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A co-creation shift in learning management: work design for institutional commitment and personal growth

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Abstract Some higher education management departments have started to implement customer service orientation strategies in their marketing activities in order to solidify value exchange perceptions, differentiate themselves, and improve retention rates. However, if students are to get the most out of their academic experiences, they need to become meaningfully and psychologically involved in their studies. This research study explored the specific job context of students within the higher education environment by testing the structure of the "work of students" by utilizing job design theories. The ensuing conceptual Student Engagement Work Design Model (SEWDM) and the empirical findings provide a roadmap of how the engagement elements of autonomy, feedback, skill variety, task identity, and customer services can be utilized by universities when attempting to predict institutional commitment and personal growth needs. A co-creation approach to management education is definitely more complicated to promote and implement, but it has the larger payback as costs can be lowered through the careful design of the students' work so it will be motivational—with students helping to create a better educational experience for their peers, the faculty, and the community resulting in more positive word-of-mouth promotions.

Keywords Higher education · Student engagement · Co-creation · Job design · Institutional commitment

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Introduction

Applying the conventional attitude-based approach to consumer relationship building in education relies on the assumption that there is a link between students' evaluations of service quality and their subsequent behavior. This attitude-based approach also requires inferences to be made concerning which aspects of the services delivered inspire positive opinions of the services provided. This modus operandi is widely practiced in universities. Yet, there could be a different strategy to increasing student commitment through internal motivation created by developing tasks and course contents that inspire students to become more engaged in their university studies. Motivation is linked to engagement because internal drive triggers a reaction or action.

An attempt to motivate students to get involved or "engaged" in the learning process can be linked to the co-creation of value premise found in the business, government, and health care settings (Alford 2009; Iandolo et al. 2013; Payne et al. 2008). Co-creation is described as collaborative creation where stakeholders cooperatively and reciprocally contribute to the value creation process (Grönroos and Voima 2013). In the education context, students are not consumers of education (Natale and Doran 2012); they are co-creators through not only word-of-mouth recommendations but also participation in the classroom, interactions with those in the community, peer support, and faculty interactions (Judson and Taylor 2014; Saludadez 2010). Axelson and Flick (2010) support this co-creation viewpoint by proposing that student engagement is evident through students' involvement and interest in learning and their commitment to their classes, their institution, and each other. Therefore, students are directly involved in this production of value and their activities are more akin to "work" than "consumption," which is contrary to the underlying assumption of the customer service approach in education. This is an important shift in how we think about and approach the management of education and, more specifically, learning management.

Within the higher education sector there has been an overreliance on the customer service approach at the expense of making students take more responsibility for their learning (Natale and Doran 2012). It is disturbing that researchers are observing signs that fewer students are putting an honest and sustained effort into their studies, grade inflation is evident in high school and post-secondary education, and the increasing number of degrees granted to underachieving students is devaluing university degrees in the marketplace (Côté 2007; Kuh 2003). However, this should be viewed as a shared responsibility between the student and the university. The university system is also a partner in the co-creation of academic standings (e.g., granting of degrees) and learning experiences by helping to form the expectations, duties, opportunities, and tasks so students are challenged and engaged (Saludadez 2010). Finding out how to design the work of the student so it can be more engaging is among the first steps. Getting students involved in the co-creation process matters because research findings have demonstrated that student engagement influences learning and persistence (Campbell and Cabrera 2011; Pike and Kuh 2005). Both of these outcomes are important to retain students and to encourage their personal growth and development. The specific purpose of this article is to develop a work design model that identifies the student engagement dimensions influencing students' institutional commitment and personal growth.

Work design literature review

Jobs, and their design, provide structure to the organization, but they also help to form important outcomes for the organization and its stakeholders. Work design, in both

professional and educational situations, is the conceptual or practical examination of factors that influence work and the rearrangement of them into a motivational structure that increases work performance or achieves desired outcomes. The job characteristics model (JCM) (Hackman and Oldham 1976, 1980) was one of the first theories to focus on the environmental determinants of job satisfaction and has been commonly used by followers (Cohen 2012; Morgeson and Humphrey 2006). The JCM proposes that complex jobs are associated with increased job satisfaction, motivation and performance, and low absenteeism.

The model consists of five core job dimensions associated with desired positive outcomes (defined later in this section), three intervening critical psychological states (e.g., meaningfulness of the work), and four personal and work outcomes (e.g., satisfaction with work). The relationship within this model is strongest for individuals with a high need for personal growth.

Using the JCM model as a point of departure, Morgeson and Humphrey (2006) combined existing (17 and 33%) items with newly identified (50%) work design characteristics in their work design model (WDM). The model encompassed four broad categories based on how work is performed: (a) the five core dimensions of the JCM model (e.g., skill variety), (b) knowledge characteristics which brought an ability orientation to the work design perspective (e.g., job complexity), (c) social characteristics (e.g., feedback from others), and (d) contextual characteristics (e.g., physical demands). The primary focus of the WDQ study was to develop and examine the construct validity of new measures of work design while eliminating potential moderating factors.

According to Torraco (2005) and Oldham and Hackman (2010), many features of existing work design theories do not accurately explain today's emerging workplace existence. Similar to industry, the changes within the university environment highlight a need for renewed attention to the structure and construction of students' work. University students are dealing with condensed work periods, various course delivery methods, income restrictions which result in more students taking on part-time jobs during the school term (Robotham 2009), and tasks that require more technical skills. These students could potentially benefit from greater autonomy so they could juggle their multiple demands and reduce the resulting stress.

Moving beyond just an examination of job characteristics, work design examines and modifies the structure, content, and environment within which jobs and roles are established; thus, work design is scrutinized and systematized by occupation (Dierdorff and Morgeson 2013). Although there have been many advancements in the work design field, Hackman and Oldham's JCM (1975, 1976, 1980) is still the prevailing theory used today and is the basis for most of the work design models created since its inception (DeVaro et al. 2007; Humphrey et al. 2007). It has also been marginally used within the education sector (Bloom et al. 2000; Catanzaro 1997). For example, Kass et al. (2011) tested the core dimensions of the JCM in university classrooms through the use of a modified version of the Job Diagnostic Survey, which also included Job Boredom Scales among others. They found significant relationships between task characteristics (variety, identity, and significance) and autonomy and feedback and certain outcomes such as affective (e.g., satisfaction and boredom) and behavioral (e.g., absenteeism). In particular, Kass et al. (2011) found students' ratings of the core dimensions were significantly related to course satisfaction (positive) and classroom boredom (negative) in the anticipated directions. However, much of this research has stopped short of exploring a university-wide application of JCM concepts or using the JCM with an existing and readily available store of databases, so the theory's core elements (based on definitions of the core job dimensions, among others) and new job dimensions that better suit the university student population can be tested using previously developed and validated engagement scales.

A new model for management of education

The conceptual Student Engagement Work Design Model (SEWDM) exhibited in Fig. 1 is based on the underlying definitions of core job dimensions mentioned in Hackman and Oldham's conceptual model (1976, 1980). However, this research does not focus on the Job Diagnostic Survey scales; instead, data from the National Survey of Student Engagement (NSSE) provide an opportunity for a fresh and appropriately fitting perspective on university co-creation of education. It also does not include the mediating and moderating influences contained in the original JCM due to the lack of empirical support for their inclusion. This proposed model offers an expanded meaning for autonomy and includes the new construct of customer service, which is specifically related to students; it also highlights the differences between white-collar professionals who are paid to dispense a service and students who are paying to attend universities and use university services.

Elements of engagement in the co-creation process

Using wording from Schaufeli and Bakker (2004) and Shantz et al. (2013), employee engagement is a positive, fulfilling, work-related state of mind that is illustrated by vigor, absorption, and dedication to the organization. Changing this definition a bit to reflect the academic environment, for the purpose of this study, engagement (synonymous with involvement or participation) is defined as a state of heightened interest and cognitive effort, or being energized and inspired by learning, which results in actions that demonstrate perseverance and being engrossed in one's work. Cultivating the ethos of co-creation remains a formidable challenge since it requires an

Fig. 1 Conceptual Student Engagement Work Design Model (SEWDM)
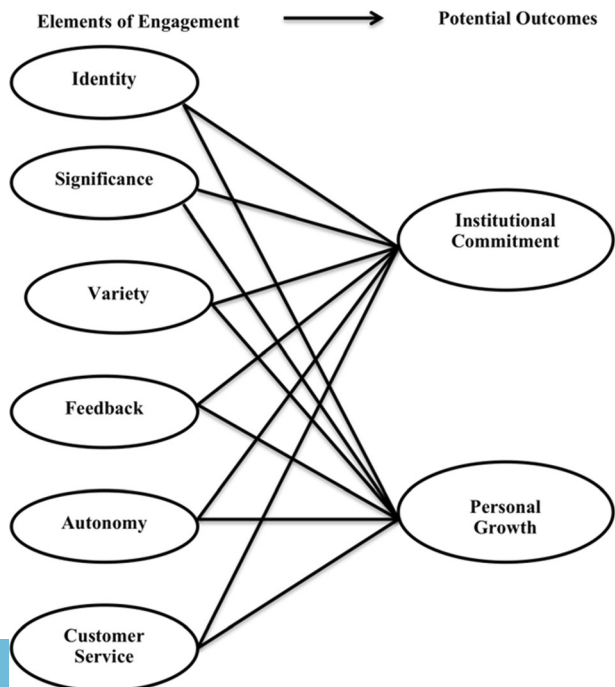
articulation between personal and institutional goals and practices (Bovill et al. 2015); if this partnership is successful, it can lead to energized engagement and learning transformation.

The construct discussion that follows is founded on the supposition that university students' work can be improved through a motivational (engagement) approach that is focused on increasing mental tasks over another work design approach such as experimental psychology's perceptual/motor approach. The six independent variables contained in the model are briefly described below.

Task significance has been defined as the degree to which the work influences the lives of others (inside or outside of the organization) and increases motivation by shaping how employees interact with the people affected by their work. However, it may be hard for most students to make definitive assessments of the significance of their work because they have had limited interaction with the greater community and have not had the opportunity to test their newly acquired knowledge.

Task identity is defined by Catanzaro (1997) in the academic setting as the degree to which students feel responsible for their work from start to finish. According to Shantz et al. (2013), individuals must be able to envision how each task builds on the other and how the end product or service contributes to organizational goals in order to inspire engagement and the accompanying pride in one's work.

Skill variety has been described as the work an individual is required to perform or demonstrate over a wide range of tasks and, by extension, skills. Similarly, Catanzaro (1997) defined this term for the academic setting to be the degree to which students' studies require them to use an assortment of multifaceted skills.

Autonomy has been viewed as the amount of freedom and independence an individual has in carrying out his or her work. For the conceptual model, the definition of autonomy has been modified from the definition found in the job design literature for the academic setting to be the degree to which students have the freedom to express themselves and to expand pre-established limits that prevent meaningful choice without the interference of others.

Feedback from others reflects the degree to which organization provides information about performance (Hackman and Oldham 1975, 1976, 1980). In the educational setting, feedback is of particular importance because of the effect generational values play in employee workplace perceptions. An expectation for more immediate and detailed feedback for a Millennial generation translates into the desire to communicate and receive guidance from supervisors and on a more frequent basis (Mencl and Lester 2014).

Customer service refers to an attempt to improve aspects of the students' educational experience. Universities are working together with students to find out which services are expected, moving student satisfaction into the realm of customer service (Obermiller and Atwood 2011). University students may not be buying their "degree" or be customers with regard to learning outcomes, but they are paying tuition with the expectation that the university will provide them with support and services during the learning process so they can achieve their goals (Palli and Mamilla 2012; Vauterin et al. 2011).

Potential outcomes resulting from co-creation

Students need to have work that is connected to an end result that is both achievable and meaningful to them. This premise is grounded in Vroom's motivational theory (1964). This

theory proposes that, for people to be motivated in their work, they must feel that there is a strong probability that their effort will lead to performance (Expectancy), that good performance will lead to an outcome/reward (Instrumentality), and that they will value the outcome/reward (Valance) because the reward is based on their individual needs, goals, and other sources of motivation (Lunenburg 2011). Students attend university for a number of reasons; nonetheless, two important outcomes from the institution and student perspective are personal growth and institutional commitment. It is noteworthy that these outcomes are affective responses to one's environment.

Institutional commitment is an important outcome of education co-creation, and workplace research can provide a fertile foundation of insight. In general, most organizational commitment research definitions refer to a commitment to the organization as an obliging force that gives direction to behavior by binding a person to a particular course of action (McNally and Irving 2010). Pascarella (1985) defined institutional commitment as a student's expectation that he or she will remain satisfied with his or her institution and the student's anticipation of remaining enrolled at the institution. The *quality of academic advising* has been identified as the single most powerful predictor of satisfaction in the National Survey of Student Engagement (NSSE) by guiding their education journey and encouraging student involvement in the campus community (Kuh et al. 2007). In addition, studies (Bowden 2011; Marshall et al. 2012) have indicated that student loyalty was most strongly determined by psychological attachment through *forming relationships with faculty, peers, and administrators;* student satisfaction alone was not sufficient to generate loyalty, as a sense of belonging is also needed.

Personal growth is another important outcome of the education co-creation process and includes a person's need for personal accomplishment, learning, and development. Growth satisfaction reflects an amalgamation of workers' attitudes about aspects of their work, such as feelings of accomplishment, degree of autonomy, sense of personal development, and level of challenge. Research results surrounding this outcome have been mixed (DeVaro et al. 2007) and in need of further empirical testing. Students are paying to work at their studies in hopes of the realization of unfulfilled goals instead of being paid to work; so their motivation and the strength of their need would be different.

There is an expanding volume of research suggesting universities are less supportive of students' intellectual and personal growth than in the past. According to Judson and Taylor (2014), recent analysis of university students' concluded that "a significant proportion of students demonstrate no significant improvements in a range of skills including critical thinking, complex reasoning, and writing. They attribute this impotence of learning to a growing student body distracted by socializing or employment and institutional cultures that put undergraduate learning close to the bottom of institutional priority lists" (p. 51). There is also a shift among the students entering university where the majority of students are more focused on attending university to obtain a career, while giving back to society, scholarship, and the intrinsic value of higher education are not a consideration for most (Judson and Taylor 2014; Kennett et al. 2011). In the SEWDM model, personal growth encompasses both personal development (such as self-awareness and expansion of views), as well as consideration for others and society's views and needs.

Putting much of the blame on students for their mercantile attitude depicts mimetic behaviors. In the last three or four decades, higher education institutions have seen

massification, marketization, economization, managerialism, classroom globalization, class size expansion, hiring of temporary staff, and other trends that have had major ripple effects on students (Enders et al. 2013; Leisyte et al. 2009; Maringe and Sing 2014; Wilkesmann and Schmid 2012). Saddled with multiple goals, the connections between means and ends have become blurry (Louvel 2013). Pressed to transform themselves into organizational agents, higher education institutions may have forgotten that the end game is "to enhance our understanding of contemporary societies and the futures that are available to them" as opposed to just taking a myopic view of the trajectory (Brennan 2008, p. 392). In that sense, Wilkesmann and Schmid (2012) allude that the logic of economics espoused by institutions has taken its toll on teaching and students.

Work design hypotheses—testing the conceptual SEWDM

To meet the aims of the study, four hypotheses have been developed and are included below:

(H1)Inclusion of the customer service element of engagement will help to explain the selected outcomes of "institutional commitment" and "personal growth." Exploration of this hypothesis is important as the inclusion of the customer service dimension is specific to the academic environment (Palli and Mamilla 2012; Vauteret et al. 2011) and adds substantial new information to the job design research literature.

(H2)If tasks and skills (meaningfulness), autonomy (responsibility), feedback (knowledge of results), and customer service (organizational support) have been incorporated into students' "work environment," this attempt to get students to be more engaged/internally motivated will positively influence their assessment of the quality of their education and commitment to their institution. This hypothesis tests an aspect of the conceptual SEWDM and basic assumptions of the study which add new information to the work design and institutional commitment research literature. The study aims to extend the engagement context to provide information to universities regarding how they can design students' work to increase their institutional commitment and combine quality of their education with their desire to repurchase (Hsu et al. 2014; Kuh et al. 2007; Bowden 2011).

(H3)If tasks and skills (meaningfulness), autonomy (responsibility), feedback (knowledge of results), and customer service (organizational support) have been incorporated into students' "work environment," this attempt to get students to be more engaged/internally motivated will positively influence their personal growth. This hypothesis aims to extend the engagement context (Spector 1985) to provide information to universities regarding how they can design students' work to encourage students' personal growth, through an expansion of students' intellectual and interpersonal development.

(H4) Autonomy has a more in-depth meaning in the higher education sector than that found in the traditional workplace setting and will help to explain both institutional commitment and personal growth outcomes. Exploration of this hypothesis is important because the higher education environment does differ from the traditional workplace setting. As students (with the help of society) are paying to attend university, they have control over which classes they may want to attend, which delivery modes they prefer, which instructor best fits their personalities, and how they structure their timetables.

Methodology

To test these hypotheses, the National Survey of Student Engagement (NSSE) was a logical choice. NSSE was developed by the Indiana University Centre for Post-Secondary Research to measure students' participation during their studies in educational activities that assisted with their learning and personal development. This new style of survey satisfied the demand for another form of ranking beyond the surveys that were focused on reputation and/or resources (Pike 2006). Research has found that students' engagement in their institution influences learning and persistence (Campbell and Cabrera 2011) so the work undertaken as part of the NSSE has performed a critical role in identifying good practices within publically funded institutions.

Additionally, the NSSE database was not specifically designed to test the JCM core dimensions (in other words, NSSE did not use the Job Diagnostic Survey scales), so only the model features that had observed counterparts in the data could be explored (e.g., institutional commitment instead of work performance or attrition). While on the surface, this limit did not allow a full testing of the JCM, but it did allow testing of new additions to the JCM model, for example, the inclusion of customer service and a new definition of autonomy in the core job characteristics and testing of students' institutional commitment and personal growth needs.

The data used in this research was drawn from the NSSE databank based on a single institution located in Ontario, Canada, with the institution's approval. An average of all Ontario response rates for 2006, 2008, and 2011 range from 33 to 41%, which are comparable to the level of response for all NSSE institutions (37 to 39%). The total respondents to the NSSE online survey for the participating institution ranged from 39.5 to 45% depending on the year. The surveyed undergraduate university students in the NSSE surveys for 2006, 2008, and 2011 were in their first (61%) and senior (39%) year of university study, with a gender distribution of 80.6% females and 19.4% males. They were asked to assess their impressions of their university experiences and to provide some demographic data.

Results

The data treatment consisted of a two-step process using different statistical techniques. The first step of the data analysis involved a factor analysis performed on the data to identify if items clustered into patterns were consistent with the overall model. The second step consisted in testing the potential independent constructs against the dependent constructs of institutional commitment and personal growth to assess if the independent variables could be reliable predictors of the dependent variables.

Results of the factor analysis

The exploratory Principal Components factor analysis did not present issues with the overall model as items did not form under multiple component numbers. All eight of the model categories had the related items group together as expected demonstrating there was a clear pattern to all of the factors. Thus, this exploratory process identified and confirmed the groupings of survey items for use in developing the constructs, which were included in the

final regression models. Of the 47 items used to test the conceptual model, eight factors were found to fit the data based on a scree plot analysis. Eight of the survey items loaded on the first factor explaining 17.698% of the model variance with the other 39 items loading on the other seven factors explaining a further 21.62% of the total 39.318% variance. Following the examination of the factoring outcome, a Cronbach's alpha analysis helped determine construct validity. Alpha reliabilities in the range from .71 to .99 are considered to be exceptionally high (Gliem and Gliem 2003). The Cronbach's alpha ranges were high (.737 to .877) except for the .688 achieved for the task significance construct. It was determined that although this construct (task significance) fell somewhat below the recommended .70 reliability measure, there was theoretical support for retaining it in the final model. After testing for reliability, the factored variables from each variable grouping were transformed into construct variables consisting of the summed survey items for each variable category.

Results of linear regression on institutional commitment

The use of linear regression enables one to identify which constructs are most important in predicting institutional commitment. The results show the model was a good fit with the equation explaining a statistically significant portion of the variability in the dependent variable ($F = 207.740$; $p < .05$). The adjusted R square statistic (R^2) demonstrates that the model explains 36.8% of the variance in the dependent variable. In addition, four of the six indicator constructs achieved p values less than .05 indicating significance. Therefore, four of the constructs can be used to understand institutional commitment.

As the predictors were factor scores, there were no multicollinearity issues with any of the constructs as the VIF statistics are all considered small (<5). All four beta values (Table 1) positively influenced the construct used to identify institutional commitment: customer service ($\beta = .337$; $p < .05$), skill variety ($\beta = .261$; $p < .05$), autonomy ($\beta = .084$; $p < .05$), and feedback ($\beta = .084$; $p < .05$). The other constructs that tested the institutional commitment outcome that did not achieve p values less than .05 were task identity ($\beta = -.033$; $p > .05$) and task significance ($\beta = -.001$; $p > .05$) (Fig. 2).

Results of linear regression on personal growth

The results indicate the model was a good fit (Table 2), with the equation explaining a statistically significant portion of the variability in the dependent variable ($F = 153.026$;

Table 1 Regression of factors on institutional commitment

Adj. R square	Std. error	F	Sig. of F		
.368	.59438	207.740	.000		
Relationship	Std. beta coeff.	Std. error	t	Sig. of t	Collinearity (VIF)
Autonomy	.084	.026	3.549	.000	1.901
Skill variety	.261	.031	10.505	.000	2.086
Feedback	.084	.026	3.929	.000	1.541
Customer service	.337	.022	15.705	.000	1.553
Task significance	−.001	.024	−.068	.946	1.288
Task identity	−.033	.024	−1.570	.117	1.492

$p < .05$). The R^2 statistic demonstrates that the model explains 30.0% of the variance in the dependent variable which is lower than the institutional commitment model's R^2 of 36.8%, but it is reasonable that external influences (family, friends, and co-workers from the present and past) could account for more of the variance in someone's personal development. For this model, three of the six indicator constructs achieved p values less than .05 indicating significance. Therefore, three of the constructs can be used to understand personal growth. Similar to the institutional commitment outcome, in this outcome's testing, feedback ($\beta = .263$; $p < .05$) and autonomy ($\beta = .145$; $p < .05$) were significant and positively related to the dependent construct and task significance ($\beta = .004$; $p > .05$) did not explain the variance in this outcome either. However, in contrast to the institutional commitment outcome, for the personal growth outcome, task identity was significant ($\beta = .263$; $p < .05$) with a high beta value and customer service ($\beta = -.007$; $p > .05$) was not significant so it did not explain the variance in personal growth.

Discussion and analysis

Predicting institutional commitment

The research study's findings support the inclusion of customer services in the work design used for university students (Table 1). This independent variable had the largest beta size ($\beta = .337$; $p < .05$) so it was the most predictive of institutional commitment. This finding adds a new and important perspective to the work design literature and helps to support the co-

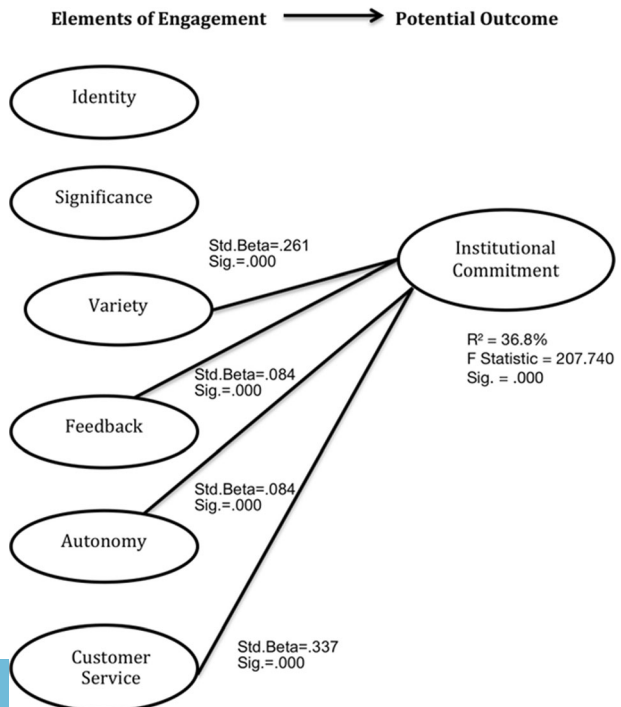Fig. 2 Linear regression—Student Engagement Work Design Model—institutional commitment

Table 2 Regression of factors on personal growth

Adj. R square	Std. error	F	Sig. of F		
.300	.54617	153.026	.000		
Relationship	Std. beta coeff.	Std. error	t	Sig. of t	Collinearity (VIF)
Autonomy	.145	.024	3.549	.000	1.901
Skill variety	.029	.028	10.505	.270	2.086
Feedback	.263	.024	3.929	.000	1.541
Customer service	−.007	.021	15.705	.749	1.553
Task significance	.004	.022	−.068	.836	1.288
Task identity	.263	.022	−1.570	.000	1.492

creation of value approach to higher education. As mentioned earlier, students are different from employees in some fundamental ways. Unambiguously, students are customers regarding their use of residence lodging, cafeteria expenditures, and other in-house university services (Bay and Daniel 2001). They are paying for these university services through their tuition and have expectations about the service quality.

The customer services identified in this study (for example, support for non-academic responsibilities, social and academic support, etc.) offers a better transition to university life so students are able to concentrate on their studies. Customer services influence satisfaction, evaluations of quality and repurchase opinions, so these services help to cement a sense of belonging—these are all desirable features when attempting to ensure students remain committed. Thus, administrators have a responsibility to ensure the successful delivery of support services promised during the university's promotional process.

Skill variety (β = .261; $p < .05$) This independent variable had the second highest Beta size so it also holds a prominent function within the regression equation (Table 1). This finding is not surprising and confirms prior research findings. Kass et al. (2011) found that skill variety (the extent jobs allow workers to use different skills or talents) was most highly related to school satisfaction. The skill variety construct, along with task identity (defined as the extent to which jobs allow workers to feel they participate in the development of a whole, identifiable product), also helped to explain the variance in course satisfaction. In addition, skill variety made a significant contribution to the regression equations of overall school satisfaction and educational experience outcomes. Students may need more variety (for example, written, verbal, integration of technology, acquiring broad education and work-related knowledge, etc.) in order to not only combat boredom but also form relationships fostered during group work and be able to identify the benefits of the skills they are learning. In addition to other goals, students pay to attend university so they can develop job-related skills. By offering a greater span of possibilities through the development of a variety of skills, students may evaluate their entire university experience and the relationships they have formed more positively.

Feedback (β = .084; $p < .05$) This independent variable had the same predictive value as the autonomy construct. Oldham and Hackman (2010) discussed the importance of the social sources of motivation in employee work design, which include the degree the work requires working with people and also the amount of feedback received from

others. This need for interpersonal confirmation of work quality is also required within the academic setting. Bowen (2003) noted the need for praise and feedback to confirm their accomplishments and to stay motivated. This factor may be even more important in the current university environment. Millennials now make up a substantial portion of the university population, and according to Mencl and Lester (2014), it has been well documented that these students require more timely and detailed feedback than previous generations. This research again supports the co-creation of value concept. It would appear that faculty members hold an important role in helping to engage students in the learning process not only by providing academic challenge but also by being accessible and providing feedback through prompt guidance and critique of students' written and oral work.

The concept of autonomy has been amended to reflect society's expectations for the university student population. As this definition of autonomy (in essence, learning effectively on one's own, understanding yourself, solving complex real-world problems, developing a personal code of ethics, spirituality and political awareness, etc.) has not been used before in the work design literature, it adds a new level of understanding to the current research. It would appear that students' freedom to express themselves ethically, politically, professionally, and spiritually, without fear of discrimination, does help to predict students' commitment to their institution.

Task identity and task significance had no predictive value in explaining institutional commitment. Peters et al. (2005) stated that students do not have the depth of knowledge to be able to make informed choices regarding their curriculum. Thus, more control should lie in the hands of the university. Until students get a job, they will not learn how their "work" has the ability to impact others, which may be the reason why this aspect does not attain significance in this research study.

Predicting personal growth

Task identity (β = .263; p < .05) had the same beta size as the feedback construct (Table 2). This result is contrary to Bloom et al.'s (2000) finding that task identity did not appear to contribute to the student outcomes of satisfaction or interest, among others, such as motivation, performance, absenteeism, and desire to withdraw. The differences in the findings are logical as Bloom et al.'s (2000) research was focused on classroom content, and this study focuses on the whole university experience. In the classroom, greater task identity or big picture thinking, which requires students to build on their previous knowledge, could provoke negative reactions such as stress or anxiety. However, for the same reasons, it is logical that task identity would help to predict personal growth need. Task identity involves being able to see the "big picture" of how each element students are learning fits together through their ability to analyze problems, synthesize information, make judgments of value, and apply theories to practical problems or in new situations.

Feedback (β = .263; p < .05) This independent variable had the same beta size as the task identity construct (Table 2). Thus, it was more predictive of personal growth (dependent variable) than autonomy but held the same level of impact in the regression equation as task identity. Feedback's significant and positive relationship to both the personal growth

construct and the institutional commitment construct is interesting. In the co-creation of value context, all of the stakeholders cooperatively and reciprocally contribute to the valuation process (Grönroos and Voima 2013). It is logical that feedback would hold a substantial role in meeting students' personal growth needs, particularly with Millennials or the "me-generation" who have been identified as wanting instant gratification, having been raised in a culture where everyone, no matter the effort, gets a trophy (Mencl and Lester 2014).

Autonomy (β = **.145**; p < **.05**) This independent variable had the lowest beta size of the three significant constructs (Table 2). Thus, it was less predictive of personal growth (dependent variable) than task identity and feedback. This finding is somewhat similar to the results Bloom et al. (2000) achieved during their course enrichment study. Their study also did not use the critical psychological states or the moderating influence of growth need and found university students operated differently than those on the job as each of the variables they tested impacted the outcomes directly, contrary to Hackman and Oldham's (1980) JCM. Bloom et al. (2000) found autonomy could be used directly to help predict satisfaction and students' desire to withdraw. It is noteworthy that autonomy was statistically significant for both outcomes, which highlights the new definition's fit within the educational setting.

Skill variety, customer service, and task significance were not significant so it did not help to predict personal growth (Fig. 3).

Fig. 3 Linear regression—Student Engagement Work Design Model—personal growth
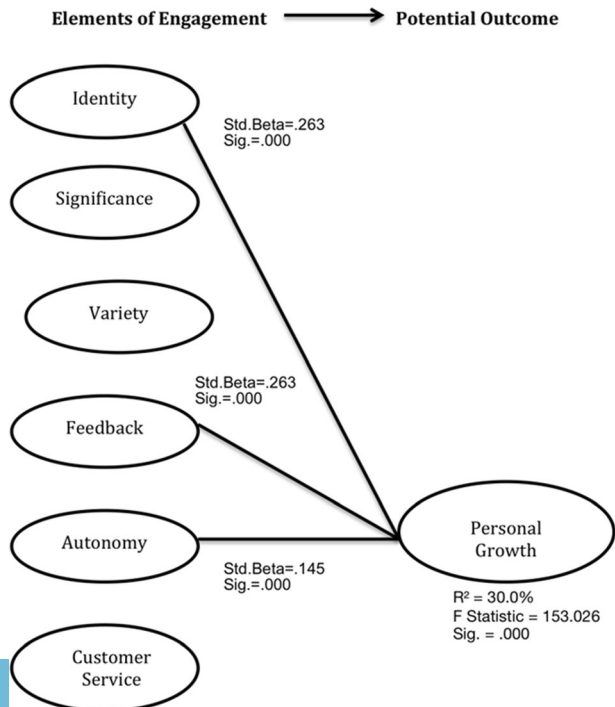
Summary of hypothesis (H) testing

This study sought to explore the use of specific work design elements in order to help construct the work of students so institutional and personal goals could be met. All of the hypotheses were partially or fully supported. H1 examined the ability of the customer service element of engagement to explain institutional commitment and personal growth outcomes. It was partially supported because it could account for some unexplained variability in some work design models used in the educational context, but it only helped to predict institutional commitment, not personal growth. H2 tested a set of predictors for institutional commitment and was partially supported. As expected, customer service, skill variety, feedback, and autonomy did help to predict institutional commitment; however, contrary to this hypothesis, task identity and significance did not. H3 examined a set of predictors for personal growth was also partially supported. The results found that task identity is important to personal growth as is feedback and autonomy. However, skill variety and customer service were not significant predictors for the personal growth outcome. H4 testing of the newly defined element of autonomy found that it could be used to predict both institutional commitment and personal growth; therefore, H 4 was supported.

Conclusions and implications

The research findings will enhance efficiency and improve the effectiveness of work design methods. There is extensive evidence of the positive impacts on students when they become involved as co-creators of their university experiences, but universities do not appear to have the ability to use personal and institutional procedures and policies to make it happen (Axelson and Flick 2010). While universities can develop policies to make a direct and important contribution to the educational co-creation of value process, one must be cognizant of the fact that the goal of engaging students in the co-creation of value is one that is fundamentally outside of institutional control. Students have decision-making independence which means that they cannot be tightly controlled by administration and this is evident through the strong support for the new definition of autonomy. Consequently, institutions need to develop strategies encouraging, managing, and enhancing student involvement without having ultimate control over the students and their behaviors. Rather than avoiding these concerns, the time has come for universities to address them and this research has drawn attention to possible pathways.

There were some common elements between the institutional commitment and personal growth constructs. Depending on the specific choices made, the work design will take on a decidedly different character depending on what outcome is embraced. For instance, increasing task identity (personal growth) will produce a distinctly different work design than increasing skill variety and customer services (institutional commitment). It is too multifarious to attempt to discuss every configuration possible; therefore, the most salient and common elements of the outcomes are discussed below.

The predictive quality of autonomy was stronger for personal growth than that for institutional commitment. This knowledge is important because support for this new definition of autonomy is not offered in the prior literature but it is robustly supported in this study. Using an occupation-based definition of autonomy can provide universities with a better understanding of the importance of academic, political, ethical, and spiritual freedoms embraced by members

of the university population. As this construct was significant in both models, it demonstrates that students value the historical understanding of what a university education represents for society. Fostering these freedoms through active learning, the support of extra-curricular clubs, offering academic credit for community service activities, and including more electives within programs so student have more variety and control could help to increase both students' institutional commitment and personal growth.

Feedback encompasses the quality of interpersonal relations between students and the faculty members they meet during their studies. One important implication of the current findings is that faculty need to educate themselves about actual generational differences regarding the need for more detailed and frequent feedback to facilitate stronger connections between students and professors. However, a problem often encountered when redesigning existing jobs is that some changes are simply improbable to make. For example, increasing feedback from professors is not always within the control of administrators. Faculty members are given autonomy to develop the course curriculum based on their expert knowledge. In general, administrators would have neither enough specific knowledge nor the authority to determine the best way to approach a subject matter area or to match the learning outcomes to the best assessment methods that match the required course content, teaching style, and topics raised during class discussions. An incorrect intervention could create work overload and decreased commitment from both faculty and students.

The institutional commitment outcome construct included aspects of affective and calculative commitment. Therefore, while attempting to differentiate the university in the marketplace through institutional opportunities such as customer services and skill variety, marketers need to strive to recruit students who mesh with the values and culture of the institution. Upper-year students who have stayed throughout their studies or transferred into the university are more likely to express positive feelings about their university experience. Simple attrition would remove many discontented students by their final year. This places an important focus on recruiting first-year students with a good fit and correcting any transitional issues with proper support. Marketing communications should be tailored to accurately portray the type of experience a first-year student is likely to have so as to not oversell or misrepresent the institution and its services.

Task identity was strongly predictive of personal growth and skill variety was predictive of institutional commitment. Seeing the big picture and the development of a variety of skills could be facilitated by the use of courses with content that spans disciplines. Thus, more interpretive courses in which faculty can draw connections spanning through disciplinary boundaries, may be beneficial. Life is rarely tidy and absolute; it can be messy and not easily contained within the structure of one university course or discipline. The pursuit of heightened understanding of the broader societal questions can require the integration of different disciplines' methods of approaching the question and thinking about the production of new knowledge. This type of exploration can increase engagement and discourage the stifling of expansive thinking and skill development because students and faculty are too afraid to venture from their disciplinary comfort zones.

These research results would benefit from replication in future research with a larger sample size combining several institutions. Exploring other ways of approaching these findings through the use of a comparison of mean differences found in students from different backgrounds and demographic settings (age, entry point, living arrangement, enrolment status, academic standing, and rank, i.e., first-year or senior standing, etc.) could also be helpful.

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