, Toher, & White, 2015). Linear regression analysis was performed to determine the correlation between attendance and each component of course assessment, as well as between pop quiz performance and each component of course assessment. Students' attitudes toward the initiative were measured on a five-point Likert scale on a course evaluation survey, whereby students' overall satisfaction with the course across the two years was compared by means of the Mann-Whitney U-test. Finally, several qualitative observations of the positive and negative impacts of the extra credit scheme were made by the author-instructor throughout the course.

## Results

The effect of the extra credit pop quizzes on both class attendance and the pass rate during the first exam session was immediately observable. The average attendance rate rose sharply from 45.6% in 2013-14 to 73.1% in 2014-15,  $t(183) = 7.87, p < 0.05$  (see Table 5). As indicated in Figure 2, the attendance rate per lesson was less volatile and the average drop off in the attendance rate per lesson, especially through the first five lessons, was also significantly lower than during the previous two years. Although the number of first-year students who attempted the exam during the first exam session increased from 2013-14 to 2014-15, the pass rate during that session increased from 53.9% to 68.6%,  $z(160) = 1.92, p < 0.05$  (see Table 5).

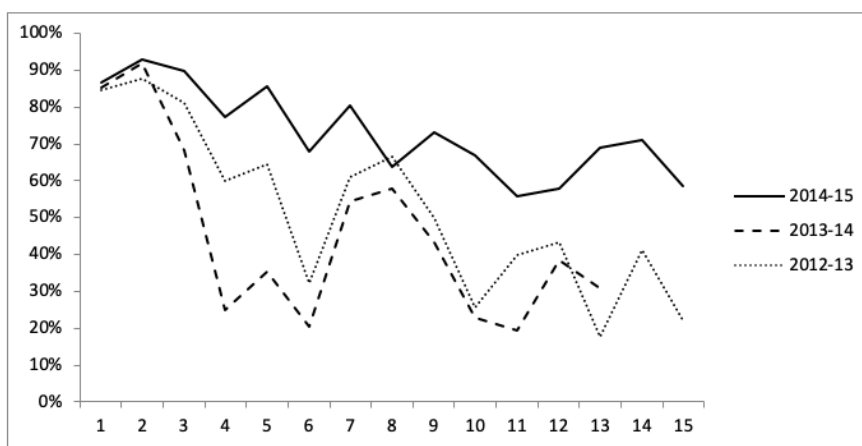


Figure 2. Attendance rate per lesson with extra credit

Table 5. *Effect of extra credit pop quizzes on attendance and pass rate*

Academic Year	Attending Students	Average Student Attendance Rate	Exam Attempts	Course Pass Rate
2012-13	<i>N</i> = 90	51.9%, 95% CI [47.4%, 46.4%]	<i>N</i> = 61	83.6%, 95% CI [ <i>w</i> =71.5%, <i>w</i> <sup>+</sup> =91.5%]
2013-14	<i>N</i> = 88	45.6%, 95% CI [40.8%, 50.4%]	<i>N</i> = 76	53.9%, 95% CI [ <i>w</i> =42.2%, <i>w</i> <sup>+</sup> =65.3%]
2014-15	<i>N</i> = 97	73.1%, 95% CI [68.2%, 78.0%]	<i>N</i> = 86	68.6%, 95% CI [ <i>w</i> =57.6%, <i>w</i> <sup>+</sup> =77.9%]

Attending students had a significantly higher pass rate than non-attending students,  $\chi^2(1, N = 86) = 19.99, p = 0.000008, v = 0.48$  (see Table 6), and students with passing average quiz scores had a higher pass rate than students with failing average quiz scores,  $\chi^2(1, N = 86) = 19.35, p = 0.000011, v = 0.47$  (see Table 7), where there was evidence that a passing quiz score was associated with a greater probability of passing than mere attendance,  $z(113) = 2.20, p < 0.05, r = 0.12$ .

Table 6. *Comparison of pass rates for attending and non-attending students*

	Exam Pass	Exam Fail	Total	Pass Rate
Attending	55	14	69	79.7%
Not Attending	4	13	17	23.5%
Total	59	27	86	68.6%

Table 7. *Comparison of pass rates for passing and failing average pop quiz scores*

	Exam Pass	Exam Fail	Total	Pass Rate
Quiz Pass	41	5	46	89.1%
Quiz Fail	18	22	40	45.0%
Total	59	27	86	68.6%

Regression analysis of the average performance on each component of course assessment versus individual student attendance rates and versus their average quiz scores ( $M = 54.9\%$ , 95% CI [50.4%, 59.3%]), adjusting for extra credit, resulted in low correlation for the portfolio assignment, which was completed throughout the semester and marked at the end. But the correlations were moderate according to Cohen's Scale ( $0.30 \leq r < 0.50$ ) for end-of-course assessment. The correlations were also stronger for average quiz scores than for attendance rates (see Table 8).

Table 8. Correlation between attendance/quiz scores and exam component scores

	Portfolio Score	Reading Exam Score	Writing Exam Score	Oral Exam Score
Attendance Rate	$r(86) = 0.26,$ $p < .05$	$r(86) = 0.31,$ $p < .05$	$r(77) = 0.34,$ $p < .05$	$r(57) = 0.34,$ $p < .05$
Average Quiz Score	$r(86) = 0.28,$ $p < .05$	$r(86) = 0.42,$ $p < .05$	$r(77) = 0.45,$ $p < .05$	$r(57) = 0.40,$ $p < .05$

However, the increase in the course pass rate between 2013-14 and 2014-15 can mostly be attributed to an increase in the pass rate on the oral exam (see Table 9). With the exception of the oral exam, there was not a statistically significant change in the students' average performance on each component of course assessment in comparison to 2013-14 (see Table 10), merely an increase in the number of students who attempted and passed the writing and reading components.

Table 9: Differences in pass rates by exam component

Component	2013-14	Pass Rate 2013-14	2014-15	Pass Rate 2014-15	z-test
Oral	$N = 52$	<b>80.8%</b> , 95% CI [47.4%, 46.4%]	$N = 60$	<b>98.3%</b> , 95% CI [47.4%, 46.4%]	$z(110) = 3.12,$ $p < 0.05, r = 0.29$
Writing	$N = 69$	<b>76.8%</b> , 95% CI [40.8%, 50.4%]	$N = 79$	<b>78.5%</b> , 95% CI [47.4%, 46.4%]	$z(146) = 0.24,$ $p < 0.05, r = 0.02$
Reading	$N = 77$	<b>89.6%</b> , 95% CI [68.2%, 78.0%]	$N = 88$	<b>89.8%</b> , 95% CI [47.4%, 46.4%]	$z(163) = 0.03,$ $p < 0.05, r = -0.22$

Table 10: Differences in average performance by exam component

Component	2013-14	2014-15	t-test
Portfolio	<b>21.5</b> , 95% CI [20.3, 22.7]	<b>22.2</b> , 95% CI [20.1, 23.3]	$t(165) = 0.770, p < 0.05, d = 0.12$
Reading	<b>22.3</b> , 95% CI [21.4, 23.1]	<b>21.5</b> , 95% CI [20.8, 22.3]	$t(163) = -1.599, p < 0.05, d = -0.25$
Writing	<b>20.0</b> , 95% CI [19.1, 20.9]	<b>21.1</b> , 95% CI [20.0, 22.2]	$t(146) = 1.636, p < 0.05, d = 0.27$
Oral	<b>21.4</b> , 95% CI [20.2, 22.6]	<b>23.7</b> , 95% CI [22.9, 24.5]	$t(110) = 3.229, p < 0.05, d = 0.61$
Total	<b>22.9</b> , 95% CI [22.2, 23.6]	<b>23.4</b> , 95% CI [22.8, 24.0]	$t(98) = 1.010, p < 0.05, d = 0.21$

Based on course evaluations completed at the end of the course, prior to the final exam, the students expressed generally positive attitudes about the pop quizzes as well as higher overall satisfaction with the course in comparison to 2013-14. The statement "the pop quizzes were a helpful way to review and practice" produced a median score of 4.0 ( $N = 41$ ) on a five-point Likert scale. In response to the statement "overall I am satisfied with the course" students responded with a median score of 4.0 in 2014-15, which was a statistically significant increase from the median score of 3.0 in 2013-14 ( $N = 41$ ),  $U = 578.5, p = 0.0075, r = 0.27$ .

Finally, grade inflation as a result of extra credit was minimal. The average total extra credit earned was 3.1 points on the portfolio, but only 0.8 points overall. The net effect on the average passing score during the first exam session, after rounding to whole numbers, was exactly 1 point out of a maximum of 30 points, an inflation rate of 3.8%. Only one student, of

59 passing students, was awarded the *cum laude* designation for the course due to a cumulative score above the maximum of 30 points after the addition of extra credit.

### **Instructor's observations and discussion**

This classroom experiment with extra credit pop quizzes seems to have met its two primary objectives of increasing and stabilizing class attendance and increasing the course pass rate, thereby confirming previous research findings in other educational contexts dealing with other subject areas. The results demonstrate a relationship between course attendance and the likelihood of passing the course, but that the relationship between pop quiz performance and the pass rate was stronger. This is presumably because attendance was merely an indicator of a student's motivation to exploit the opportunity to receive a reward, whereas pop quiz performance was evidence of actual effort to study and practice, if not to learn.

The relationship between pop quiz performance and the satisfaction of the learning objectives, as measured by the correlation between students' average pop quiz scores and their performance on each component of end-of-course assessment, appears to be moderate at best. This result, however, is to be expected, given the complex nature of language learning in any context and the added random variables associated with this unique trilingual learning environment. Interestingly, student overall average performance and their performance on each component of assessment did not significantly change in comparison with the 2013-14 cohort, with the exception of the oral exam. This result, however, can be interpreted as a positive outcome as the goal was not to increase average grades, but the proportion of students achieving a passing grade. Grade inflation was minimized by the design of the extra credit scheme, which ensured that students could not receive more than 1.5 bonus points (maximum of 5%), and that approaching that maximum implied maximum effort.

As was observed in previous studies, students responded positively to the initiative, and not just on the course evaluation. Before the start of lessons students were regularly observed arriving in the classroom early to study vocabulary lists or their notes from previous lessons, and working diligently on tasks during lessons, whereas during the previous years many students would arrive late, the start of lessons would be delayed by chit-chat and tardiness, and students would frequently get off task during lessons. The pop quizzes made it possible for the first time to monitor student progress, to some extent, and determine which aspects might require review, and for the first time a majority of the students (as opposed to a small minority in the past) received at least rudimentary corrective feedback in the form of their quiz scores. The pop quiz leaderboard and perfect attendance list also functioned as motivational tools as evidenced by praise from peers and boasts on the Facebook page. An unexpected benefit of the pop quizzes was that they served as an opportunity to instruct the students on the issue of cheating, which in previous years had been an issue, and as a result there was no evidence of cheating on the exam in 2014-15.

There were, however, also many negative impacts of the extra credit scheme. The administering of a pop quiz to as many as 100 students required, on average, 20 minutes of class time, or approximately 3 hours and 20 minutes of the entire 30 instructional hours (11.1%). Although students were clearly more engaged and diligent than in the past and

although the quizzes themselves had clear pedagogical value, they necessitated a reallocation of very limited class time from learning tasks. Further, the marked increase in class attendance foregrounded the issue of the high student-teacher ratio: A larger class size resulted in less student-teacher interaction, less individualized instruction and feedback during lessons, and the potential for more classroom distractions. Indeed, a few disruptive students were observed who obviously attended only to receive the extra credit and typically left after attendance had been recorded or after the quiz had been administered. In the past, the final lessons, which served as focused exam preparation, were typically the most productive, as they were attended by the most motivated students (those at risk of failing, those aiming to earn a high mark, and those who simply enjoyed the course). The pop quizzes also implied substantially more time spent grading student work, though the freeloader dilemma and the extra work for the instructor are likely unavoidable consequences of any extra credit scheme.

Given the relatively small maximum reward for substantially extra effort, the student response to the extra credit scheme can only be interpreted as irrational behavior from the perspective of incentive and motivation theory. It was apparent during the experiment that the students were at least partially responding to the novelty of extra credit pop quizzes, and perhaps did not fully consider or bother to calculate the actual benefits. They exhibited emotions of suspense and excitement in response to the uncertainty of whether or not there would be a quiz during individual lessons, which was exploited by giving “fake” quizzes which only served as a means to record attendance (see [Appendix 2](#) for an example). Previous research findings have indicated that the positive effects of rewards on language learner motivation decreases when the reward is removed or the perception of the value of the reward decreases (e.g., Gardner & MacIntyre, 1991). Studies on incentives and motivation in psychology, management, and microeconomics indicate that people tend to develop a sense of entitlement after receiving a reward, which reduces the observed impact of the reward over time (e.g., Pink, 2009). From such perspectives, there is also the possibility that students would come to perceive less risk of failing the course and consequently put forth less effort on other graded assignments if an expectation of extra credit opportunities were to develop (Wilson, 2002). It is therefore conceivable that the positive effects of extra credit on instrumental and resultative motivation in this context, whether extrinsic or internalized, could diminish should the practice become normalized.

There are also two (unavoidable) flaws in research design, flaws which are apparent across the existing research on extra credit and pop quizzes. The first is that the students were not assessed on their language proficiency, with a pretest and posttest, but based on their performance on an end-of-course exam: Summative assessment does not necessarily indicate language acquisition, rather the achievement of learning objectives as measured by the specific assessment items, constructs, and criteria employed by the instructor, which may be objective, but are very rarely validated and standardized. The second is that there are very many uncontrolled independent variables in this classroom context, such as language aptitude, pre-existing attitudes, affect, etc. For instance, the moderate correlation between pop quiz performance and performance on end-of-course assessment may in fact be a result of a third, unmeasured independent variable, such as effective learning strategies. In short, the positive effect of extra credit pop quizzes on students’ effort to attend and participate in a

course and their resulting achievement of the minimum requirements to pass the course is supported by this experiment, but it remains uncertain whether this *extra effort* also implies *extra learning* (see also, Corsun, 2000).

## Conclusion

Despite the aforementioned limitations, this classroom experiment clearly demonstrates the potential of both extra credit and pop quizzes in university language instruction in Italy—and likely other countries where these practices are not already commonplace. Further research is needed to verify these results in other contexts, to account for other variables, and to attempt to minimize the negative impacts, such as the reallocation of scarce instructional hours from effective learning activities and the reduced personalized instruction and feedback for those students who are already highly motivated. It would also be interesting to investigate in a more controlled setting whether the improved course participation and achievement translates into added proficiency. In response to some of these unanswered questions, a similar extra credit scheme was tested at another (predominantly monolingual) Italian university in the Spring of 2016, and a second classroom experiment was conducted with a new cohort of TSE students in the Autumn of 2015 (see Ennis, 2017) whereby ungraded collaborative writing tasks were converted into extra credit pop quizzes. The results of both experiments are forthcoming.

## Notes

1. In response to the autumn 2013 offering of the course, it was observed: “The situation is exacerbated by the fact that class attendance at UNIBZ, like most universities in Italy, is optional, resulting in sporadic attendance. Typically, only the weakest and/or most motivated students regularly attend lectures. Professors in Italy often deal with this problem by dividing students into attending and non-attending students and offering attending students the opportunity to complete graded assignments in class. Thus, one solution in this context might be to adapt the assessment procedure to such a model by reducing the homework and incentivizing attendance. Specifically, I am considering assigning extra credit pop quizzes for attending students [...]” (Ennis, 2015, pp. 374-375).

## About the Author

**Michael Ennis** became the Didactic and Scientific Coordinator for the English Language at the Language Centre of the Free University of Bozen-Bolzano in 2016, but spent the previous five years as a contract professor of English at the Free University of Bozen-Bolzano and the University of Venice Ca’ Foscari, where he primarily taught English for Specific (Academic) Purposes. He has taught English and German at universities in the United States, Germany, and Italy, and he has published and given numerous conference presentations and teacher training workshops on his interests in cultural studies, ESP, ESAP, CLIL, motivation, and intercultural language teaching.



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## Appendix 1: Sample Pop Quiz\*

Complete each sentence with the best word or tense.

1. There have been attempts to clarify what is meant by the term “visitor” as opposed to “tourist” and the distinction between tourists who travel within their own country (\_\_\_\_\_ tourists) and those who travel to other countries (international tourists).

(a) domestic            (b) outbound            (c) national            (d) visitor

2. In the USA, estimates of domestic second-home ownership range between 3.6 million and 9.2 million properties, the majority of which are located in coastal or \_\_\_\_\_ areas.

(a) elderly            (b) rural            (c) seminal            (d) static

3. Tourism arises from the movement of people to and their stay at various \_\_\_\_\_.

(a) vacations            (b) holidays            (c) industries            (d) destinations

4. While it is true that industrialized nations have lost market \_\_\_\_\_, the OECD countries nonetheless continue to occupy a strong position in the world tourism market.

(a) budget            (b) share            (c) demand            (d) entry

5. The exploding domestic and \_\_\_\_\_ tourist markets of China and India are poised to propel global tourism into yet another period of accelerated expansion.

(a) abroad            (b) outbound            (c) outflow            (d) overseas

6. Households in emerging economies \_\_\_\_\_ able to put aside a travel budget.

(a) is now            (b) are now            (c) is now being            (d) are now being

7. Mass tourism destinations \_\_\_\_\_ into mega tourism destinations.

(a) now explodes            (b) now explode            (c) is now exploding            (d) are now exploding

8. Tourism \_\_\_\_\_ from the movement of people to and their stay at various destinations.

(a) arise            (b) arises            (c) is arising            (d) was arising

## Appendix 2: Sample “Fake” Quiz\*

Complete each sentence with the best word or tense.

1. This is not a(n) \_\_\_\_\_ quiz.

(a) real          (b) fake          (c) imaginary          (d) honest

2. Seriously, this is not a(n) \_\_\_\_\_ quiz.

(a) real          (b) fake          (c) imaginary          (d) honest

3. I’m not kidding; this is not a(n) \_\_\_\_\_ quiz.

(a) real          (b) fake          (c) imaginary          (d) honest

4. Come on! This is not a(n) \_\_\_\_\_ quiz, so stop answering now!

(a) real          (b) fake          (c) imaginary          (d) honest

5. How many times do I have to tell you that this is not a(n) \_\_\_\_\_ quiz?

(a) real          (b) fake          (c) imaginary          (d) honest

6. What part of “this is not a(n) \_\_\_\_\_ quiz” do you not understand?

(a) real          (b) fake          (c) imaginary          (d) honest

7. Ok, if you do not believe that this is not a(n) \_\_\_\_\_ quiz, by now...

(a) real          (b) fake          (c) imaginary          (d) honest

8. I think you are finally realizing that this is not a(n) \_\_\_\_\_ quiz.

(a) real          (b) fake          (c) imaginary          (d) honest

9. Wouldn’t it be hilarious if this actually was a(n) \_\_\_\_\_ quiz?

(a) real          (b) fake          (c) imaginary          (d) honest

10. It would be even funnier if this was a(n) \_\_\_\_\_ quiz and you failed it!

(a) real          (b) fake          (c) imaginary          (d) honest

\*Each item excerpts text from assigned readings, and all distractors are taken from the vocabulary and grammar covered in the learning material.

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