

# Do We Know What They Know?

## Comparing US and French Undergraduate Students' Knowledge of Core Business Concepts

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### Abstract

In today's growing context of globalization, it is essential to try to understand how cultural background and differences in pedagogy across countries may impact learning outcomes. The goal of this study is to compare knowledge of business concepts acquired at the end of undergraduate studies of management in France and the US. Mind maps were used to examine what knowledge students retained of their undergraduate studies in management. The results indicate that the learning process may be influenced not only by the structure and content of the program but also by the environment in which such content is assimilated. This study provides examples of how culture can influence the way we learn and represent core business knowledge.

### Introduction

With the increase in globalization in the corporate world, much academic research has focused on the internationalization of higher education and its implementation. To better prepare students to develop the skills to operate in global and interconnected markets, educational institutions are becoming more and more internationally-oriented. A few business schools have set up programs that require residence in multiple countries. Indeed, internationalization has been described as 'one of the most powerful substantive developments in the history of American education' ([1] p. 12) and it is also perceived as one 'of the laws of motion propelling institutions of higher learning,' [2].

If internationalization is a concept that is here to stay and that the global classroom will be an everyday occurrence, then educators need to identify whether adding an international dimension to a curriculum may impact the manner in which students learn and the academic content they retain. As management education continues its globalization, in alignment with the globalization of the corporate world, the understanding of what students from different educational backgrounds and cultures actually learn and what knowledge they acquire is likely to become an increasingly important issue.

This study intends to investigate if and how knowledge of core business topics varies by cultures and, if so, it seeks to understand which factors may influence these knowledge differences. It focuses on two research questions:

*RQ1: Does knowledge of business concepts acquired in undergraduate programs in multiple countries (notably France and the US) reflect culture-driven differences?*

*RQ2: What factors, if any, influence the difference in the knowledge acquired?*

The manuscript begins with a review of current literature on the internationalization of education. It highlights the increase in mobility and students' learning in foreign cultures that calls for more research in this area. The notion of mind maps is introduced as a culturally-agnostic approach to capturing students' representations of their core business knowledge. Using mind mapping as a tool, the paper describes how data was collected from US and French undergraduate students enrolled in business programs. Similarities and differences are analyzed and discussed, including their implications for curriculum development.

## **Literature Review**

### **The internationalization of business education**

Although literature on the internationalization of education has only begun to proliferate over the last thirty to forty years [3], there appears to be a general consensus that there is no alternative but to develop programs and curricula that promote internationalization.

The internationalization of management education has resulted not only in an increase in students pursuing their studies outside their home country with the main receiving countries being the USA, the UK, France and Australia [4] but also in the increase of partnerships and/or multi-country campuses ([5]; [6]). Indeed the 21<sup>st</sup> century has seen an unprecedented demand (and supply) of a diversification in education as well as a broader awareness of its importance for both socio-cultural and economic development [7].

Many models of internationalization of higher education have been produced by various researchers. ([8]; [9]; [10]; [11]; [12], [13]). The models developed all tend to focus on the institutional development and rationales for internationalization and while some admittedly, examine aspects of pedagogy through the curriculum, they all lack a focus on the actual student's learning outcomes and knowledge acquisition strategies within the context of internationalization.

One approach to measuring student learning across cultures is to standardize assessment processes. Although this is an expedient solution, it might not necessarily be an effective one as concerns have been raised even about the insensitivity of standardized tests with respect to differences in student learning styles in the same cultural setting [14]. In crossing cultures, these differences are likely to be magnified and using assessment measures more sensitive to different learning styles seems a better approach to evaluation.

Much research on cross-cultural learning has focused on satisfaction surveys and perceived learning measurements. For example, surveys have been used to evaluate students' perceptions of their learning experiences. However, undertaking such research primarily amongst students is considered controversial since it places the student as a customer or consumer of education ([15]; [16]) and thus may distort the teacher-student relationship. A few academics believe that the idea of treating students as consumers actually puts them in a position of 'a user of' rather than an integral part of the holistic academic environment [17]. However, such direct surveying may be necessary because any research into an academic environment which does not include the student population will have excluded the views of one of the major stakeholder groups[18].

Despite the reticence to survey students, significant research examines learning styles, retention[19], the influence of culture, the culture shock when transitioning to the new country [20] and how these variables impact how students perform. Felder and Soloman[21] developed their index on learning styles to evaluate how students learn, which Hefferman et al.[22] used to compare Australian and Chinese students.

Nevertheless, gaps between what students actually learn, and the perception of what they learn, may exist and may hinder the understanding of how students can actually analyze and use the knowledge they are gaining in their study programs. The authors believe that the use of mind maps can make a significant contribution to the understanding of what students actually learn and what they are able to represent. In addition, the openness and flexibility of mind maps enables students to show their knowledge in a way that leverages, rather than annuls, cultural differences. From such differences, there is much that could be learned about management education across countries.

### **Key components of the US and French education systems**

This study uses mind mapping to compare student learning across cultures using a sample of French and American undergraduate business students. Unlike the US, where public and private universities are the only institution where undergraduate students can complete their bachelor degrees, France has a dual higher education system composed of public universities and “Grandes Ecoles.”<sup>1</sup> The public universities have very low tuition fees and have concentrated until recently on sciences, medicine, humanities law and economics with business and management programs only being developed recently. The Grandes Ecoles run parallel to the university system [23] but historically, the schools of management have had much stronger ties to businesses and provide more practical training through integrated internships. These institutions are similar to American universities as they all charge higher tuition fees.

One of the long standing features of French society is the importance it plays on intellect. Where America extols money, Great Britain blood, France chose the concept of cleverness [24]. This is illustrated in the French education system whose role is seen to be to transmit knowledge and to train intellects rather than develop the full individual [25], a role to which the US system pays much attention with the inclusion of general education classes especially at the beginning of higher education. The French system is however, not without its critics. Upon seeing a number of textbooks used by first year high school pupils, De Closet, a former director of the prestigious grande école Science Po (Institution for Political Sciences) was reported to have said that if his students knew all of that, he would be a happy man (Le Point, 23/3/06) suggesting that although France has a very intellectual and demanding curriculum, its efficiency may be called into question.

Unlike the American system where students spend only about 15 hours per week in class, the French system is highly classroom-based [25] and is structured around the traditional functions of a company (marketing, finance, HRM). Students can have up to 25 hours of contact time per week over a ten to twelve week teaching semester in the final year of study. In freshman and sophomore years contact hours can go up to over thirty per week.

Internships and cooperative-education experiences (co-ops) play an important part in schools of management. Whole semesters can be spent working in companies to gain valuable experience and academic credits, while in the US professional experience exists in the curriculum but it is generally not compulsory at undergraduate level. Table 1 summarized the key differences in teaching and learning in the two countries.

### **Mind maps and learning assessment**

Mind mapping is a technique in which the thinking process is visually represented by connecting concepts and ideas related to a central issue or problem [27]. It provides insights into critical thinking through visual representation of the manner in which people organize concepts around a central issue [28]. Mind maps, thus, capture concepts deemed relevant to

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<sup>1</sup>The term « Grande Ecole » has no equivalent in the English language. They were originally set up by Napoleon to train the nation's elite

a particular problem or process with a visual representation of how knowledge is structured and integrated.

Table 1: French and US Key Components of Business Education

COMPONENT	France	United States
<b>Main objectives</b>	Emphasis on transmitting knowledge and develop intellectual skills Low importance on personal development	Emphasis on developing individual personal skills and the acquisition of knowledge
<b>Transmission of Knowledge</b>	High proportion of teaching Low proportion of learning	High proportion of learning Low proportion of teaching
<b>Professional component</b>	Internships are a major part of the curriculum	Integration of internships is less important
<b>Internationalization</b>	Through mobility[26]i.e. exchanges	Through the curriculum[26]i.e. intl. content, intl. programs
<b>Structure</b>	3/4 years duration, modules of varying length for class	4 years duration.
<b>Academic Content</b>	Based on functions of a company from year 1	Based on functions of a company after general education classes

*“Desired Outcomes”*

- **Academic Skills** (*Know-what*)
- **Professional Skills** (*Know-how*)
- **Cognitive Skills**
- **Personal Development Skills**

Mind maps are presented here as one technique that can capture what has been learned by offering new insights into student learning. Integrating mind maps into learning opens a window into thought processes and can provide a perspective on students’ cognitive development (see “desired outcomes” in Table 1). Mind maps capture the framework that individuals use to diagnose and solve complex problems in a way that the efficacy and relevance of the concepts that students use to solve complex management problems can be assessed.

Mind mapping begins by placing a thought or focus area in the center of the map. This represents the problem or issue to be addressed. Branching from the central focus are groups of related and inter-related concepts. These concepts are then linked with arrows that demonstrate associations among them. Mind mapping allows the process of solving a problem to be viewed holistically and there is evidence that using mind maps as a learning tool encourages both left and right brained thinking [29].

Mind maps have been used to both assess and facilitate student learning in academia in several disciplines including the social sciences [30], nursing [28], engineering, and business [31]. Research in engineering education indicates that mind maps enhance student creativity while mind maps in EMBA programs have helped students to integrate diverse higher-order constructs and to develop metaphorical thinking [31]. Mind maps have also been used to improve students’ skills in reaching accurate diagnoses in nursing programs [3].

Another major advantage of mind maps also opens a window to cross-cultural comparisons of student learning because they can capture cultural influences on what they know. Since mind maps are visually constructed rather than being based on a more linguistic construction, they can break down language barriers that may hinder cross cultural and cross

linguistic studies, opening a simpler way for student from different backgrounds to express their knowledge more freely.

Mind maps are, thus, useful for business schools that participate in transnational education in different countries and cultures as they can facilitate direct comparisons of how students in various cultures frame and analyze problems and business situations. Since mind maps are not scored quantitatively and there are no “targets” for success, business schools may be more likely to share data from mind mapping exercises which should result in a better understanding of how pedagogies in different parts of the world influence student learning. This is the reason why mind maps are used in this study.

## The Study

### Participants

The study compares mind maps from 68 undergraduate students both from France and the United States to evaluate business knowledge. The sample was comprised of 42 undergraduate students from the USA and 26 from France. Data were collected from an AACSB accredited public university located in the United States. All of the students were in their final year of the program. Participation in the study was voluntary and students did not receive extra credit or other incentives for their involvement in this research.

In the US, the sample represented over 50% of the graduating class of undergraduate business students. Sample sizes are consistent with prior studies using mind mapping to assess student learning (cf., [32]; [32]). Data from the university’s Office of Institutional Research were used to estimate sample characteristics. These data indicated that 28 percent of the graduating class of undergraduate students was female; it was 25% White, 25% Asian, 21% Latino, and 16% African American. The mean GPA was 2.62 on a four-point scale and the average combined SAT score was 1090. Eighty five percent were full-time students.

For the French sample, data from 26 advanced undergraduate students enrolled in a business major in a (smaller) *grand ecole* located in south western France was also collected to compare with the American students. All students were in the final year of their undergraduate studies in business management. In the French system, students complete modules that are assigned a specific number of credits based on work load and contact hours. The French students were all from the senior year. All had earned 180 ECTS<sup>2</sup> out of the required 240 for a bachelor degree. The average age of the sample was 22 years. It was 55 % male and all students were full time.

### Background and Hypotheses

A French sample was chosen for several reasons. Opportunistically, some of the authors had worked together closely on joint academic programs between their institutions and through observation and direct international teaching experiences, they observed differences in the levels of performance of the students. Upon a closer study, it became clear that there were indeed some major differences in the methods of instruction that could be linked to curriculum differences and to the cultural and educational backgrounds of the students.

The French system of management education can be perceived as being rather different from the American model. As mentioned earlier, the French system as a mandatory requirement to spend time gaining professional experience for academic credit through the use of internships, especially in the final year of undergraduate study. Given that experience with management practice has been proposed as a key component in rethinking management

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<sup>2</sup>ECTS –European credit transfer system is a recognized transfer of credit system in Europe with each academic year counting for 60 ECTS

education in the United States ([33]; [34]), it seems useful to compare the US system to one where emphasis is put on intellectual abilities, knowledge and professional experience.

In addition, business is not the “default major” in France in that business schools are dedicated solely to the study in that area and has become a discipline in its own right within both universities (although only very recently) and the business schools. Finally, France is in the top four international education providers, making it an important player in global education and thus an important element to study within the context of internationalization.

Some of the major differences between French and American students can be linked to the very nature and structure of undergraduate business programs. Undergraduate students of business in France commence their business classes in earlier years and so have had more experience with these subjects whereas in the United States, these students are generally introduced in the junior year (year 3). This may lead to the expectation that French students may have a more in depth knowledge of business-related subjects.

Contact time between teacher and students is far higher in France, and this could also contribute to the transmission of knowledge from teacher to learner, and could help in the knowledge retention. Based on these elements, the following hypothesis is formulated:

**H1: We expect to find a deeper level of business know-how in the mind maps of the French students.**

With regards to culture-specific differences, following Hofstede[35] cultural dimensions and specifically looking at differences between France and the US in dimensions such as uncertainty avoidance, power distance, masculinity, and especially individualism, we would expect that the US view of business be more focused on the role of individual players, while the French view may be skewed towards teams roles, partnerships and cooperation. Based on the distance across the cultural dimensions (with the US scoring higher than France in each of the Hofstede’s dimension), our second hypothesis is:

**H2: We expect that the American students will view a business as less connected (to partners, internal and external stakeholders) than the French students will.**

### **Procedures and data analysis techniques**

Approximately midway through the semester of the final year, students were introduced to the concept of mind mapping and were trained on how to develop mind maps. Despite the fact that semester dates and lengths are not the same in the USA and in France, care was taken to administer the mind maps as far as possible at the same point in time within the program of both American and French students.

Since all students in the study had little or no experience with mind mapping, a practice session in which students were presented with a mind map on a process of how to prepare themselves for an examination was demonstrated in order to ensure that students were familiar with the technique and that they were able to apply it effectively. Results from this pilot exercise indicated to the professor that students understood the concept of mind mapping and were able to apply it meaningfully. This was manifested by the comparison and discussion of the mind maps and where the faculty member ensured that ideas such as primary and secondary concepts were understood together with the configuration of their mind maps. Following this introduction, students were then asked to develop a mind map for the problem of “defining a successful company.” This concept was placed in the center of the map and students were instructed to identify and link the concepts that they thought were associated with the operation of a well-managed, successful company. Our objective was to choose a broad problem area to assess the depth and the breadth of students’ knowledge base. A similar approach has been used to assess nurses’ knowledge and analytical ability by focusing on patient well being [28]. Further, examining a firm in its totality, provides insights

into the degree to which students think in terms of processes, structures, or functional areas as well as the degree to which knowledge is isolated ( i.e. atomized) or integrated.

All mind mapping exercises were carried out in English in order to be able to code lexical items and semantics more precisely rather than having to rely on less than precise translations that may occur in the field of business. Certain terms in French such as “gestion” which can be translated as management but has very often financial connotations have no equivalent in English. Similarly “acheter” can be translated as to buy or to purchase.

The English language, although not the mother tongue of the French students was not deemed to be problematic since all participants had spent some time in an English speaking country either for a study abroad session during the summer sessions and over 30% of modules were taught in the English language (thus approximately one year out of the first three years of their undergraduate studies).

Mind maps generate a set of concepts in relation to the problem at hand that are connected by linkages determined by the person producing the mind map. Analysis is driven by the aggregation of individual mind maps to find commonalities that reflect patterns of learning ([28]; [32]).

This is accomplished in two ways. First, in semantic analysis, the concepts used in the mind maps are aggregated and analyzed. Semantic analysis was conducted by content coding the mind maps and then counting the number of times each category was present. Coding was framed in terms of primary and satellite concepts. Primary concepts were defined as those that were linked directly to the problem being mapped. Satellite concepts were defined second-order concepts that were used to amplify or expand primary concepts.

Both quantitative and qualitative analyses of mind maps were conducted. With respect to the former, differences among groups in the number of primary concepts that were defined in the mind maps were assessed with t-tests. Further, differences among groups were examined by comparing the percentage of primary concepts that fell into the following categories: marketing, human resources management, strategy, and finance by testing between two independent proportions using the z statistic (see Table 2).

Table 2: US & French Mind Maps Comparison

Area	US*	French*	$\Delta$ US/French
Marketing	37	24	14 <sup>a</sup>
Finance	13	15	2
Human Resources Mgt.	15	19	4
Strategy	10	9	1

\*Number of Primary Concepts/Total Number of Primary Concepts

<sup>a</sup> z = 2.54, p < .05;

Semantic analysis was conducted by the researchers themselves and involved content coding primary and secondary concepts, which were compiled into summary tables (*not included for space limitations but available on request*). It was used to assess the breadth and depth of knowledge evident in the mind maps. In so doing, it is possible to identify the categories and concepts that students used to frame and analyze the problem at hand. A rich array of concepts relevant to the problem at hand is indicative of advanced knowledge and analytical abilities that can be used to solve complex problems. Conversely, a constricted set of concepts suggests a superficial knowledge base that would not be readily applied to solving complex problems.

As mind maps are developed in two-dimensional space, it is also possible to analyze their configurations in order to reveal further data on the understanding of the concepts examined. Configuration refers to placement and the connections among the concepts that

define a mind map. These configurations are useful in examining thought processes and patterns of problem solving. For example, similar concepts tend to be placed physically closer to each other on mind maps [27]. For our purposes, discrete groups of concepts which are placed at or near the corners of a mind map are indicative of atomized knowledge. Closed loops among a series of concepts reveal a knowledge network that is indicative of deep levels of understanding [32]. Conversely, few loops or connections among concepts are consistent with linear, deterministic thinking. In summary:

- *A higher number of primary concepts and satellite concepts related to the central concept is indicative of higher knowledge(in support of H1)*
- *A higher array and variety of concepts is indicative of a deeper knowledge base(in support of H1)*
- *A higher number of concepts closely connected in the center of the map space is indicative of integrative knowledge(in support of H2)*

## Results

Comparison of mind maps between French and American students with respect to content reveals differences that provide insights into their mental models and cognitive processes. American students deconstructed the problem at hand using knowledge and signposts from their coursework. In many ways, their analysis and diagnostic categories were consistent with the dissection of a biological organism; that is, the pieces of a business were identified and then subdivided but in such a way that the whole became less than the sum of its parts.

American undergraduate students performed poorly on the mind mapping exercise, as indicated by the large number of concepts not relevant to the problem at hand, lending support to the view that business is the default major on US college campuses (cf., Glenn, 2011). Although there may be some criticism that the school at which data were collected was not representative of business schools in general, several factors mitigate this argument. First, the students in our sample sat for the Major Field Test in Business and scored at the national average. Second, data were collected in an AACSB accredited school so that standards for curriculum content were met. Finally, it has been noted that there is very little differentiation among business schools and that most are teaching similar content using similar methods.

In contrast, French students saw a business as a much more integrated entity where there was much less atomization. The lexical items used were focused on relationships necessary to run a business successfully so that marketing and financing were cast in terms of partnerships and ongoing relationships. For example, finance was conceptualized as the process of capitalizing a business with the understanding that this process involved relationships with financial institutions. Similarly, marketing was seen not as a function, but rather as a process in which customers are gained and kept.

French students' mind maps were richer and more focused when compared to those of American students. The number of primary concepts generated by the French students was greater than that of their American counterparts (Mean = 4.88. sd = .32 vs. mean = 3.95, sd = .28;  $t = 2.124$ ,  $p < .05$ ). Thus **H1 is confirmed**. French students were able to capture more critical elements of a business.

Analysis of the categories in which primary concepts produced by French students were placed reinforces this point. The French undergraduates used primary concepts that were reflective of the full range of a business, and with the exception of strategy, a balanced view of business process and activities as was evident. It is also noteworthy that French students did not augment their mind maps with concepts and ideas that were not relevant to

the problem at hand. Thus, the number of concepts coded as “other” was markedly less for French students than it was for their American counterparts. Only eight of 117 primary concepts (6.8 %) were coded as other for French students while 27 of 189 (14.2 %) were coded as other for American students. Similarly, five of 74 satellite concepts (6.7%) were coded as other for French students, while 173 of 369 (46.8%) were coded as other for American students. These differences were statistically significant and further support H1 in that French students had a deeper level of business know-how represented by the significantly lower numbers of concepts coded as “other” because they were marginally relevant to the problem at hand.

Analysis of configurations was consistent with semantic analysis. American students tended to put concepts in boxes (almost always rectangles) and use the four corners of the page to develop their maps. Although this pattern was evident in some of the French students’ mind maps, the more common configuration took the form of concepts revolving around the center of the map. As a result, physical distance between concepts was much less giving the impression of an integrated system of thought rather than the projection of discrete pieces of knowledge into physical space. Thus also **H2 is confirmed** as French students maps showed a higher level of integration and central connections, which is indicative of less siloed knowledge.

## Discussion

Comparison of the results from the American and French undergraduate students revealed several salient differences which appear to be tied to both culture and pedagogy. To begin with, unlike American students who thought of a business in terms of the functional area labels that define a business curriculum (e.g., marketing), French students used a lexicon that was more oriented toward business processes. For example, finance was cast in terms of the process of capitalizing a business rather than as an area that one studies in business school. This is inkeeping with typical French business culture where process and networking are very important in management [36]. Similarly, French students thought about marketing in terms of customers rather than in terms of the presence of a marketing function. Indeed, products and services were organized around the higher-level concepts of customer relationships and customer loyalty, again inkeeping with the networking and process concepts.

The reason for these differences appears to stem from an understanding of partnerships, a notion that was virtually absent from the mind maps of American students, but was an important component of the French students’ mind maps. In addition to a primary concept of partnerships (and the related concept of networks) French students saw key management functions such as marketing and finance in terms of relationships. For example, financing was seen as an activity that must be negotiated with financial institutions. More generally, partnerships and networks present business as a human, social activity rather than an object to be analyzed and deconstructed. The idea of constructing partnerships and processes in turn brings about a more stable relationship and environment and this reduces the risks for the individual. At 86, France has one of the highest scores on Hofstede’s UAI index [35].

The French education systems also has mandatory provision for internships which the American system does not, possibly because of the fact that it is more usual for American students to have part time jobs throughout their schooling. Bearing this in mind, it may be reasonable to think that if both types of students have work experience then they would be able to integrate the notion of partnerships. However, the fundamental difference between the two systems and work experiences is that the French students must be evaluated in their work

experience as a formal piece of coursework where students are required to present their experience with a written and oral presentation and have a number of ECTS credits.

This context included consideration of the quality of work life and the quality of life as a measure of a successful business, two other areas that were missing from the American students' mind maps. This difference between the American and French students is likely the result of differences in American and French culture, and the strong support for people in the social context where France has a much more feminine dimension to its culture [35]. Thus, social responsibility took on a personal tone which was related to the everyday work lives of the French students.

In summary, mind maps offered a comparison of student learning between American and French business students that would not be easily attained with more conventionally used metrics. The case, although preliminary as data are sparse, can be made that the more applied inductive pedagogy in French business schools leads to a more realistic and a more human view of business than does the pedagogical model that dominates American business schools. More generally, our findings point out to the value of cross-cultural assessment of student learning using measures sensitive to cultural differences. This type of discussion on new forms of assessment is particularly important in the context of the internationalization of education.

## Conclusions

Our findings indicate that mind maps capture learning that includes not only fundamental business knowledge, but also how that knowledge is applied and inter-related within a specific cultural context. French students' focus on networks, relationships which are all important to the notion of a *grande école* [23], and to a lesser degree, the quality of work life, emphasize the importance of culture in assessing student learning and in understanding management practice and how they will perform in the corporate world as young graduates.

Although limited by sample size differences and the focus on only two institutions, these results seem to suggest that French management education is delivering a more efficient service to its users compared to that of the United States and that it responds to the French mind set and learning patterns. However, the fact that French students produced better quality mind maps does not imply that French business education will succeed better than the Anglo-Saxon model at a global level. If learning is dependent on the culture of the learner, students from other cultures may not adapt to the French pedagogy as well. Further research is necessary in order to develop models on how to adapt management education to specific cultures.

Indeed, Heffernan et al. [22] rightly pointed out that one transnational expert was correct in saying:

“If it is the case that Australian Universities adopt a colonial perspective about education: ‘We have a wonderful Bachelor’s degree or whatever, and we will take it across to educate the uneducated Asians’; then that will fail because the era has long since passed. If we adopt education as a business and we say ‘We are in the business of delivering education services’ and we go to the trouble of finding out what needs and demands there are, and then adapt our services to those needs and demands then I think Australia has something to offer” (p.1)

All told, our findings add to the growing criticisms of management education in the United States and suggest that there is work to be done in improving student learning in business schools. Perhaps one path to take is to incorporate methods of assessing student learning by combining it with learning directly. Mind maps are well suited to this objective because they can be used to both assess and guide student learning [31] so that assurance of learning is seen by students and faculty as a process that guides and shapes learning. Other

ways may include revamping the curriculum with a focus on earlier and deeper integration. A suitable action plan will need to be built by repeating and reassessing our results across levels of instruction. Regardless of the limitations of our geographical reach, we believe that this type of research continues to be needed in the global business context where our students are now learning to become future productive players.

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