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Development of an instructional practices scale for business school curricula

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Abstract. *As reflective educators, we seek to use instructional practices offering the greatest benefit to our students. Such benefits are easily seen and understood by the professor, but less often are clearly recognized by the students. To fully evaluate the impact of various activities on students, it is essential to explore the pedagogical practices they engage in, both within, and outside of the classroom. The purpose of this study was to develop an instrument to measure the variety of instructional activities used int eh business curricula. The instrument that will be described in this session contains thirteen scales drawn from a total of 58 developed items. The survey gathered responses from 189 business students from four US-based universities: two state-supported (public) and two private. Based on Varimax factor analysis rotation, the scales were left intact. All 58 items aligned on the thirteen scales as predicted. Using Cronbach's Alpha, the reliability of the thirteen scales was supported: all Alpha's measured above .83. The focus of this study is to validate the instructional groupings. The instrument will also serve to measure the delivery of classroom and institutional-guided learning practices for sound instructional practice.*

Keywords: pedagogy, business, instrument, instrument, instructional practices.

Introduction

We seek, as contemplative professors, to use instructional practices that offer the greatest learning benefit to our students. The benefit of our practices, however, is often seen only through the professors' lens of understanding. In order to fully evaluate the impact of various instructional practices have on students' learning, it is essential to explore the pedagogies used to teach students and their effect these students when they work in their given professions. Not all instructional practices have the same effect on learning. In additional, we live in fast changing society that call for employees with higher order thinking skills. According to Bratianu and Vatamanescu (2017), students require thinking skills based on a higher plane of participation in the learning process. That is, the students must transition from passive learning to work harder as active actors in the learning process. The different practices they engage in both within and outside of the classroom have a significant impact on the way they learn and subsequently the skills they offer to the organizations they join. The notion of knowledge acquisition and deployment as a strategic asset is rapidly becoming apparent in organizations (Bratianu, 2007; Bratianu and Bolisani,

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2015). We also believe that choosing the right instructional approach is a necessary requirement of any quality education program. Not all instructional approaches are equal in their learning outcomes. According to Entz (2007), "Each teacher has a vast array of pedagogical approaches and teaching techniques from which to choose, but it is clear that they are not equally effective in producing positive student outcomes (p.2)."

We approached the taxonomy of instructional practices from a two stage system as suggested by Cohen-Scali (2003). Learners develop in two complementary processes: socialization for work and socialization by work. In the first, learners acquire attitudes, values, and critical thinking capacity. We refer to this process as in-vitro learning, which is delivered with planned and sequenced activities by learning institutions through supportive peers and educational leaders. The second instructional process, socialization by work (Lefter et al., 2011), often involves formal guided practice under the tutelage of a mentor or teacher figure in a real in-situ environment and provides the learner with broader hands-on understanding that validates and integrates their academic preparation.

This line of research was empirically approached by Glaser-Segura, Mudge, Bratianu, and Dumitru (2010) in a one-university population. Missing in this research, however, was a more robust and advanced content validation of the scale and a wider diversity of business student populations to ensure greater generalizability. The in-vitro and in-situ instructional practices developed by Cohen-Scali (2003) constitute the scope of this study. The purpose of this study was to develop an instrument that would measure the degree of usage of these instructional practices to understand the current state of pedagogical practice in the business curriculum.

Literature review

We started our development of the instructional practices scale from the perspective of the instructional approaches used in business higher education. These instructional practices generally consist of a combination of two equally important dimensions of learning: socialization for work and socialization by work (Cohen-Scali, 2003). Socialization for work occurs within the family system as well as within the classroom setting where learning objectives include the development of 1) academic knowledge, 2) work-related attitudes and values, and 3) critical thinking skills. These four objectives are more than mere content knowledge attainment. Socialization by work establishes a context for the integration of professional norms, behaviors, skills, and values into role conception (Stark, Lowther, Haggerty, & Orczyk, 1986) while affording opportunities for the integration of attributes, beliefs, motives, and experiences that help individuals define themselves within a professional role (Schein, 1978).

Socialization for work is a lifelong process that begins in childhood with the initial development of work-related knowledge, attitudes, and behaviors occurring within the context of family (Cohen-Scali, 2003). The process then transitions to an institutional setting when school attendance begins. Within the educational environment, students are introduced to developmentally appropriate curricula designed to develop intellectual skills and competencies, assist in socially appropriate behavior acquisition, and encourage healthy attitudes and ideas related to the world-of-work. An international focus of the student activities is a driver factor to produce students capable to meet the complex pressures of globalization (Dima and Vasilache, 2016).

At the post-secondary or university level, the classroom often exists as a controlled *in-vitro* environment where formal guided practice occurs under the tutelage of a mentor or teacher. Classroom experiences and activities, designed to provide students with focused and controlled small-scale integration and application of knowledge, are strategically presented utilizing repetition, shaping, and successive approximation to assist with complex knowledge and skill attainment.

In-vitro pedagogical approaches designed to promote knowledge acquisition and skill attainment include: case studies, simulations and games, guest speakers, videos, role playing activities, and career exploration. Case studies are used within the classroom setting to advance skill building in the areas of critical thinking, writing, public speaking, analysis, synthesis, and knowledge application. Simulations and games provide real-world contexts in which students vicariously participate in work-related scenarios that require decision-making, problem solving, and planning. Guest speakers allow students the opportunity to be *in relationship* with role models or mentors who represent *possible selves*. Video presentations within the classroom allow opportunities for students to be transported to otherwise unavailable locations (e.g., visiting a factory in China). Role playing gives students an opportunity to step into the shoes of their new profession as they act out professional scenarios. Career exploration prompts students to research secondary data pertaining to identified professions of interest while glimpsing snapshots of what the profession looks like.

Socialization by work corresponds to actual integration into the workforce. It is the application of theoretical knowledge within the real-world context of work and provides the valuable *in-situ* experiences necessary for identity transformation to occur (Cohen-Scali, 2003). In a study of professional managers, Hill (2004) concluded that for optimal professional identity development to occur classroom learning alone is not sufficient and on-the-job training is essential. Fagermoon's (1997) work with nurses supports the notion of socialization by work as an integral aspect of professional identity formation. Bruss and Kopala (1993) conclude that academic formation followed by practicum experiences provides a solid foundation for professional identity development.

In-situ field activities provide students with validating real-world experiences and allow for contextual integration and application of theoretical knowledge. The naturalistic environment of the workplace offers students exposure to a complex setting that is quite different from the controlled environment of the classroom. Internships, site visits, professional organization membership, and client projects are all examples of field experiences that follow the direction of a professor or coordinator who sets and/or monitors performance and behavior parameters. An internship is a pre-professional supervised practicum in which students apply and meld classroom knowledge within an organizational environment while receiving on-going feedback from identified professionals and instructors. Site visits serve to acquaint students with organizational environments often connecting course content with specific business aspects. Memberships in professional student organizations offer opportunities for students to access professional information, support best business practices, expand knowledge of acceptable behaviors, view appropriate conduct/dress for members of the profession, and participate in professional advocacy issues. Client projects involve the development of business products (e.g., marketing study) by student teams under the direction of a professor who has direct access to organizational input.

In addition to university structured *in-vitro* and *in-situ* experiences, students often participate in self-directed exploration of business and career skills. These independent explorations close any information gaps that may exist between what students have been taught and what they believe they should have learned and include activities such as surfing the Internet, reading magazines, and reading business journals. Expanded opportunities for coordination and interaction are perhaps the most important contributions of the Internet to professional identity development (Lamb and Davidson, 2005).

Finally, non-traditional university learners bring a considerable understanding of business skills from on the-job-learning. They learn many of the practical aspects of succeeding at work through work related training and from exposure to the workplace. They often lack, however, some of the specialized skills not taught on the job. These skills consist of quantitative analysis tools and the comparative management skills available from a survey of related topics. For example, in the workplace, the employee may receive instruction on a particular leadership program but in an academic setting, they would survey a variety of leadership skills. In short, on-the-job learning provides valuable basic skills but, if not complemented by an academic component, is characterized by missing gaps of knowledge and higher order thinking skills.

The research enquiry we pursued for this study was the identification of the instructional practices through a review of the literature and an empirical validation of their use in the university business curriculum. Further, we sought to identify the relationships among of the various instructional practices to see if these practices fit into the groupings of in-vitro, in-situ, self directed exploration of business and career skills.

Methodology

In this section we describe the research methodology used in this study. We discuss the number and characteristics of subjects and procedures, measures, and data analysis tools used to test the study's hypotheses.

Subjects and procedures

The study's population consisted of business majors enrolled in the senior capstone course at four universities: 1) Texas A&M University - San Antonio (TAMUSA), 2) Arkansas Technical University (ATU), 3) St Mary's University, and 4) Our Lady of the Lake (OLLU) University. The students were invited to participate in the online (Survey Monkey) survey by their respective capstone course instructors. The study was based on 189 usable responses from a total of 199 submissions. The respondents sample was largely female (60.3 percent) and averaged 27 years of age. The TAMUSA campus is considered to be an older and non-traditional population, while the other three are considered traditional populations.

Measures

The instrument used in this study was adapted from an instrument developed by two of this study's authors for a previous study of Romanian business students. The original scale content validity was improved by rewording questions that were unclear in the previous study. These scales reflected common business instruction suited to active learning (Karns, 2005), self directed learning activities using print periodicals (Watson and Bargiela-Chiappini, 1998) and Internet sources (Lamb and Davidson, 2005). The scales were modified to improve validity using content knowledge experts in business, and education theory.

Table 1. Means, standard deviations, reliabilities (α) and correlations

	Mean	Std Dev	Rel. α)	Intrnshp	Site Vsts	Stdnt Grp	Projects	SimGams	ClsCases	GstSpkrs	Videos	Role Play	Carr Expl	IntrSrch	Mag Sch
Intrnshp	2.24	1.16	.902												
SiteVsts	2.55	1.27	.896	.105											
Stdnt Grp	2.93	1.38	.932	.414**	.223**										
Projects	3.50	1.17	.839	.187*	.305**	.341**									
SimGams	3.48	1.02	.906	.241**	.110	.103	.303**								
ClsCases	4.21	.74	.897	-.053	.176*	.099	.249**	.280**				.		.	
GstSpkrs	3.86	.93	.873	.223**	.259**	.365**	.420**	.229**	.293**						
Videos	4.08	.90	.948	.065	.248**	.200**	.372**	.215**	.292**	.448**					
Role Play	3.47	1.19	.969	.184*	.162*	.088	.246**	.435**	.303**	.342**	.198**				
Carr Expl	3.48	.93	.832	.161*	.422**	.260**	.473**	.307**	.315**	.449**	.428**	.219**		.	
IntrSrch	3.90	.96	.897	-.029	.241**	.218**	.505**	.147*	.351**	.370**	.471**	.027	.501**		
MagSch	3.31	.89	.827	.068	.263**	.106	.309**	.163*	.118	.231**	.225**	.068	.284**	.413**	
Work Exp	3.15	1.12	.906	.051	.114	-.111	-.004	-.037	.139	-.024	-.074	.178*	.145*	.030	.079

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Source: Authors' own research.

In addition to improving scale content validity, we also added a scale to account for knowledge gained by students from practical work experience, as found largely in non-traditional populations. In addition, to avoid dropping scale items in the factor analysis part of the studywe created five items for each teaching variable. This allowed for greater statistical validity. The scale is located in the appendix of this report

Data Analysis

We examined the variables through factor and reliability analysis. Using a factor analytic technique based on Varimax rotation, the 58 items in the survey loaded on thirteen factors (eigenvalues >1.00) and accounted for 80 percent of the cumulative variance. All of the items loaded above .492 item-to-scale correlations and were considered to be "very significant" according to Hair et al. (1992). That is, all of the items aligned significantly with the underlying scales as theorized. Following factor analysis we calculated each scale's reliability using Cronbach's alpha (α). The alpha scores all measured above .83, which is greater than the .70 threshold for research purposes (Nunnally & Bernstein, 1994). The reliability alpha scores are shown in table 1.

A calculation of the means for the Likert (1 = "strongly disagree" to 5 = "strongly agree") shows that the various activities ranged from a low of 2.24 (disagree) for "internships" to 4.21 (agree) for "using cases." When grouping the activities by the mean values, it is clear that activities ranging below 3.00 are those that occur outside of the

Table 2. Second Order Factor Reduction of Scales

	New Factors			
New Factors	**"individual activities for class"**	**"team based activities for class"**	**"Extracurricular activities"**	**"The real thing"**
Scales Used in Factor Reduction	Site visits, projects, guest speakers, videos, career exploration, internet search, magazine search	simulations and games, cases, role playing	Internships, student organizations	Work experience
Attributes of New Factors	Focus on individual activities as part of a class assignment and may be done as independent work outside of class. Learning is lower order and does not require high levels of knowledge integration.	Focus on group class activities, requires social interaction, mid to higher order knowledge integration, short to semester long duration.	Focus on individual extracurricular social setting activity with some institutional coordination. Considered "practice" by stakeholders, requires higher order learning and lasts from a semester to a year.	Real world activity with rewards and consequences. Requires highest order knowledge integration for survival and promotion, is an ongoing activity.

Source: Authors' own research results/contribution

classroom and require student search and engagement (e.g., belonging to a student organization). The activities that range from 3.00 to 4.00 occur in the classroom and thus occur with more frequency and they require instructor initiative to schedule them into ongoing class activities (e.g., guest speakers). The activities ranging above 4.00 are those that are ubiquitous in almost every business class and are supplied with many textbooks and instructor's online resources.

These scales reflected common business instruction experiential approaches suited to active learning (Karns, 2005), self directed learning activities using print periodicals (Watson and Bargiela-Chiappini, 1998) and Internet sources (Lamb and Davidson, 2005). The scales were modified to improve content validity using content knowledge experts in business, and career and education theory.

Conclusions

Learners develop content knowledge through two complementary processes: socialization for work and socialization by work (Cohen-Scali, 2003). Thus, internships and student groups should be an important aspect of learning in-situ. This data shows that fewer students take advantage of internships and even fewer belong to a student group. These

high impact practices in learning occur outside of the regular day and this are ones that cannot easily be required by instructors, and are time-intensive for to set up. Additional requirements might include observations and meetings outside of regular hours. Requiring students to leave a current job or curtail hours to complete. Within nontraditional spaces, experiences such as these are more wieldy to accommodate and enforce.

In addition, professors and trainers might not have the time to coordinate learning activities such as guest speakers in a single development session, or within the confines of a semester. Lectures, one- day or week workshops and talks, do not in themselves create a time and space for a guest speakers. The logistics of speakers is also a difficult part of the inclusion of outside expertise within the confines of a classroom situation. While guest speakers are prevalently a part of an opening session, or a plenary address, it is seldom though of as a best practice in business teaching.

However, it was evident that professors were utilizing case studies and video. In almost all cases, business classes were said to include professors' use of videos. While case studies are often a hallmark of business education, "learn from this experience, " or, "See how this person does it," videos can be additive or subtractive. (As a point of clarification, the survey questions were oriented toward videos that contain a particular business approach, a speech or a presentation. The questions did not reference case study videos.) Too much emphasis on video can derail discussion and personalization, as well as critical community discussion. Classrooms that become too reliant on videos can become classes wherein students are not engaging in deep critical thinking and idea sharing; they become a passive event, like television.

Instructors have control over three types of activities used in classrooms, as seen in the latent structure studied among the 13 scales in Table 2, and these are: 1) individual classroom activities, 2) team-based or collaborative activities and 3) internships and practicum situations. The three types of activities allow instructors varying degrees of control. It is the third activity, however, that requires the student to take the final plunge and get experience on their own. It is here that they integrate the knowledge they have learned in their in the other two groups of activities. We also find that instructors have little control over behaviors and the grading scheme is one where students turn in progress reports and are not concerned with lower order building blocks of knowledge. In addition, the underlying latent structure supports the construct validity of the scale and is clearly a delineation of lower order to higher order learning.

Finally, the last factor, work experience, further strengthens the construct validity through discriminant validity. This last activity, which is an independent learning method which does not depend in any way on the instructor. All of the other 12 scales, on the other hand ae related to each other to some degree or another, however, none of the 12 school related activities were closely correlated to the work experience scale. It is our opinion that students recognize that the domain of school-sanctioned learning is different from that of workplace learning. We did not intend for work experience to be considered as a pedagogy scale. For this study it provides discriminant validation.

In summary, Factor analysis and reliability analysis supported the discriminant and reliability validity of the scale. Overall, we have followed several steps to improve the construct validity of the instrument.

Future research-

Students must transition from passive learning to more active, experience oriented learning and instructors also need to be able to help promote thinking within the learning process. Because not all instructional approaches are equal, we believe that to improve the status quo in teaching business, strategies and services need to change to accommodate learners' needs.

Little research has been conducted to bridge the gap between educational settings and needs within the business world. This world should be thought of as global and fast-paced. The corresponding survey thus could be used to challenge the differences between countries' teaching practices, comparing business educators and the business environments they serve with the needs and experience of the students they serve.

This scale could additionally be used to study effectiveness of programs serving business and other areas of college community experience. By asking students to explore their actions across classes, the repeating of curricular practice could possibly be reduced. Studying such environment exchange has the possibility to more deeply address the needs of colleges to actively participate in the preparation of business professionals.

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