Utilizing the Purdue Creativity Test to Identify Instructors for Research on Preparedness to Foster Creativity in Students

Terry Allan Burstein, PhD

Abstract: This case study explored the preparedness of higher education instructors who fostered creativity in their classes. Exploring the biographical creative experiences of these instructors through heuristic theory and case study methodology and how they used these experiences to craft assignments which fostered student creativity. High and low creative instructors were identified utilizing the Purdue Creativity Test. The test has been used in the past to identify the creativity level of engineers. After selection, an open ended interview was performed with each participant. The main findings of the study discovered instructors' historical creative biography consistently influenced and mirrored the way they fostered creativity in their students and that creativity enhancing assignments were often transformational in nature.

Keywords: Creativity, Higher Education, Over-parenting, Purdue Creativity Test.

INTRODUCTION

In order to remain competitive in the global economy, post-secondary institutions must graduate creative thinkers (Katehi, & Ross, 2007; Kerr & Lloyd, 2008; Walker-Gibbs, 2008). The world has moved from an industrial model to one in which creative problem solving is a critical skill as they acquire and use information (Craft, Chappell, & Twining, 2008). The Pedagogy for Employability Group cited creativity as the top quality employers seek in their employees (McWilliams & Dawson, 2008).

Focusing on the teaching of Science, Technology, Engineering, and Mathematics (STEM) in higher education had been viewed as a panacea for solving the current economic crises facing the globe (Burns, 2009). However, the focus on STEM had been accomplished by deemphasizing the arts. Companies successful in today's economy do so through creative innovation, the skill set is most likely learned through programs sacrificed for STEM (Burns, 2009; Deverell & Moore, 2013). Therefore, it has become necessary for higher education instructors to prepare the next generation of workers by rethinking their pedagogy to deliver content while fostering creativity in their students (Burns, 2009: 2013). However, many institutions have been teaching STEM [and other subjects] based upon an outdated theoretical and lecture approach rather than by incorporating techniques for enhancing creativity into their curricula (Burns, 2009).

Over parenting has produced a group of students who developmentally lack the creative spark (Marano, 2008). The effect of this societal event on the student's creativity was part of the rational for this study. The exploratory case study focused on the experiences of instructors who attempted to foster creativity in their students during higher education at a business school in Manhattan, New York.

The US student currently entering higher education for the first time had come from an educational, economic and sociological environment which may have limited their ability to utilize their own creativity through the No Child Left Behind (NCLB) Federal initiative, the current global recession, and the increase in overprotective parenting (Ambrose, Lang, & Grothman, 2007; Butzin, 2007; Lamb, 2007; Marano, 2008; Selingo, 2011; Settle & Somers 2010; Tucker & Courts, 2010). In addition, higher education's march toward corporatization had perpetuated the limits to creativity as well (Clegg, 2008, Deverell & Moore, 2013).

Encouraging risk taking was seen as a key component of fostering creativity (Gutnick, Walter, Nijstad, & De Dreu, 2012; MacLaren, 2012). However, encouraging risk taking involved taking time for creative expression through challenges to established belief systems. Fostering creativity in college students had societal, economic, and quality of life implications (Jackson, 2008). However, there were few researchers who had studied the instructor's preparedness for fostering creativity in the classroom (Aschenbrener, Terry, & Torres, 2010; Deverell & Moore, 2013; Kleiman, 2008). This was the focus of this study. An exploratory case study design was utilized. Sani, Clow, De Nardin, & Stammerjohan, 2011) identified how creativity was taught had been done in upper undergraduate or graduate level curriculum. Even at this level, the findings indicated there was relatively little research on creative pedagogy (Sani et al., 2011). When it was taught, it was often infused into the content of the curriculum rather than as a separate skill set to be developed (Sani et al., 2011; Walker-Gibbs, 2008). Creativity was once thought of as solely a component of the arts. The recognition it existed in daily life and in every discipline had only recently widened the study of creativity to psychology, business, science, and academia (Leon-Róvira, Heredia-Escorza, & Lozano-Del Río, 2008; MacLauren, 2012). Researchers such as Amabile (1992, 2012) and Csikszentmihalyi, (1997) had made creativity a focus of their life's research focusing on the components of the creative process, and creativity, innovation and the management of flow, respectively. Aschenbrener et al. (2010) recognized creativity was a difficult concept to measure however, noted the open-ended interview was one of the most beneficial methods in obtaining information on an individual's creativity (2010). This study proposed to explore the experience of high and low creativity scoring instructors in a business school identified by the administration of the Purdue Creativity Test originally created for use in identifying creativity levels of engineers. Those high and low scorers submitted to open ended unstructured interviews and the review of archival documents including assignments.

DISCUSSION

The purpose of this qualitative case study was to explore how instructors fostered creativity in their students and if so, how they recognized when creativity had been learned. This is of interest due to the present environment where societal factors are working against the utilization of this skill by students (Settle & Summers, 2010). Through an exploratory case study, 10 instructors employed by LIM College in Manhattan, New York with varying creative life backgrounds were interviewed to determine if the level of instructor experience with personal creativity had an effect on fostering student's creativity. To select the instructors for the study, the Purdue Creativity Test G (PCTG) (Lawshe & Harris, 1960) and an unstructured interview were used. The PCTG was administered to all respondents to determine their level of personal creativity. Ten participants who were determined, through the results of the test, to have experienced the highest and lowest levels of creativity were selected to participate in the open-ended interviews. This method of participant inclusion is supported by Aschenbrener et al. (2010) who recognized creativity as a difficult concept to measure however, noted the open-ended interview was one of the most beneficial methods in obtaining information on an individual's creativity (2010). A review of the instructor's creative archival work by the researcher to gain insight into their own creative output, an interview with the instructor, and observations of selected assignments they have created, assisted the researcher to build a case study focusing on if the level of the instructor's personal exposure to creativity had an effect on the degree of student creativity and how an instructor fostered the creative process in their students. The higher educational environment had been selected since they were a population transitioning from the K-12 confines of the testing environment of NCLB and over-parenting (Locke, Campbell, & Kavanagh, 2012) which has led to a creativity deficient population (Gibson, 2010; Selingo, 2011; Settle & Somers, 2010; Tucker & Courts, 2010). While creativity has emerged as an important focus for educators, little research has been done on how instructors perceive, interpret, and communicate their own experience of creativity to their students (Deverell & Moore, 2013; Trotman, 2006). Prior to this study of the instructor's creative assignments for the classroom, further knowledge in the area of the instructor's holistic and visceral life experiences related to creativity were gained to increase understanding, and

the potential for rich and meaningful information to be collected (Merriam, 2009; Smith, 2011; Trotman, 2006). Utilizing heuristic theory tenets, additional information came to light based on the researcher's ability to discover new insights based upon the information collected through the interviews.

METHODOLOGY

An exploratory heuristic case study methodology as clarified by Merriam (2009), Stake (1995), and Yin (2009) were the primary sources which guided the study by the researcher. Instructors' experience with creativity and their perceptions of how they fostered creativity in the classroom is a personal and visceral topic. It was important for the researcher to understand the instructors' relationship to creativity so it could be determined if this had an effect on how they fostered creativity in their classroom.

The population for this study were college faculty members comprised of full time and adjunct instructors. As or 2011 there were 1.5 million faculty employed by degree granting two and four year institutions in the United States divided equally between full time and adjunct positions (National Center for Educational Statistics, 2012). Males had a slight majority of 51.8% versus females (National Center for Educational Statistics, 2012). This population had been selected since they were the ones faced with students arriving from 12 years of high stakes testing and were responsible for shifting the focus from learning content to learning how to be creative (Ambrose, Lamb, 2007; Lang, & Grothman, 2007; Butzin, 2007).

The sample was comprised 17 of LIM College undergraduate instructor participants. E-mails to the faculty, word of mouth, and posters on faculty bulletin boards offered information on the study and contact information for those who were interested in participating. While Stake (1995) commented it was not remarkable for all respondents to be evaluated, in this particular study by utilization of the PCTG, a smaller amount were used in the open ended interviews. While exact statistics are unavailable, since the College's mission includes a major experiential education component (LIM College, 2014) anecdotally, the majority of faculty members have come directly from industries related to fashion, management, marketing and the arts and sciences to support the mission. This sample includes 28 PhD, 105 Master, and 30 Bachelor degree holding members (LIM, 2014) in the total sample.

The PCTG was the first instrument used. This test had been deemed to have been solidly refined and the reliability was acceptable for use with group norms and conceivably with individuals, along with concurrent validity of some acceptance (Merrifield, 2012). The PCTG was created and first used to measure the divergent thinking skills of potential engineering employees. Based upon the findings, the test assisted employers on deciding whether they should hire an employee and if so, where to place them within the organization for their maximum use in areas where originality and problem solving were a desired prime skill. (Charyton, Jagacinski, Merrill, Clifton, & DeDios, 2011). The 17 instructors participated in one on one meetings on the LIM Campus in a private room where the PCTG (Lawshe & Harris, 1960) (see Appendix A) was administered and analyzed according to the guidelines accompanying the test. The administration of the PCTG lasted approximately 45 minutes. The five participants who score the highest and the five participants who score the lowest were invited to take part in the individual face to face open-ended unstructured interviews (see Appendix B).

Shorthand, Dragon Naturally Speaking Software, version 13, audio video recording, and checking back with the participant to ensure understanding, was used to ensure accurate meaning during the open ended interviews (Stake, 1995). While the use of audio video recording during a case study is beneficial for an exact documentation of what was said and what physical behavior occurred, it was not recommended as the primary tool for transcription as the process could be too cumbersome for the study (Stake, 1995), however it was a valuable tool to review for physical rather than verbal information (Fontana & Frey, 1994). Assignments were collected from the participants which they believed illustrated their methods of fostering creativity in their students. While the authorship of any document or artifact may be questioned, if it may assist in determining additional information and may

be collected in a simple and methodic manner it may be used as data (Merriam, 2009). One of the goals of the case study was to gather information from others and using the instrument of the interview is the preferred method to achieve this goal (Payne, 1980). The unstructured interview is the preferred method when attempting to understand complicated behavior (1980) and creativity certainly falls into that category (Amabile, 2002). The interview process and questions were structured as follows: The interview took place in a private setting on the LIM Campus between the researcher and interviewee, the tone was of an interactive casual dialogue (Potter & Hepburn, 2005) allowing for the addition of additional probing questions (Payne, 1980) if necessary, and began with general questions and move toward more specific ones (Fontana & Frey, 1994; Payne, 1980). The researcher prepared the interview questions and modified them based upon the writings of Amabile (1992, 1996, 2012); Cohen (1997), Fontana, & Frey (1994), Payne (1980), & Potter & Hepburn (2005). The result was an unstructured interview guide comprised of 12 open-ended questions (see Appendix B). The questions began with determining the biographical creativity of the instructor and the intrinsic or extrinsic motivation for the acquisition of creativity. The interview questions moved into the classroom and how the instructors fostered creativity in their students. This interview also inquired into the techniques used to foster creativity in their students and how the instructors knew and perceived the fostering of creativity. The researcher reviewed the transcripts of the interview and reviewed documents to determine the chronological timing of exposure to creativity and level of creativity and creativity centered pedagogy the instructors had experienced. During an email communication with D. Trotman (personal communication, February 24, 2012) regarding interviews, he stated trust and credibility derived from thick description were objectives to be pursued when engaged in research. This replaced validity which quantitative research required and qualitative research has challenged.

These interviews took place one on one in a private room at LIM College. Each interview lasted from between 30 minutes to one hour. The number of participants for the unstructured open-ended interviews had been determined by the recommendations of Yin (2003) and Stake 1995). Participants were asked to bring archival materials to the interview, some emailed the researcher their material after the interview understanding if there were questions, they would be contacted. When considering data saturation, the quality and extent of the data trumps pure numbers of respondents (O'Reilly & Parker, 2012). In this case study where the goal was to reveal creative life experience, there was always more to discover since every respondent was different from the other so saturation may be considered unlimited (2012). However it was recommended transparency in how respondents had been selected increased the potential for achieving saturation (O'Reilly & Parker, 2012). Self-disclosure about the researcher's creativity was shared, as this technique elicits self-disclosure from the interviewee (Moustakas, 1990).

Following the chronology method recommended by Yin (2009), an analysis of the material from the interviews and review of archival materials was performed. A chronological method had been selected since certain circumstances such as an instructor's understanding of and working within creativity was necessary prior to reviewing artifacts they may have identified as creative. Also, based on the creativity theory of Csikszentmihalyi (1996) time must have passed between exposure and experience with creativity and the ability to utilize it. Both of these events justified the use of a chronological analysis (2009). The responses to the interview questions which from beginning to end, proceeded from the general to more specific, and from the earliest recollections of personal creativity to the fostering of creativity was the primary information which informed the findings. This process was iterative, reviewing the interview data from the Dragon transcripts, audio visual recordings, and shorthand notes from each respondent. The audio visual format was most useful for searching for exact wording (Stake, 1995). From these repeated reviews, a color coded transcript for each respondent was created based upon the research question the information illuminated. (Stake, 1995; Yin, 2003). The frequency of repeated data was notated. These two procedures created a graphic representation of the information collected (Yin, 2003). Specific indicators (Yin, 2009) such as high and low creativity scoring on the PCTG were identified prior to the administration of the open-ended unstructured

interviews. The top five and bottom five scoring participants were selected to take part in the open ended interviews. This ameliorated the potential for bias (Yin, 2009) as well as threats to validity (Yin, 2003).

Data triangulation was performed to boost certainty in the interpretations by reassessing the data of various evidence examining the same event (Flick, 1992; Yin, 2003, 2009). The use of triangulation is strengthened when the evidence gathering devices are identified prior to the study, and at least one strategy focused on the architecture of the issue and the other on the meaning to the individual (Flick, 1992). Information gathered through the previously identified open ended interview questions, whose architecture was determined to move from the general to the specific, and focused on the meaning of the topic to the respondent, along with the researcher's notes taken during the interviews, the audio visual record of the interviews, the complete transcripts, and the researcher's observations, were reviewed to explore the preparedness of instructors involved in fostering creativity with the goal of collecting data for case study thick description and transparency. There is consensus in the literature there is a need for this type of information regarding the preparedness of college instructors' on how they foster creativity and additional research is required to add to our understanding in this area (Clegg, 2008; Higgins & Reeves, 2008; McWilliam, Hearn, & Haseman, 2008; Walker-Gibbs, 2008).

IMPLICATIONS AND RECOMMENDATIONS

Since there were few studies which dealt with instructors' experiences with creativity and the consequences these experiences had on their ability to enhance the creativity of their students (Deverell & Moore, 2013; Hong, Hartzell, & Greene, 2009), the study explored if an instructor's creative biography had an effect on the way he/she fostered creativity in their students (Deverell & Moore, 2013; Noddings, 2013). All three elements of Csikszentmihalyi's (1996) tenets to classify creativity were present; the field or subject taught, the field or instructors working within the subject, and the individual or the instructor herself. The limitations included the participants interviewed did not represent the levels of creative experience, or demographics of all higher educational faculty; and the participants' responses could not be vetted to ensure all information gathered during the open interviews was the truth. During the interviews, instructors were asked if they recalled, and to share their earliest creative memory rather than had they perceived themselves to be creative and how, possibly limiting their response due to their memory, and to share a time when they had been creative. Also, the ability to assess every student's creativity in a class was not possible since those who did not open up to creativity shut down. The final limitation was instructors were unaware of the biography of each student to be able to recognize with absolute certainty those who had come from a NCLB or over parenting environment.

How did an instructor's experience with creativity affect the ability to foster creativity in their students was discovered to be an instructor's biographical experience with creativity was directly linked to what techniques they chose to foster creativity in their students. Each participant was aware of their creative biography and used a variation of it when fostering the desired result in their students. If an instructor's creativity was visually or theatrically based, visual or theatrical means were utilized in the classroom. If an instructor had to fight for their own creative voice, they were a champion of persistence in moving their students from an attitude of non-creative ability within the student to recognizing the student had the ability. An instructor brought up in a nontraditional educational environment offered her students the option of being nontraditional in the way they created their assignments. This set the how to the foundation for the purpose of the study, to discover how an instructor fostered and recognized creativity in their students by linking it to their own memories of personal creativity. This information assisted the researcher to build a case study focusing on if the level of the instructor's personal exposure to creativity had an effect on the degree of student creativity. The implication is the level, quality, and type of personal exposure does have an impact on the preparedness of the instructor to foster creativity. The importance of this information coincides with Csikszentmihalyi (1996) and Kleiman (2008) who implied it was significant for instructors in higher

education to comprehend their roles in enhancing their student's creativity. An addition to existing theory is proposed by the answer to this question. Through self-reflection of their own creative biography, an instructor may discover how to direct their students towards opening their own creative selves. The significance of the information gathered from the answer to this question offered not only additional information to the way in which instructors understand the creative process, but signaled a need to ask the question posed to all higher educational instructors about their own creative background and request they allow time to consider any links to their own creative pedagogy. This is an exercise which may benefit becoming a part of instructor's creativity pedagogical training. Csikszentmihalyi (1996) desired to improve the understanding of creativity in the individual. One of his tenets for the development of creativity was to allow time for this self-discovery to emerge. The discovery in this study of the direct relationship between the unique qualities of the participant's creative experiences and their intuitive way to foster creativity in their students contributed to the existing literature and suggested a method for enticing the creative nature of the instructor to flourish holistically.

How did an instructor foster creativity in a student? The answer to this research question may be explained by the need for the following action, active participation of the instructor and student in a transformative act. It was noted the higher educational environment had been selected since they were a population transitioning from the K-12 confines of the testing environment of NCLB and over-parenting (Locke, Campbell, & Kavanagh, 2012) which had led to a creativity deficient population (Gibson, 2010; Selingo, 2011; Settle & Somers, 2010; Tucker & Courts, 2010). This deficiency or inability to tap into creativity based upon the policy, economic, and sociological issues already discussed posed an issue for several instructors and their students. It is the most significant limitation in the study since it is a confluence of these phenomenon which have not aligned before in higher education.

The literature often associated creativity with freedom, this finding was uncovered due to the formalized structure of higher education which continued to focus on lectures, assessment, and an inability to unleash student creativity (Kleiman, 2008). Instructors recognized building confidence in their students was a key to releasing creativity, by creating a safe environment for risk taking. This is consistent within the literature as explored by Gibson (2010), Jackson (2008), and Robinson (2006). The characteristics of risk taking are often elusive within this student demographic (Cutright, 2008; Marano, 2008; Settle & Somers, 2010) and is recommended to be encouraged in the classroom for the current demo and psychographic of students in higher education.

Additional contributions to the literature which the study unveiled, Csikszentmihalyi (1996) noted it was during the higher educational years when creatives came into their own with curiosity and interest. This is relevant to explore based on the participants sharing many of their higher educational students lack curiosity. Paradoxically, the discovery of the creative spark which included curiosity and interests occurred so young in most of the participants conflicted the theory of Csikszentmihalyi (1996), about coming into one's creative own later in life, since coming into one's own was exhibited by their ability prior to or just entering a primary education and included curiosity and interest in creative acts. However it simultaneously confirmed the tenet of a late in life becoming, since they were able to then transform their creativity into creative lessons for others.

Another addition to the literature and Csikszentmihalyi's (1996) concept of coming into one's own during their higher education years, may be found in the instructor's ability to recognize their earliest creative acts as substantive to who they have become. While this adds significance to studying the current student higher educational population and attempting to identify implications, it was apparent from the participant's description of their early creative acts they recognized coming into their own was directly related to their earliest creative experiences.

The following are practical recommendations based upon the findings. It was noted instructors' visceral experiences with personal creativity directly influenced the ways in which they approached fostering creativity in their students. A course for instructors who wished to enhance their ability to

increase their student's creativity based on recalling and detailing their own creative biography would be a beneficial creativity training program. Additionally, the sharing of these biographies in a group setting would have the potential to expose instructors who did not have memory access to their early creative endeavors, or who simply did not have them, to a variety of creative experiences of their peers which may ignite creativity enhancing concept to those in attendance.

Instructors foster creativity in their students through discussions and assignments which challenge the student to move beyond learning material for a test. To further assist the instructor who wished to improve their creativity fostering ability, after considering their own creative biography and the opening this type of information gave them to enter into fostering student creativity, they would benefit from engaging their students in activities which possessed elements of transformation.

The recommendations for future research are based on the study and recognition of the policy and societal creativity dampeners the current student brings to higher education are a set of challenges which have not existed simultaneously in the past. The overarching desirable recommendation is these areas be explored to discover ways to ameliorate the creativity dampening damage each has done, based upon the existing literature, as well as what the aggregate effect to the creativity of the current and future student in higher education will be if they continue at their current levels? The first recommendation for future research would be to conduct additional individual studies focused on each of their effects on creativity to give the issues increased visibility.

To further highlight the negative effects NCLB has had on the creativity of students, a case study comparing the creativity levels of an 8th grade student from a NCLB environment with those who did not experience this program, such as those from a Waldorf school is suggested. To raise the awareness of over parenting's effect on student creativity, a similar case study may be conducted. This would require a more sophisticated design to ensure the two groups of students, one from a restrictive over parenting or guardian environment and the other from a holistically hands off parental or guardian style were able to be sufficiently identified and verified. The first major hurdle would be to discover a methodology to ensure this separation was satisfactorily accomplished.

CONCLUSION

How did an instructor's experience with creativity affect the ability to foster creativity in their students was discovered to be an instructor's biographical experience with creativity was directly linked to what techniques they chose to foster creativity in their students. How did an instructor foster creativity in a student was answered by the need for the following action, active participation of the instructor and student in a transformative act. There was also the discovery there were students who were unable to access their creativity due to a myopic view of learning which lead them to search only for information would help them pass the test. These observations also included a sense of fear, perhaps of failure, the inability to take a risk, and a shutting down.

REFERENCES

Amabile, T.M. (1992, January). Social environments that kill creativity. *Readings in Innovation,* 1-17. Retrieved from http://eds.b.ebscohost.com.proxy1.ncu.edu/ehost/pdfviewer/pdfviewer?sid=32d63127-45f3-47e3-9d0c-47e25572931b%40sessionmgr115&vid=4&hid=109

Amabile, T.M. (2012, April, 26). *Componential theory of creativity.* Unpublished manuscript, Harvard Business School, Cambridge, Massachusetts.

Ambrose, D., Lang, K., & Grothman, M. (2007). Streamlined reflective action research for creative instructional improvement. Educational Action Research, 15(1), 61-74. doi: 10.1080/09650790601150840

Aschenbrener, M. S., Terry, J., & Torres, R. M. (2010, March). Creative teaching behaviors: A comparison of student and instructor perspectives. NACTA Journal, 54(1), 46-53. Retrieved from http://eds.b.ebscohost.com.proxy1.ncu.edu/ehost/pdfviewer/pdfviewer?sid=32d63127-45f3-47e3-9d0c-47e25572931b%40sessionmgr115&vid=7&hid=109

Burns, D. (2009). Creativity: The path to economic recovery. Education Week, 28(31), 28-29. Retrieved from http://eds.b.ebscohost.com.proxy1.ncu.edu/ehost/pdfviewer/pdfviewer?vid=12&sid=32d63127-45f3-47e3-9d0c-47e25572931b%40sessionmgr115&hid=109

Butzin, S. M. (2007). NCLB: Fix it, don't nix it. Phi Delta Kappa, 88(10), 768-769 Retrieved from http://eds.b.ebscohost.com.proxy1.ncu.edu/ehost/pdfviewer/pdfviewer?vid=14&sid=32d63127-45f3-47e3-9d0c-47e25572931b%40sessionmgr115&hid=109

Charyton, C., Jagacinski, R. J., Merrill, J. A., Clifton, W., & DeDios, S. (2011). Assessing creativity specific to engineering with the revised creative engineering design assessment. Journal of Engineering Education, 100(4), 778-799. Retrieved from http://search.proquest.com.proxy1.ncu.edu/docview/902631086?accountid=28180

Clegg, P. (2008, August). Creativity and critical thinking in the globalised university. Innovations in Education and Teaching International, 4(3), 219-226. doi: 10.1080/14703290802175982

Craft, A., Chappell, K., & Twining, P. (2008). Learners reconceptualising education: widening participation through creative engagement? Innovations in Education and Teaching International, 45(3), 235-245. doi:10.1080/14703290802176089

Csikszentmihalyi, M. (1997). Assessing aesthetic education: Measuring the ability to "ward off chaos". Arts Education Policy Review, 99(1), 33-38. Retrieved from http://search.proquest.com.proxy1.ncu.edu/docview/210990481?accountid=28180

Deverell, A. & Moore, S. (2013, March, 19). Releasing creativity in teaching and learning: The potential roles of organisational legitimacy and increased dialogue. Innovations in Education and Teaching International, 51(2), 164 – 174. Retrieved from http://www.tandfonline.com.proxy1.ncu.edu/doi/full/10.1080/14703297.2013.771968#.U90YCWOkWjs

Gibson, R. (2010). The 'art' of creative teaching: Implications for higher education. Teaching in Higher Education, 15(5), 607-613. Doi:10.1080/13562517.2010.493349

Gutnick, D., Walter, F., Nijstad, A., & De Dreu, C.K.W. (2012, June). Creative performance under pressure: An integrative conceptual framework. Organizational Psychology Review, 2, 189-207. doi: 0.1177/2041386612447626

Jackson, N. (2008, June). Tackling the wicked problem of creativity in higher education. Surrey Center for Excellence in Professional Training and Education. Retrieved from http://imaginativecurriculumnetwork.pbworks.com/f/wicked+problem+of+creativity+in+higher+education.pdf

Katehi, L. & Ross, M. (2007). Technology and culture: Exploring the creative instinct through cultural interpretations. Journal of Engineering Education, 96(2), 89-90. Retrieved from Research Library. (Document ID: 1260146431)

Kerr, C. & Lloyd, C. (2008, November). Pedagogical learnings for management Education: Developing creativity and innovation. Journal of Management & Organization. 14(5), 486-503. Retrieved from http://search.proquest.com.proxy1.ncu.edu/docview/233254466/fulltextPDF/9FED52D72D144D6FPQ/1?accountid=28180

Kleiman, P. (2008, August). Towards transformation: conceptions of creativity in higher education. Innovations in Education and Teaching International. 45(3), 209-217 Retrieved from http://search.proquest.com.proxy1.ncu.edu/docview/210673654/fulltextPDF/B851E174BB7C4FF8PQ/1?accountid=28180

Lamb, J. H. (2007). The testing culture in one rural Mississippi school. High School Journal, 90(4), 32-43. Retrieved from http://eds.b.ebscohost.com.proxy1.ncu.edu/ehost/pdfviewer/pdfviewer?vid=22&sid=d8402fe1-3d47-44da-ab87-022f8df3fd56%40sessionmgr112&hid=109

Lawshe, C. H., & Harris, D. (1960). Purdue Creativity Test. Retrieved from http://1340.sydneyplus.com/ETS_SydneyEnterprise_External/Portal/TestCollection.aspx?lang=en-US

Leon-Róvira, N., Heredia-Escorza, Y., & Lozano-Del Río, L. (2008). Systematic ceativity, challenge-based instruction and active learning: A study of its impact on freshman engineering students. International Journal Of Engineering Education, 24(6), 1051-1061. Retrieved from Northcentral University interlibrary loan.

Locke, J. Y., Campbell, M. A., & Kavanagh, D. (2012). Can a parent do too much for their child? An examination by parenting professionals of the concept of overparenting. Australian Journal of Guidance and Counselling, 22(02), 249-265. Retrieved from http://eprints.qut.edu.au/55005/2/55005.pdf

MacLaren, I. (2012, March, 29). The contradictions of policy and practice: Creativity in higher education. London Review of education, 10(2), 159-172. Retrieved from http://www.tandfonline.com.proxy1.ncu.edu/doi/full/10.1080/14748460.2012.691281#.U90npGOkWjs

Marano, H.E. (2008). A nation of wimps. New York: Broadway Books.

McWilliam, E. & Dawson, S. (2008, February, 14). Teaching for creativity: towards Sustainable and replicable pedagogical practice. doi: 10.1007/s10734-008-9115-7

Merriam, S.B. (2009). Qualitative research a guide to design and implementation. San Francisco, CA: Jossey-Bass.

Sani, B, Clow, K.E., De Nardin, T.J., Stammerjohan, C.A. (2011, Winter). Teaching creativity:

Where do we go from here? International Journal of Education Research, 6(1). Retrieved from http://eds.b.ebscohost.com.proxy1.ncu.edu/ehost/pdfviewer/pdfviewer?vid=7&sid=b88c5636-6063-4303-bb5e-28d11045209d%40sessionmgr113&hid=109

Selingo, J. (2011, October, 2). Beyond super and ill-prepared students, how about some with creativity [Web log post]? Retrieved from http://chronicle.com/blogs/next/2011/10/02/beyond-super-and-ill-prepared-students-how-about-some-with-creativity/

Settle, J. & Somers. P. (2010). The helicopter parent: Research toward a typology. College and University, 86(1), 18-27. Retrieved from http://www.acro.org/publications/college_and_university_journal.aspx#. UFNnOVHouOM

Smith, K. (2011). Cultivating innovative learning and teaching cultures: A question of garden design. Teaching in Higher Education, 16(4), 427-438. doi: 10.1080/13562517.2011.560374

Trotman, D. (2006, April, 13). Interpreting imaginative lifeworlds: Phenomenological approaches in imagination and the evaluation of educational practice. Qualitative Research, 6(12), 245-265. doi: 10.1177/1468794106062712

Tucker, J. & Courts, B. (2010). Grade inflation in the college classroom. Foresight : The Journal of Futures Studies, Strategic Thinking and Policy, 12(1), 45-53. doi: 10.1108/14636681011020155

Walker-Gibbs, B. (2008, July). Valuing creativity in the higher education sector: What price the creative knowledge economy? International Journal of Pedagogies and Learning. 4(3), 5-12. Retrieved from http://go.galegroup.com/ps/i.do?id=GALE%7CA252291832&v=2.1&u=pres1571&it=r&p=AONE&sw=w&asid=4f7ea9da5ff4e16b4a556e9c8bb3804b

Terry Allan Burstein, PhD is Chair of the LIM College Fashion Merchandising Department in Manhattan, NY.