

Employment Skills for 21st Century Workplace: The Gap Between Faculty and Student Perceptions

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ABSTRACT

This study compared the perceptions of college business faculty and students regarding the business competencies needed to get a job after graduation. The population for this research consisted upper-level students (n=254), who were enrolled in business classes at a Midwest university and faculty members (n=37) teaching in the business area at the same institution. This research highlighted a gap that may exist regarding skills needed for employment.

Nonparametric analysis showed significant differences existed between U.S. students (n=214) and international students (n=44) in the areas of leadership, creativity, and the value of a 2nd language. The analysis also showed significant differences between faculty members and U.S. students in the areas of management, time management, personal management, critical thinking, problem solving, writing, speaking, and leadership and between faculty members and international students in the areas of time management, personal management, critical thinking, writing, speaking, listening, ethics, and the value of a 2nd language.

Introduction

Today's workforce is comprised of a diverse group of individuals. White, non-Hispanic workers are still the largest segment of the labor force (81 percent); however, the Asian and Hispanic labor forces are growing at a rapid pace (Bureau of Labor Statistics, Winter 2009-10). The growth rate between 2008 and 2010 was projected to be 30 percent for Asians and 33 percent for Hispanics (Bureau of Labor Statistics, Winter 2009-10). These figures indicate that the future labor force will become more diverse.

While nothing replaces the value of experience and hands-on training in the job market, every worker has to start somewhere. According to Crosby and Moncarz (2006), data show that a post-secondary education makes entering the workforce easier for some jobs; however, a college degree is the only way to begin many careers. As the job market becomes increasingly competitive, education is the key to developing the necessary skills to compete for improved employment opportunities and higher wages. A post-secondary education culminating in a degree increases the number of job options and the amount of earnings available to those entering the job market. Liming and Wolf (2008) reported job earnings for a number of educational levels as follows: High school graduates - \$595 per week, Associate's degree average - \$721 per week, and Bachelor's degree - \$962 per week. In 2009, not only were earnings higher with more education, unemployment rates were lower: Bachelor's degree—5.2 percent unemployed, master's degree—3.9 percent unemployed, or first professional degree—2.3 percent unemployed (Bureau of Labor Statistics, 2010).

The projected growth rate for occupations requiring a college degree is 19 percent, compared to a 13 percent growth for all occupations (Crosby & Moncarz, 2006). With the increased number of job openings available to individuals with post-secondary education, high school graduates will have to make a decision to pursue more education, enter the full-time workforce, or work while pursuing a post-secondary education. High school graduates, who decide to pursue a post-secondary education, whether full-time or part-time, will have to make choices about the career options they will pursue and the skills they will need to obtain. These career decisions will influence what courses, beyond the required college classes, they choose to concentrate on in order to enhance employment opportunities.

Often, students do not realize the importance of possessing transferable skills, and they assume that mastery of skills within their discipline is enough to get that all-important, post-graduation position (Robinson & Garton, 2007). Still, according to many, people graduating from colleges and universities often lack the skills needed in the world of work. This lack of preparation may be the result of three factors including not listening to professors and advisors, lack of participation in class exercises, and an inability to transfer meaning from their experiences into choices that will impact their future.

On the other hand, do professors know the skills needed for today's workplace? Are professors emphasizing the necessary skills in their classes? According to the Partnership for 21st Century Skills (2006) and American Management Association's (AMA) 2010 survey, many employers believe that higher education is failing in its role to adequately develop needed skills in students. In higher education, professors can influence students by promoting the skills businesses are seeking in future employees and helping students achieve these skills through course activities. Professors can also influence the choices students make through advising relationships.

Stringer, Kerpelman, & Skorikov (2011) reported that according to Erik Erikson, an early psychosocial theorist, the primary developmental task of adolescence into early adulthood is to form an identity in different domains including career and relationships. Stringer and colleagues (2011) defined career identity as "the sense of self derived from one's development of an occupational career and is an important component of one's overall identity" (p. 158). To ultimately reach career identity, individuals' experiences during early adulthood may impact their career formation. According to Savickas (2005), individuals' experiences do matter. His theory of career construction through experiences involves individuals imposing meaning on past and present experiences and future goals that influence their work lives. Savickas' theory served as a basis for this study as the researchers explored whether or not the perceptions of the students and the faculty members, probably formed from their experiences, mirrored the skills businesses were reporting as necessary for the workplace in the new century.

Literature Review

According to its Web site (<http://www.p21.org>), the Partnership for 21st Century Skills is a national organization founded in 2002 with help from several businesses and the U.S. Department of Education. It is devoted to promoting student workplace readiness, and its Strategic Council includes a variety of members: American Association of School Librarians,

Knowledge Works Foundation, Adobe, Pearson, Apple, Dell, ETS, Hewlett Packard, LEGO Group, Microsoft, and Verizon among others. The Partnership for 21st Century Skills works to encourage institutions to incorporate 21st century skills in educational curricula. It stated:

In an economy driven by innovation and knowledge . . . in marketplaces engaged in intense competition and constant renewal . . . in a world of tremendous opportunities and risks . . . in a society facing complex business, political, scientific, technological, health and environmental challenges . . . and in diverse workplaces and communities that hinge on challenges . . . and in diverse workplaces and communities that hinge on collaborative relationships and social networking . . . the ingenuity, agility and skills of the United States people are crucial to U.S. competitiveness. (Partnership, 2008, p. 1)

Research by both Black and Lynch and Zoghi, Mohr, and Meyer (as cited by Partnership for 21st Century Skills, 2008) detailed how companies have changed the way they do business and how workers have more responsibility and contribute more to businesses in order to meet the demands of today's competitive economy. In 1967, about 54 percent of the United States' economy was based on production of material goods and services. By 1997, 63 percent of the United States' economy had moved to an information product and service economy (Partnership for 21st Century Skills, 2008). From 1995 to 2005, 17 million service-sector jobs were created, and over 3 million manufacturing jobs were lost (Partnership for 21st Century Skills, 2008).

Currently, businesses spend billions of dollars every year to hire and train employees. Businesses want workers who can help increase profitability by reducing costs associated with training, turnover, and production errors (Ferguson, 2007). In fact, recent economic challenges have forced organizations to go forward with their strategies using fewer resources—especially people. Businesses do not do less; the people they hire do more to accomplish the companies' goals and objectives.

Since employees must do more to help the company be successful, students seeking jobs need skills that emphasize innovation and cultural competency, as well as critical thinking, problem solving, communication, teamwork, ethical and social responsibility, and foundational skills like reading and basic math (Schuele and Madison, 2010). Schuele and Madison (2010) found that, to be successful in finding a job, applicants must be able to convince prospective employers that, as employees, they will bring value to an organization. In addition, prospective employees must show evidence of current knowledge in the field. Thus, the important goal for post-graduates seeking employment is to understand what businesses value.

Three major business surveys were identified in the literature that itemized the work skills important for employment in the 21st century. A survey of employers by the Partnership for 21st Century Skills (2008), found the top five skills employers sought were professionalism, teamwork, oral communication, ethics and social responsibility, and reading comprehension. Its report concluded that business and community leaders, policy makers, and educators need to work together so that future workers will have the workplace skills necessary to succeed.

The second survey, which was performed by the National Association of Colleges and Employers (NACE), complements the previous study in its *2009 NACE Research Report: Job Outlook 2010*. Because businesses are hiring fewer people and expecting them to do more, employers have increased their expectations for potential employees. The employers do, however, continue to seek employees with certain skills. The NACE Research Report noted that the top five skills sought by employers are communications skills, analytical skills, teamwork skills, technical skills and a strong work ethic.

On its Web site, The Partnership for the 21st Century highlights the newest survey by the American Management Association (AMA). The AMA survey (2010) said more on the subject of skills necessary for entry-level jobs. In a survey of 2,115 managers and other executives, respondents indicated that not only do future workers need to be able to read, write, and perform arithmetic; but also they need the following skills: critical thinking (problem solving), communication, collaboration, and creativity (innovation), which will become even more important to organizations. These skills are referred to as the “4 C’s” (AMA, 2010). When compared, these studies appear to build upon and reinforce one another in addressing the entry-level skills desired by employers.

Table 1
Comparison of the Three Surveys Top Rated Skills

21st Century Survey (2008)	NACE (2009)	AMA (2010)
Oral Communications	Communications	Communications
Teamwork	Teamwork	Collaboration/Teamwork
Ethics/Social Responsibility	Analytical	Critical Thinking/Problem Solving
Professionalism	Technical	Creativity/Innovation
Reading Comprehension	Strong Work Ethic	

These days, routine, easily-replicated jobs are being automated or outsourced as U.S. businesses have entered the knowledge age (AMA, 2010). The knowledge age raises real questions about what is going to happen to people who have only a high school education. Further, is the United States workforce ready for the jobs of the future? People at every level in an organization are going to have to be able to solve problems, think critically, be innovative, collaborate with others, and communicate effectively. Executives surveyed by the AMA noted that there is much room for improvement in today’s workforce in these areas (AMA, 2010).

Purpose of the Study

This research study investigated the following questions:

1. What skills do faculty members perceive as important for initial post-graduate employment of students?
2. What skills do U.S. students and international students perceive as important for their initial post-graduate employment?

3. Do perceptual differences of the skills needed for initial post-graduate employment exist between faculty members and U.S. students?
4. Do perceptual differences of the skills needed for initial post-graduate employment exist between faculty members and international students?
5. Do perceptual differences of the skills needed for initial post-graduate employment exist between United States students and international students?

Method

A quantitative survey was conducted at a Midwest university to determine what business skills faculty members and students perceived to be the most important, from the list identified in the literature.

Participants

The faculty members from the College of Business and Technology represented in the survey were from the areas of accounting, finance, economics, management, marketing, management information systems, and industrial technology and taught classes during the year 2010 at the institution. A total of 55 faculty members were contacted and 37 responded to the survey for a return rate of 67.5 percent.

The student participants in the study were enrolled in 300-level and 400-level (junior/senior level) business classes during the 2010 spring and summer sessions. The instructors of these courses agreed to allow the students in their classes to be surveyed. Students involved were in accounting, finance, strategy, business law, management, and marketing classes. A total of 624 surveys were e-mailed to students from the lists provided by faculty. A total of 265 surveys were returned and of those, 258 were usable for a return rate of 41.3 percent. A total of 26 of the 44 international students were from China (17) and Japan (9). The remaining students represented Nepal, Puerto Rico, India, France, South Korea, Saudi Arabia, Bahamas, Turkey, Australia, Trinidad, Uzbekistan, and Mexico.

Procedure

After reviewing published articles and searching the Internet, the researchers identified a list of 17 business skills that were considered important. These skills were compiled into a master list and condensed to include the following: management skills, interpersonal skills, teamwork skills, time management skills, personal management skills, problem solving skills, critical thinking skills, technology skills, written communication skills, oral communication skills, listening skills, leadership skills, creativity skills, ethics skills, language skills (second language), and computational skills (Business School Edge, 2010; Gudim, 2010; Fisher, Lobaugh, & Parente, 2006).

A quantitative survey was designed by the researchers. The participants were asked for demographic information that included country of origin, major, and class standing. Participants were then asked to rank-order a list of 17 business skills in order of importance with “one” being the skill they perceived to be the most important.

The survey was entered into Qualtrics, survey software program, and sent to three faculty members for testing. The researchers then contacted all the instructors teaching upper-level classes in the College of Business & Technology and asked for permission to survey the students registered for their classes. The study was limited to faculty members teaching business classes and the students in those classes because the results were to be compared with business employee surveys to determine if a gap existed between the skills businesses perceive are important and the skills instructors and students perceive are important.

Student rosters were received from those instructors who agreed to have their classes participate, and the survey was sent through e-mail to the students who could then take the survey in the privacy of their own residence. The survey was also distributed to all faculty members teaching business classes at the same Midwest institution.

A Spearman coefficient correlation for nonparametric tests was available in the Statistical Package for the Social Sciences (SPSS), version 19, and was used to analyze the data. Mean scores and coefficient scores were generated for the respondents for the variables of interest and tested for statistically significant differences.

Results

The results were analyzed for students and faculty members. The faculty members' surveys were analyzed for the business skills they perceived were important compared to the literature review and to what students perceived as important. The student responses were in two groups, international students and American students. The two sets of student perceptions were compared to the literature and to faculty member perceptions.

Faculty

Faculty members' rank ordered all 17 skills listed on the survey. Interpersonal skills, critical thinking, problem solving, and teamwork emerged as the four most important skills faculty believed students needed to obtain a job after graduation. As can be seen in Table 2, interpersonal skills had an average ranking of 4.41 out of 17 for the faculty members and was the top-ranked skill needed by students according to the faculty surveyed.

Table 2

Faculty Top Four Responses

<u>Skill</u>	<u>Mean</u>
Interpersonal	4.41
Critical Thinking	4.82
Problem Solving	5.32
Teamwork	5.59

Faculty members' responses were analyzed and compared to U.S. students' responses and then to international students' responses. Significant differences between faculty members and U.S. students were found in 8 of the 17 areas: management, time management, personal

management, critical thinking, problem solving, writing, speaking, and leadership. (See Table 3 for the comparison of U.S. students and faculty for 16 skills; other was omitted.)

Table 3

Mean Scores, Rank-Order, and t-Scores for Faculty and U.S. Student Responses

Skills	USA Students		Faculty		Faculty/USA Students
	Mean	Rank	Mean	Rank	Spearman Correlation
Management	4.30	1	6.71	6	-.220**
Interpersonal	5.11	2	4.41	1	-.066
Teamwork	5.16	3	5.59	4	-.098
Time Mgmt	5.26	4	7.65	9	-.201**
Personal Mgmt	6.41	5	9.09	10	-.223**
Critical Thinking	6.66	6	4.82	2	.253**
Problem Solving	7.37	7	5.32	3	.179**
Technology	7.39	8	9.44	11	-.087
Writing	7.68	9	6.82	7	.250**
Speaking	8.65	10	5.82	5	.151*
Listening	9.12	11	7.56	8	.086
Leadership	9.68	12	11.21	13	-.200**
Creativity	11.64	13	12.24	14	.070
Ethics	12.65	14	10.18	12	.079
2 nd Language	14.15	15	15.26	16	-.062
Computation	14.90	16	13.94	15	.043

*p ≤ .05 ** p ≤ .01

Significant differences between faculty members and international students were found in 6 of the 16 major areas: time management, personal management, critical thinking, writing, speaking, listening, creativity, and 2nd language. (See Table 4 for the comparison of international students and faculty for 16 skills.)

Table 4

Mean Scores, Rank-Order, and t-Scores for Faculty and International Students' Responses

Skills	International Students		Faculty		Faculty/ Int'l Students
	Mean	Rank	Mean	Rank	Spearman Correlation
Management	5.91	4	6.71	6	-.194
Interpersonal	5.27	2	4.41	1	.006
Teamwork	4.48	1	5.59	4	-.134
Time Management	5.34	3	7.65	9	-.222*
Personal Mgmt	6.34	5	9.09	10	-.311*
Critical Thinking	7.23	8	4.82	2	.233*

Problem Solving	6.66	6	5.32	3	.158
Technology	7.20	7	9.44	11	-.053
Writing	8.80	10	6.82	7	.400**
Speaking	8.00	9	5.82	5	.268*
Listening	8.89	11	7.56	8	.232*
Leadership	10.05	12	11.21	13	-.064
Creativity	11.39	13	12.24	14	-.153
Ethics	11.77	15	10.18	12	.224*
2 nd Language	13.55	14	15.26	16	-.354**
Computation	15.18	16	13.94	15	.146*

*p≤ .05 ** p≤ .01

Student Responses

United States students rank-ordered management, interpersonal skills, teamwork, and time management (see Table 5) as the four most important skills they believed were needed to obtain a job after graduation. (See Table 7 for a complete rank-order listing of all 17 skills by all students.)

Table 5

United States Students' Top Four Responses

Skill	Mean
Management	4.30
Interpersonal	5.11
Teamwork	5.16
Time Mgmt.	5.26

Teamwork, interpersonal skills, time management, and management (See Table 6) were the four most important skills international students believed they needed to obtain a job after graduation. (See Table 7 for a complete rank-order listing.)

Table 6

International Students Top Four Responses

Skill	Mean
Teamwork	4.48
Interpersonal	5.27
Time Management	5.34
Management	5.91

Significant differences between the two groups of students were found in only three areas: leadership, creativity, and 2nd language. See Table 7 for complete results.

Table 7

Mean Scores, Rank-Order, and t-Scores for Student Responses

Skills	International Students		USA Students		U.S./Int'l Students
	Mean	Rank	Mean	Rank	Spearman Correlation
Management	5.91	4	4.30	1	.108
Interpersonal	5.27	2	5.11	2	.093
Teamwork	4.48	1	5.16	3	.007
Time Mgmt	5.34	3	5.26	4	.013
Personal Mgmt	6.34	5	6.41	5	-.003
Critical Thinking	7.23	8	6.66	6	-.062
Problem Solving	6.66	6	7.37	7	-.081
Technology	7.20	7	7.39	8	.061
Writing	8.80	10	7.68	9	.072
Speaking	8.00	9	8.65	10	.028
Listening	8.89	11	9.12	11	.092
Leadership	10.05	12	9.68	12	.162**
Creativity	11.39	13	11.64	13	-.180**
Ethics	11.77	15	12.65	14	.112
2 nd Language	13.55	14	14.15	15	-.214**
Computation	15.18	16	14.90	16	.073

*p ≤ .05 ** p ≤ .01

Discussion

RQ1: *What skills do faculty members perceive as important for initial post-graduate employment of students?*

The survey by the AMA (2010) indicated that communication, critical thinking/problem solving, creativity, and collaboration/teamwork were the most necessary skills for post-graduate, entry-level employment. Faculty members ranked interpersonal skills, critical thinking, problem solving and teamwork as the four most necessary skills. Comparing the faculty ratings with the AMA study seems to show that faculty members' perceptions were similar to those of business people surveyed by AMA, since faculty members ranked critical thinking, problem solving and teamwork as essential skills for initial post-graduate employment. However, faculty members did not rank communication skills or creativity as high in importance as the business executives did.

RQ2: *What skills do U.S. students and international students perceive as important for their initial post-graduate employment?*

The most recent literature by the AMA (2010) indicated that communication, critical thinking/problem solving, creativity, and collaboration/teamwork were the most necessary skills for post-graduate, entry-level employment. Comparing the U.S students' ratings with the literature disclosed that students' perceptions were different than employers' since only collaboration/teamwork emerged as one of the top four skills in the students' responses. Additionally, U.S. students rated communication skills, critical thinking/problem solving, and creativity lower than business executives did.

Comparing the international students' ratings with the literature illustrated that their perceptions differ from the literature because only collaboration/teamwork emerged as one of the top four skills for this group of respondents. Like the U.S. students, the international students rated communication skills, critical thinking/problem solving, and creativity lower than business executives did.

RQ3: Do perceptual differences of the skills needed for initial post-graduate employment exist between faculty members and U.S. students?

Statistically significant differences between faculty members' responses and U.S. students' responses were evident in the areas of management, time management, personal management, critical thinking, problem solving, writing, speaking, and leadership. While faculty members' responses differed somewhat from the AMA survey, the faculty members were more closely aligned with the AMA results than were the U.S. students.

Faculty members appeared to agree with business executives more than the U.S. students did. Faculty ranked management, time management, personal management, and leadership lower than the U.S. students ranked these skills. Faculty members rated critical thinking, problem solving, writing, and speaking as more important for initial post-graduate employment than the U.S. students ranked the skills.

RQ4: Do perceptual differences of the skills needed for initial post-graduate employment exist between faculty members and international students?

Statistically significant differences between faculty members' responses and international students' responses were evident in the areas of personal management, time management, critical thinking, writing, speaking, listening, creativity, and the value of a 2nd language. Faculty members did align more closely with international students regarding the importance of problem solving than they did with U.S. students. Faculty members rated critical thinking, writing, speaking, and listening as more important than the international students did. Additionally, faculty members rated creativity and a 2nd language less important than the international students rated these skills.

RQ5: Do perceptual differences of the skills needed for initial post-graduate employment exist between United States students and international students?

When comparing the responses of U.S. students and international students, no statistically significant differences appeared in the listing of the top four skills. While not statistically significant, international students did rate teamwork as the number one skill needed, while U.S. students rated it third.

Further analysis revealed a statistically significant difference in the means for leadership, creativity, and 2nd language skills. International students studying in the United States indicated that they valued a 2nd language more than U.S. students indicated they did. Most likely, the

international students already had the ability to communicate in at least two languages and valued that ability more than U.S. students.

Creativity and leadership also were not ranked high by either international or U.S. students. For both student groups, creativity ranked 13th out of 17 in importance, and leadership rated 12th out of 17 items. The difference in the means, however, was statistically significant for both. The international students had a low mean for creativity and the U.S. students had a low mean for leadership. So, while the ranking was the same for both groups, a higher percentage of U.S. students rated leadership as more important and a higher percentage of international students ranked creativity higher. Overall, the students did not vary as much as anticipated, which could indicate that students are pretty much the same the world over.

Conclusions

Faculty members surveyed were the instructors for business content classes. These individuals all have terminal degrees and were academically or professionally qualified (under AACSB guidelines) to teach in their content areas. Their perceptions were assumed by the researchers to be different from the students' perceptions because of their knowledge and experience. What was also expected was that faculty perceptions would be in agreement with the results of the three business surveys discussed in the literature. The results of the research indicated that faculty members and employers did not necessarily agree that the same skills were important. Only teamwork and problem solving/critical thinking were listed in the top six skills by both groups. The differences between instructors' perceptions and the results of the employers' surveys highlight a skills gap that may exist in the types of skills that are emphasized by professors but needed and sought by employers. Relating back to Savickas' (2005) research, this gap between what employers perceive as important and what is deemed important by faculty could indicate that students may not be engaged in a sufficient number of experiences that stress the skills employers indicate are important.

Out of the six skills that employers regarded most important (as reported in the literature), only teamwork was listed by the students as one of the top-ranked skills that they believed they would need to obtain an entry-level job after graduation. In addition to a possible lack of emphasis by professors in the classroom, two other reasons for this gap may include cultural differences and apathy.

Student perceptions could be different due to culture. Trompenaars (cited in Whetten & Cameron, 2002) identified seven cultural values dimensions. Five of these dimensions address how an individual relates to other people—universalism vs. particularism, individualism vs. collectivism, affective vs. neutral, specific vs. diffuse, and achievement vs. ascription. Two of these dimensions relate to business, universalism (societal rules and norms valued) vs. particularism (individual relationships valued) and individualism (individual contributions valued) vs. collectivism (group contributions valued). These value dimensions are evident in cultures throughout the world and may influence individual choices for employment skills such as teamwork. For example, a student from a culture that values individualism might choose teamwork as less important than a student from a culture that values collectivism. Another example is leadership. The statistical mean for U.S. students indicated that leadership was more

important to them than it was to the international students. This also could be a cultural difference since the United States appears to value individual contribution and leadership to a high degree, which might impact the meaning that is attached to a student's experiences.

Another reason for the differences could be that students might not be aware of or even care about what skills are important during their post-secondary educational experience. Faculty members need to be aware of the skills that employers value and emphasize those skills with students. Faculty members are in charge of curriculum and the content of their classes, and they may be able to guide students through assignments or experiential learning exercises to value the skills employers value.

Recognizing that students do not necessarily understand the importance of skills that are important to 21st century employers is also a key indicator for faculty members. Through classroom instruction and academic advising, faculty members have the opportunity to assist students in a positive way and reinforce what business executives are saying are important skills for students going out into the workforce.

Limitations

While the institution where this survey was conducted has a student body that represents 47 states and 49 foreign countries, the international student population makes up a smaller percent of the student body than it might on other campuses in the United States. However, while the number of international student responses was low, the number represents a higher percent of the total number of responses than the percent of international students in the student body. This study should be replicated at other post-secondary institutions that possess varying degrees of diversity.

Another limitation might be the order of the skill list that participants were asked to rank order. The listing should have been alphabetized, and it was not. The researchers did provide a statement that all of the skills were considered important; and, the participants were asked to give a rank order with 1 being the most important.

Future Research

More work needs to be completed in this area to reach sound conclusions regarding the differences between United States and international students' perceptions and faculty members' perceptions and what businesses say they are seeking in future employees. Additionally, the researchers question if the criteria that the AMA survey mentions as required are true nationwide skills or if the skills businesses are seeking differ by region. The researchers plan to survey regional businesses using the instrument and compare those results with the nationwide surveys, with students' responses, and with faculty members' responses to determine any differences.

The participant group should also be expanded to include students outside the business major. Students from other majors will be seeking employment even if their area of study was not business. This group of students should be surveyed to determine if their perceptions of the skills needed for employment are consistent with those skills employers perceive to be important.

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