Evaluation of Curriculum and Student Learning Needs using 360 Degree Assessment

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(note: none of our own references are included in this paper)

Abstract

This research used a 360 degree assessment tool modelled from the Competing Values Framework to assess curriculum. A total of 100 MBA students and 746 of their work colleagues completed the 360 degree assessment tool. The students were enrolled in a course on leadership and management. The results of the assessment demonstrated similar patterns of strengths and development needs between the mean self-assessment of the students and those of their work colleagues, although work colleagues tended to assess the students slightly higher. The patterns revealed development needs in soft skills such as conflict management and mentoring as well as in strategic management and project planning. Gender effects were evident with females needing particular development in competencies related to developing and communicating a vision, setting goals and objectives and designing and organising. The results of the 360 assessment tool provided an evidence based approach to assessing curriculum. As many programs use a variety of assessment tools in their programs, collecting data across cohorts can be a valuable evidence based strategy to assess and evaluate curriculum content against real learner needs.

Evaluation of Curriculum and Student Learning Needs using 360 Degree Assessment

University programs try to stay abreast of the changes relevant to their teaching by monitoring advances in knowledge, needs of industry, market demands and government and institutional requirements (Bentley et al., 2012). They do this through several strategies. First, academic programs recruit academic staff with relevant experience. This experience ensures that the academics are connected with industry and have contacts that enable them to keep in touch with trends. Second, courses typically have a board of advisors who represent industry. These advisors are usually practitioners working in the areas employing graduates. Depending on their role (advisory or ceremonial) and the nature of the program (teaching and/or research) they advise on industry trends and suggest where the curriculum needs

transformation (Zahra, Newey, & Shaver, 2011). Third, academic programs listen to their students. This can occur through course evaluations, graduate assessments, student forums and student participation on curriculum committees. Fourth, programs that participate in accreditation will also receive advice and guidance on their curriculum..

This paper examines how a self-assessment undertaken by students was used to evaluate the curriculum. This is considered specifically in the context of a Master's of Business Administration (MBA) program. Students in these graduate programs usually have workplace experience and are often able to consider what they might need to develop their management skills further. The Competing Values Framework Survey (Quinn et al., 2011) was used to assist students with their personal development. This survey has broad applicability for use in management and leadership programs even though it was used in this research in the context of an MBA program to assess curriculum.

The MBA is the second most popular postgraduate degree in the United States of America, and while its demand in the USA is plateauing, other countries in the world are experiencing growing demands for the MBA degree (Economist, 2013). In light of the degree's popularity, the MBA curriculum is a hot topic of debate. The business sector, students and organizational stakeholders often insinuate that the academic program of an MBA is not in keeping with industry trends or needs (Rubin & Dierdorff, 2009). Other arguments suggest the MBA doesn't prepare work-ready graduates or is too slow to adopt changes in the environment (Bennis & O'Toole, 2005). These types of comments may resonate with other academic staff. In particular, those teaching in programs that prepare graduates for careers and work places that experience constant change.

In recent years, the debate about management curriculum has intensified (Vaara & Fay, 2011). Financial scandals in large corporations have re-invigorated the need to ensure management programs teach and embed ethics education (Adler, 2002; Bennis & O'Toole,

2005; Egri, 2013). Global warming has resulted in curricula that must address issues of sustainability and clean energy (Starik, Rands, Marcus, & Clark, 2010; Stead & Stead, 2010). The increasing interconnectedness of business also requires graduates to be more global in perspective and internationalization of curriculum is another facet impacting management programs (Doh, 2010).

All of these pressures noted above can increase the difficulty academic staff may have in planning a curriculum that meets the needs of so many stakeholders and the MBA is just one example used in this research. One way to gain a conceptual understanding of the learning needs in a course curriculum is to involve industry when making assessments of a curriculum. Whilst many programs may consult with industry about the content of their curriculum, they may not do this in a systematic and valid way. Sample sizes may be small and may only target a few individuals (recent graduates and employers). A more robust approach is needed to inform planning and development of curriculum.

Research informed teaching is one approach that can enhance curriculum development. It refers to teaching and learning that uses information and perspectives drawn from research to enhance program content and student motivation (Bentley et al., 2012; Healy, 2005; Lingard & Renshaw, 2010). More evidence based decisions about curriculum are needed to ensure programs are meeting the needs of their participants. For example, managers in one study placed decision making processes and managing human capital as their top learning needs, yet, these same concepts were ranked very low in terms of what was actually covered in the MBA curriculum (Rubin & Dierdorff, 2009). When these topics were covered, they were offered in one course only and were the least likely to receive multi-course treatment. The reduction in these content areas in MBA programs is in contrast to an assessment of over 6000 MBA graduates from 2000 – 2006 who sought additional management education in managing human capital, decision making and strategy and innovation (GMAC, 2007).

360 Degree Assessment

In programs that teach management and leadership skills, specific surveys are often used that measure a candidate's application and use of these skills. A very common survey that is used to measure leadership and management skills is the 360 degree assessment survey (Atwater, Brett, & Charles, 2007; Toegel & Conger, 2003). This survey is used to measure an individual's managerial leadership competency by asking a series of questions about how they manage people, deal with change, direct their team and control resources. These surveys are used both in academic programs and in industry. The measurement is called a 360 degree assessment survey because the candidate being assessed receives feedback about their performance from their subordinates, their peers and their supervisors. Figure 1 illustrates this conceptually with the arrows demonstrating the direction of the feedback from the raters. Self refers to the person seeking the feedback.
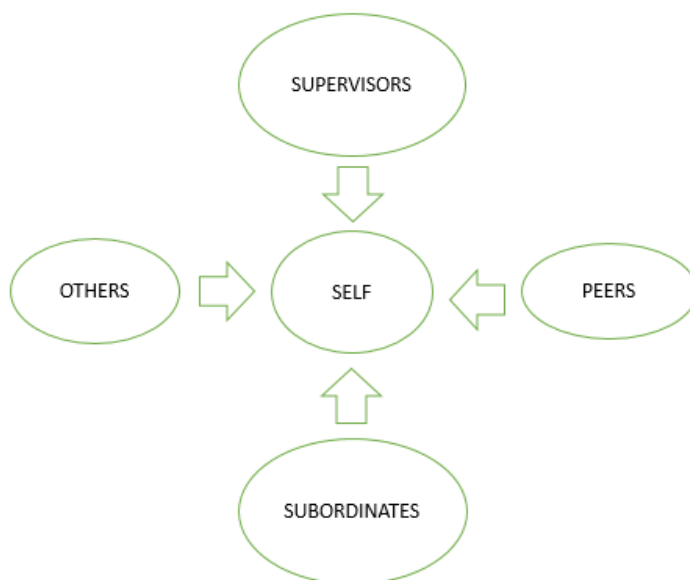
Figure 1: 360 Degree Assessment Model

The reports are usually generated and provided to the candidate who uses the results as part of their ongoing development. If used in the context of an academic program, they would use the results to prepare a reflective essay or a development plan, for example. Rarely do academic programs collect this type of data across cohorts over time and use the data to consider the connection to their curriculum content as a formative assessment. Quite often there is a substantial misalignment between the skill sets needed by these candidates in industry and what is actually taught in the academic program (Pfeffer & Fong, 2002). When considering management skills, for example, there is an expressed need for more 'soft skill' development such as leadership, communication and interpersonal skills in management courses such as the MBA, yet this content appears to be declining (Rubin & Dierdorff, 2009).

Using the data that is collected from a 360 degree assessment survey in a systematic manner, across cohorts, is one way of increasing the level of research informed teaching in a curriculum. The data can be used in curriculum planning, development and evaluation because of its origin directly from their industry sector and the people who work within it. Employing this evidence based approach enables decisions to be made that integrate the best available data with decision maker expertise to guide curriculum planning (Rousseau, 2006). It also stops faculty from teaching what they know and instead focusses on teaching what industry believes graduates need to possess as competencies and skills to work effectively in that sector.

The Competing Values Framework

The Competing Values Framework (CVF) model was developed by Robert Quinn and associates which explores the concept of organizational effectiveness and managerial leadership (Quinn, Faerman, Thompson, McGrath, & St. Clair, 2011). It is used to measure an individual manager's leadership and management competency. The model can also be used to map an organization's culture (Cameron & Quinn, 2006). The CVF integrates the

underlying theory of many management theories which have emerged over the past century which in part, are still considered to be conceptually valid in modern practice.

There is a paradoxical assumption in the CVF model which argues for a 'both-and' approach to managerial leadership. This assumption denotes that all competencies are required in the model to become a competent manager. The competencies, and the values they represent, interplay against one another in importance depending on a situation. As a result, innovation and adaptation versus stability and control may be required at the same time and the manager must be able to manage these competing values and the tension they create as opposing forces. This requires managers to have behavioural complexity within the model (Hooijberg & Quinn, 1992) to manage this tension, which in turn leads to better organizational performance (Hart & Quinn, 1993) as evidenced in numerous studies (Quinn et al., 2011). The competing values framework requires managers to deal with the dynamics of flexibility versus control on one axis, and with their internal and external environment on the other axis (Quinn et al., 2011). This creates four management quadrants (collaborate, control, compete and create), each containing five competencies for the manager to master if they are to operate effectively within the organization.

These competencies were developed through two principle research studies with middle and senior level managers, administrators, union representatives and scholars (Faerman, Quinn, & Thompson, 1987; Lawrence, Lenk, & Quinn, 2009). These competences can inform management and leadership curricula and what graduates will need as skills to work effectively as leaders and managers in industry. The CVF is a robust model and has been validated several times. It was validated initially in the early 1980s (Quinn & Rohrbaugh, 1983) and then again more recently in 2009 with 528 managers (Lawrence et al., 2009). This latter study provides a comprehensive description of the psychometrics of this framework and survey which demonstrated good reliability and validity.

Research Question

The questions posed in this research were two fold. The first was to explore whether the CVF could be used in a more expansive way. Normally an individual completes the CVF survey as a self-assessment. In this research, using it as a 360 degree assessment survey was novel. Second, the investigator wanted to explore whether cohort data could be used to assess curriculum needs within the MBA course. If so, it would provide an example to other programs that teach management and leadership skills on how they might use more research informed approaches to inform their curriculum.

Methods

The CVF (Quinn et al., 2011) was used as the conceptual framework to develop an online 360 degree assessment survey on managerial leadership. The online assessment survey was developed by the researcher in partnership with Leaderskill Pty. Ltd. who built the web-based assessment. This occurred with authorization from the publishers who manage the intellectual property and distribute its concepts through its book, Becoming a Master Manager (Quinn et al., 2011). While the assessment survey can be completed online as a self-assessment through the publisher's website, it cannot collect data to produce a 360 degree leadership and management report.

Students who enrol in the leadership and management course, which is a specific course in the MBA, are required to complete the CVF 360 assessment themselves as a self-assessment, and to collect data from at least six work colleagues. These work colleagues include peers, direct reports and supervisors. A direct report, in this case, is a staff member who reports directly to the manager that is completing the survey. Subordinate is another term that is sometimes used to describe a direct report (see figure 1). All respondents complete the

assessment online at the start of the course and the student receives a full report at the end of the three week assessment period which they then use to write up a development plan. Each of the 20 competencies in the CVF is measured with 5 questions, hence there are 100 questions in total. Each question is rated on a Likert scale from one to seven. Demographic questions were also added to the assessment and collected the following information:

- gender - 0 (males) and 1 (females);
- age - 1 (up to 24), 2 (25-29), 3 (30-34), 4 (35-39), 5 (40-44), 6 (45-49), 7 (50-54), 8 (55-59), 9 (60-64) and 10 (65 or more years old);
- years in role - 1 (1 year or less), 2 (2 to 5), 3 (6 to 10), 4 (11 to 20) and 5 (21 or more years);
- number of direct reports - 1 (0), 2 (1 to 5), 3 (6 to 9), 4 (10 to 20), 5 (21 to 50), 6 (51 to 100) and 7 (101 or more people).
- sector of employment - 1 (Business, Finance and Economics), 2 (Energy, Mineral and Resources), 3 (Construction and Engineering), 4 (Health and Human Services), 5 (Legal and Consulting), 6 (Hospitality, Travel and Tourism) and 7 (Education), and
- education - 1 (Bachelor Degree), 2 (Honours Degree*), 3 (Graduate Certificate/Diploma), 4 (Masters Degree), and 5 Doctorate/PhD.

* an Honours Degree is a Bachelor level qualification with an additional research thesis component.

Data was collected using the online 360 CVF assessment survey over six trimesters or two years. A total of 111 MBA students completed the assessment along with 879 work colleagues over this time frame. Eleven students did not grant permission for their assessments to be used in this research and were removed from the data set, along with all of their work colleague responses. Individual work colleague responses where permission was not granted for analysis were also removed. In the end a total of 100 students and 746 work colleagues (224 Direct Reports, 395 Peers and 127 Supervisors) remained in the data set.

The assessment was used for development purposes and not for performance evaluation. Students also were asked to select individuals whom they thought would provide honest and fair feedback. Respondents were assured of confidentiality in their responses. All of these factors help to increase the validity of the assessment results (Toegel & Conger, 2003; Wood,

Allen, Pillinger, & Kohn, 2000). However, because the students were enrolled in a course, some leniency bias may exist in the assessment because the student's work colleagues wanted them to do well at university. Hence, they were likely to give more positive than negative feedback and higher ratings. Since any bias is likely to exist across all competencies and the main focus here is a comparison between different competencies any potential bias is unlikely to influence key conclusions within this paper.

Data was extracted from the assessment database and interrogated to investigate the developmental needs and strengths of the student cohort. First, an average score for each competency and for each student was calculated from the underlying 5 questions for that competency item within the CVF. This was repeated for both the self-assessments and assessments by the work colleagues for each student. Mean scores across all students were used to identify trends across competencies, including which competencies had means significantly lower than the 'ideal' of five. Correlations were used to summarise relationships between competencies and student demographics. Since means can conceal variability from student to student (for example, a mean of five could indicate that all students are at the ideal point, or, half of the students are inadequate at level three and the other half over developed at level seven) competencies are also summarised in radargraphs showing the proportion of students in the ranges of less than 4.5, between 4.5 and 5.5, and over 5.5.

Results

Student Demographics

The gender split of the MBA student sample was 63% male and 37% female. Only 16% of students were between 25 and 29 years of age. Hence it was an older student cohort with 64% of the sample comprising students between the ages of 30 to 39, typical of this particular

MBA program. The remaining 20% of students were aged 40 or greater. In terms of educational qualifications, 45% had a Bachelor degree, 15% had an honours degree, 23% had a graduate certificate/diploma, 16% held a Master's degree and 1% a Ph.D. qualification.

The students came from a range of sectors with 20% representing business, finance and economics, 28% energy, minerals and resources, 21% construction and engineering, 15% health and human services, 6% from legal and consulting services, 8% from education and the remaining 2% from tourism and hospitality.

In terms of the current role they were occupying, 40% of the sample reported being in that role for one year or less. Another 47% were in their current role for one to five years. The remaining 13% were in their current role for 5 or more years. In terms of tenure within their sector, 6% reported being employed in that sector for less than one year with another 28% of the sample reported being employed in their sector for 2 – 5 years. The remaining 66% reporting employment in their sector for 5 or more years.

In terms of direct report responsibility, 29% of the sample reported having no direct reports whereas 41% reported having one to five direct reports. The remaining 30% reported having 6 or more direct reports.

Work Colleague Demographics

Of the work colleague sample, 65% were male and 35% female. For the age ranges, 20% of the sample was under 30 years of age, 35% between the ages 30 and 40, 25.5% between the ages of 40 and 50 and 19.5% over the age of 50.

In terms of time in current role, 24.5% of the sample were in their role for one year or less. Another 50% were in their role for 1 – 5 years and the remaining 25.5% were in their role for 5 or more years. The work colleagues had also spent a lot of time in their sector with only

7.5% of the sample in their sector for one year or less. A further 24% were in their sector for 1 – 5 years. The majority of the sample (69%) was in their sector for 5 or more years.

The sample demographics suggest a reasonable representation of the business sector in the community.

Competency Strengths and Developmental Needs

The radargraphs that follow provide an overall snapshot of what the students and work colleagues denote as strengths and developmental needs in the student cohort's leadership and management skill set. To explore these developmental needs further the raw data from the 360 degree profiles was analysed further to investigate the proportions of each category requiring development. Figure 2 illustrates these proportions for the student cohort. The labels on the diagram were abbreviated for ease of illustration in the figure – the full terms are listed in table 1 below.
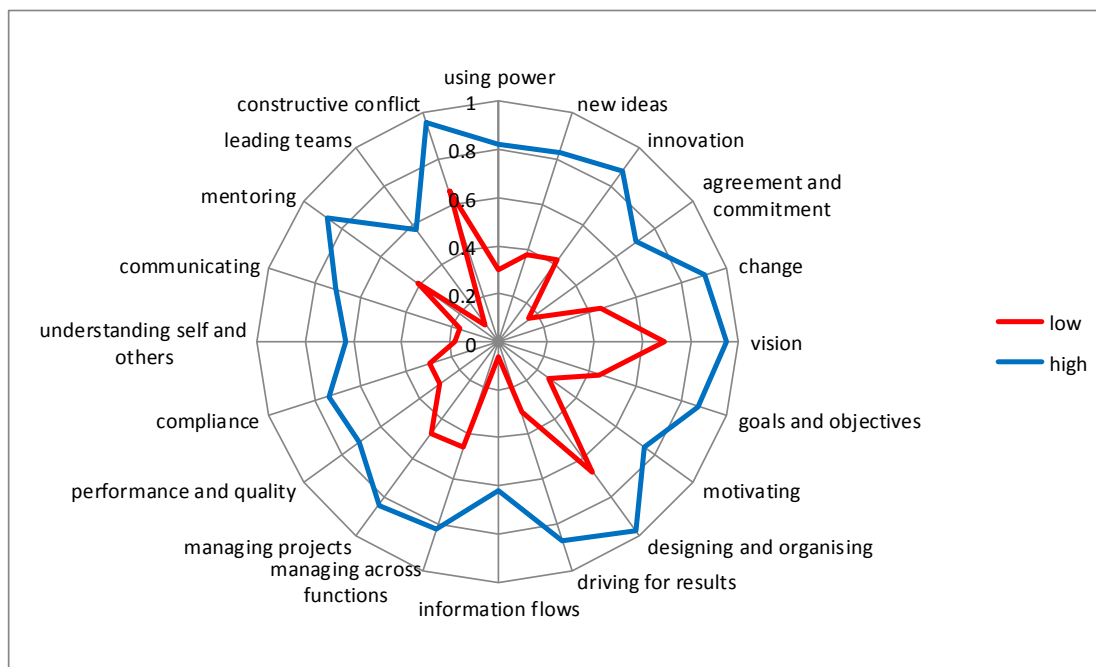
Figure 2: Student Self-Assessment Data – Competency Areas

The inner jagged line illustrates the proportion of students who require further development in each category. This was benchmarked at the score of 4.5 as the score of 5 on the 7 point

scale is considered competent (Quinn, Faerman, Thompson, McGrath, & St. Clair, 2011). When the inner line is a long way from the centre of the circle, lots of students think they need further development of this area. For example, about 65% of students rated themselves less than 4.5 for managing and encouraging constructive conflict. The outer jagged line represents the proportion of responses less than 5.5. For managing and encouraging constructive conflict, about 95% rated themselves less than 5.5. This suggests focus in the curriculum on managing and encouraging constructive conflict would be beneficial to the cohort. The item developing and communicating a vision and the item designing and organising demonstrate similar results. The item working and managing across functions and planning and coordinating projects, while not as high as the other development needs, still demonstrate about 45% of students would need development in these areas.

In contrast, the items organizing information flow and managing groups and leading teams are competencies the cohort feel they do well. This is because the lines are farther away from the outer circumference of the circle and dip towards the centre of the circle.

The inner and outer lines provide similar results. The only difference is the benchmark point. The area between the inner and outer lines shows the proportion of people in the "ideal" region. For managing and encouraging constructive conflict this is about 30% (or 0.95 – 0.65). The inner line proportions are statistically accurate within about plus or minus 0.1. In other words, a 95% confidence interval for the inner line at the item constructive conflict (value of about 0.65) is accurate within plus or minus 0.1, or from about 0.55 to 0.75. This places it significantly higher than most of the other items.

The results from the work colleagues' data illustrated in Figure 3 reveals similar patterns to those of the student self-assessments and are therefore not reported in detail in this paper. The main difference in the work colleague data is that the inner and outer jagged lines are closer to the centre as the work colleagues tended to evaluate the students more leniently.
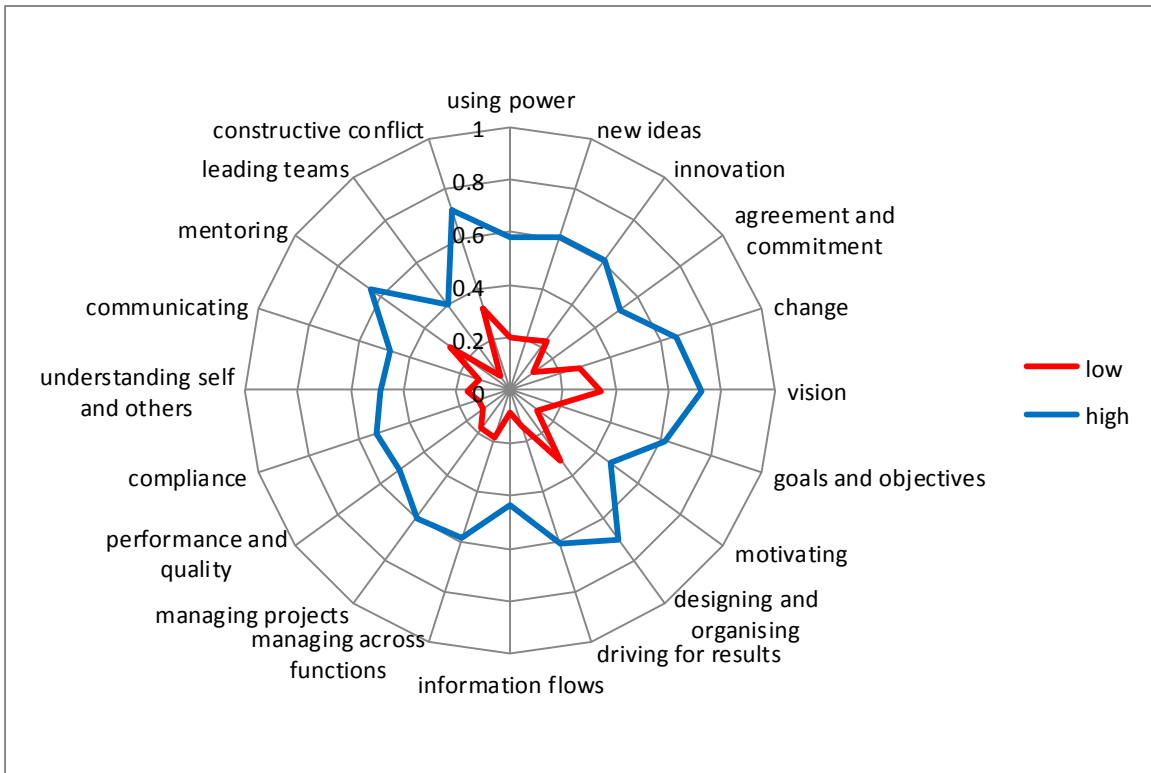
Figure 3: Work Colleague Assessment Data – Competency Areas

Table 1 provides the mean student self-assessment data for each of the competency items grouped by quadrant, together with a p-value testing whether the mean is significantly less than the benchmark score of five. The trends that are seen in table 1 parallel the trends seen in the radargraphs above which explore proportions. Because of the potential for leniency bias, those competencies with p-values at 0.001 are particularly noteworthy. Areas suggesting focus in the curriculum are listed below and match the peaks (versus dips) seen in the radargraphs above.

- **Create Quadrant:** Fuelling and Fostering Innovation and Implementing and Sustaining Change
- **Compete Quadrant**: Developing and Communicating a Vision, Setting Goals and Objectives and Designing and Organizing
- **Control Quadrant:** Working and Managing Across Functions and Planning and Coordinating Projects
- **Collaborate Quadrant:** Mentoring and Developing Others and Managing and Encouraging Constructive Conflict

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Table 1. Mean student self-assessment and significant differences from the ideal of 5.

Item name	mean	pvalue	
Create Quadrant			
Using Power Ethically and Effectively	4.80	0.035	*
Championing and Selling New Ideas	4.73	0.007	**
Fuelling and Fostering Innovation	4.64	0.001	***
Negotiating Agreement and commitment	5.15	0.914	
Implementing and Sustaining Change	4.54	0.000	***
Compete Quadrant			
Developing and Communicating a Vision	4.05	0.000	***
Setting Goals and Objectives	4.58	0.000	***
Motivating Self and Others	4.96	0.358	
Designing and Organising	3.95	0.000	***
Managing Execution and Driving for Results	4.78	0.023	*
Control Quadrant			
Organizing Information Flows	5.36	0.999	
Working and Managing Across Functions	4.54	0.000	***
Planning and Coordinating Projects	4.58	0.000	***
Measuring and Monitoring Performance and Quality	4.90	0.182	
Encouraging and Enabling Compliance	4.89	0.159	
Collaborate Quadrant			
Understanding self and others	5.22	0.977	
Communicating Honestly and Effectively	5.12	0.862	
Mentoring and Developing Others	4.57	0.000	***
Managing Groups and Leading Teams	5.35	0.999	
Managing and Encouraging Constructive Conflict	4.20	0.000	***

*, ** and *** denote p-values less than 0.05, 0.01 and 0.001 (respectively) when testing for means less than 5 (one-tailed test).

Table 2 lists the correlations summarising the relationship between the student self-assessment of each item and the various demographic categories of the students. Correlations exceeding 0.24 (p < .01) are the strongest and emphasised in bold as they are unlikely to be due to chance (the large number of correlations might generate type I errors: correlations that are significant by chance due to the large number of tests). The more highly significant relationships are those between gender and the items developing and communicating a vision, setting goals and objectives and designing and organizing. All of these competency items reside in the compete quadrant. Females report significantly lower scores for these items

compared to males, suggesting females believe they need more development here than males. The other area indicating a relationship is planning and coordinating projects by level of education prior to entering the program. These competencies reside within the control quadrant. Students with a lower level of education need more learning in this category than students with a higher level of education.

Table 2. Correlations between student self-assessment competency and demographics

Item Name	Gender	Age	Yrs in Role	Number Direct Reports	Education
Using Power	-0.04	0.13	-0.03	0.14	0.10
New Ideas	-0.15	0.24	0.07	0.24	0.14
Innovation	-0.18	0.15	0.16	0.14	0.14
Agreement and Commitment	-0.04	0.10	0.08	0.01	0.09
Change	-0.06	0.14	0.11	0.17	0.1
Vision	**-0.36**	0.12	0.10	0.09	0.03
Goals and Objectives	**-0.30**	0.11	0.23	0.22	0.07
Motivating	0.00	0.01	0.18	0.23	0.12
Designing and Organizing	**-0.29**	-0.02	0.09	0.18	0.13
Driving for Results	0.05	-0.09	0.19	0.08	0.18
Information Flows	0.20	-0.08	0.20	0.05	0.03
Managing Across Functions	-0.14	0.02	0.08	0.24	0.23
Managing Projects	-0.11	-0.09	-0.06	0.05	**0.27**
Performance and Quality	0.03	-0.08	0.18	0.15	0.08
Compliance	0.12	-0.09	0.24	0.16	-0.02
Understanding Self and Others	0.10	0.12	0.04	0.08	-0.06
Communicating	-0.04	0.05	0.06	0.02	-0.03
Mentoring	-0.11	0.23	0.24	0.19	0.10
Leading Teams	-0.04	0.17	0.14	0.15	0.02
Constructive Conflict	-0.20	-0.03	-0.02	0.02	0.04

Correlations significantly different to zero (at the 1% level) are in bold. Correlations with magnitudes exceeding 0.19, 0.24 and 0.30 are statistically significant at the 0.05, 0.01 and 0.001 levels respectively.

Discussion

The use of cohort data from an ongoing 360 degree leadership and managerial assessment survey provided useful evidence-based information about student learning needs which can be used to inform curriculum development and review. Using research to inform curriculum review and development can enhance the quality of a program and increase student

motivation (Bentley et al., 2012; Healy, 2005; Lingard & Renshaw, 2010) because it integrates real data into the decision processes guiding curriculum development (Rousseau, 2006).

The relative similarity in radargraphs between students and work colleagues also suggests that self-assessment data from students alone, using a leadership and management assessment survey such as the CVF, can provide relatively accurate evidence based information about learning needs, provided a robust sample is collected. This may suit some academic programs that collect student self-assessment data but not 360 degree assessment data. It also suggests that programs should not discount what students are saying about their learning and development needs in a program in favour of what industry leaders claim is important.

While the work colleagues rated the students on average slightly higher, this leniency bias did not alter the relative shape of their radargraph against that of the student cohort. In 360 degree assessment surveys where the students are enrolled in a course, it is not unusual for work colleagues to want their colleagues to do well in his/her university course. One just needs to be aware of this tendency to provide more positive than negative feedback and higher ratings (Toegel & Conger, 2003; Wood et al., 2000), particularly when the students select the work colleagues for their assessment.

There were identified learning needs across all of the CVF quadrants and half of them fell into what might be considered 'soft skills'. This reinforces what has been identified in the literature as a misalignment between the skill sets needed by managers in industry (Mintzberg, 2004) and what is actually taught in academic programs such as the MBA (Pfeffer & Fong, 2002; Rubin & Dierdorff, 2009). In the create quadrant, using power ethically and effectively, championing and selling new ideas, fuelling and fostering innovation and implementing and sustaining change were all areas demonstrating significant lower mean differences from the competent benchmark score of five. Other soft skills

identified as learning needs were from the collaborate quadrant and included mentoring and developing others and managing and encouraging constructive conflict. Mentoring and developing others was further identified as a learning need for those individuals with less tenure in their roles.

The other developmental needs involved more technical or strategic management skill sets. Some of these resided in the compete quadrant and included developing and communicating a vision, setting goals and objectives, designing and organising and managing execution and driving for results. Females in particular reported significantly lower scores for these items in comparison to males. This could be due to females in the program actually having less experience or involvement in these types of activities. It may also be that the women in this particular program were tougher on themselves in terms of self-evaluation than their male counterparts. These strategic management skills have been identified in other assessments as learning needs. For example, in an assessment of over 6000 MBA graduates from 2000-2006 many sought additional management education in managing human capital, decision making and strategy and innovation (Graduate Management Admission Council, 2007) which would reside within the compete quadrant.

The other development needs which manifested were in the control quadrant and represented technical needs around planning and coordinating projects and working and managing across functions.   Individuals with lower levels of education entering the program particularly found this to be a developmental need, which again may be due to their lack of experience in the field upon entering the program given their lower educational status.

Limitations, Considerations and Broader Applications

The data from this assessment requires some contextualisation as it is the first time the idea of using cohort data from a 360 degree assessment survey in an MBA course to formatively

assess curriculum has been undertaken. The students that enrolled in this course generally are in the 30 – 39 year old age cohort. Most are already working in their sector and in their current roles for 2 – 5 years. Hence, the development of skill sets through work related training and work experience would elevate their mean scores on the CVF assessment in comparison to other MBA or management courses where students are younger and perhaps less experienced. This may also explain why there did not appear to be more learning needs in the functional or more quantitative areas of management. Conducting similar assessments with younger and more inexperienced students in other management and leadership focussed courses and programs would be interesting and likely to create different outcomes. This in itself attests to the value of using a conceptually valid leadership and management framework like the CVF as a formative assessment survey to analyse curriculum needs.

However, there are many other conceptually valid surveys that academic programs use to provide students with information about their skill sets and competencies. This research has demonstrated the efficacy of collecting data from a survey across cohorts to assess curriculum. To this effect, programs that use other reliable and conceptually valid surveys to assess certain work based skills may consider collecting the data at a cohort level. When data is available at a cohort level, it can be used to make informed judgements about the student population, their learning needs and curriculum gaps. This information is lost if surveys are only administered at the student or individual level.

The data for this survey was also captured within the context of an elective course designed to develop leadership and management soft skills. The students completing the CVF assessment survey in this course may have identified in themselves a need to develop soft skills which is why they enrolled in this elective course and why these soft skills appeared as significant development needs in the radargraphs. Collecting data at the beginning of the course for all incoming students would perhaps offer a broader analysis of curriculum needs.

However, the study demonstrates that using 360 degree assessment can provide useful curriculum information thus meeting the research question expectations.

The course in which these students conducted the survey does address some of the development needs around managing constructive conflict, coaching and mentoring, setting visions and writing goals and objectives. While some of their development needs were addressed within the course it pointed to a need to increase focus on these skills. As a formative assessment, it provided an evidence base to the content that is covered and missing in the course and more broadly across the entire curriculum. Some of the other development needs identified in the survey are managing change and innovation and managing projects. These concepts are covered in other courses in the curriculum and the survey provides a focal point to assess whether the content is adequate for what the students need in practice. The results of the survey also provide the faculty with a framework to consider how these learning needs are being addressed across the course during curriculum reviews. The ongoing collection of data will also provide the program with an opportunity to re-evaluate the success of any interventions by re-examining radargraphs and results of future cohorts.

Conclusion

This study has demonstrated how 360 degree assessment data can be used to formatively assess student learning needs in a leadership and management course, nested within an MBA program, and how this information can be used to inform curriculum development. While there were some contextualisation factors that are needed to frame the data, academic programs that use surveys in their programs might consider collecting this data across cohorts as an evidence-based mechanism to assess and evaluate their curriculum. When this data is used in combination with other curriculum review processes described earlier in this paper, it may be possible to more accurately design and plan a program that truly meets the needs of

their student cohort and market. This is particularly so given the student-centred focus of the

data that emerges from this particular type of 360 degree assessment.

References

Adler, P. (2002). Corporate Scandals: It's Time for Reflection in Business Schools. *The Academy of Management Executive*, *16*(3), 148-149.

Atwater, L., Brett, J., and Charles, A. (2007). Multisource Feedback: Lessons Learned and Implications for Practice. *Human Resource Management*, *46*(2), 285-307.

Bennis, W., and O'Toole, J. (2005). How Business Schools Lost Their Way. *Harvard Business Reivew*, *May*, 96-104.

Bentley, Y., Richardson, D., Duan, Y., Philpott, E., Ong, V., and Owen, D. (2012). Research-Informed Curriculum Design for a Master's-Level Program in Project Management. *Journal of Management Education*, *37*(5), 651-682.

Cameron, K., and Quinn, R. (2006). *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework*. San Francisco: Jossey-Bass.

Doh, J. (2010). Why Aren't Business Schools More Global and What Can Management Educators do About It? *Academy of Management Learning and Education*, *9*(2), 165-168.

Economist. (2013). The MBA is being transformed, for better and for worse. Retrieved October 14, 2013, from http://www.economist.com/news/briefing/21587780-mba-being-transformed-better-and-worse-change-management

Egri, C. (2013). Introduction: Challenging Times for Business Ethics Education. *Academy of Management Learning and Education*, *12*(1), 70-71.

Faerman, S., Quinn, R., and Thompson, M. (1987). Bridging Management Practice and Theory. *Public Administration Review*, *47*(3), 311-319.

Graduate Management Admission Council GMAC. (2007). **MBA Annual Perspectives Assessment**. Retrieved October 10, 2013, from http://www.gmac.com/~/media/Files/gmac/Research/Measuring%20Program%20ROI/MBAAlumni_April07_DataReport.pdf

Hart, S., and Quinn, R. (1993). Roles Executives Play: CEOs, Behavioral Complexity and Firm Performance. *Human Relations*, *46*(5), 543-574.

Healy, M. (2005). Linking research and teaching to benefit student learning. *Journal of Geography in Higher Education*, *29*, 183-201.

Hooijberg, R., and Quinn, R. (1992). Behavioural Complexity and the Development of Effective Managerial Leaders. In R. Phillips and J. Hunt (Eds.), *Strategic Management: A Multiorganizational-Level Perspective*. New York: Quorum.

Lawrence, K., Lenk, P., and Quinn, R. (2009). Behavioural Complexity in Leadership: The Psychometric Properties of a New Instrument Behavioural Repertoire. *Leadership Quarterly*, *20*(2), 87-102.

Lingard, B., and Renshaw, P. (2010). Teaching as a research-informed and research-informing profession. In A. Campell and S. Groundwater-Smith (Eds.), *Connecting*

Inquiry and Professional Learning in Education: International Perspectives and Practical Solutions (pp. 26-39). Abindgon, England: Routledge.

Mintzberg, H. (2004). *Managers Not MBAs: A Hard Look at the Soft Practice of Managing and Management Development*. San Francisco: Berrett-Koehler.

Pfeffer, J., and Fong, C. (2002). The End of Business Schools? Less Success Than Meets the Eye? *Academy of Management Learning and Education*, *1*, 78-95.

Quinn, R., Faerman, S., Thompson, M., McGrath, M., and St. Clair, L. (2011). *Becoming a Master Manager: A Competing Values Approach* (5th ed.). New Jersey: Wiley.

Quinn, R., and Rohrbaugh, J. (1983). A Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach to Organizational Analysis. *Management Science*, *29*(3), 363-377.

Rousseau, M. (2006). Is There Such a Thing as "Evidence Based Management"? *Academy of Management Review*, *31*(2), 256-259.

Rubin, R., and Dierdorff, E. (2009). How Relevant is the MBA? Assessing the Alignment of Required Curricula and Required Managerial Competencies. *Academy of Management Learning and Education*, *8*(2), 208-224.

Starik, M., Rands, G., Marcus, A., and Clark, T. (2010). In Search of Sustainability in Management Education. *Academy of Management Learning and Education*, *2010*(9), 377-383.

Stead, J., and Stead, W. (2010). Sustainability Comes to Management Education and Research: A Story of Coevolution. *Academy of Management Learning and Education*, *9*(3), 488-498.

Toegel, G., and Conger, J. (2003). 360-degree assessment: time for reinvention. *Academy of Management Learning and Education*, *2*(3), 297-311.

Vaara, E., and Fay, E. (2011). How Can A Bourdieusian Perspective Aid Analysis of MBA Education? *Academy of Management Learning and Education*, *10*(1), 27-39.

Wood, R., Allen, J., Pillinger, T., and Kohn, N. (2000). 360 Degree Feedback: Theory, Research and Practice. In T. Travaglione and V. Marshall (Eds.), *Human Resource Strategies: An Applied Approach* (pp. 210-230). Sydney, Australia: Irwin McGraw-Hill.

Zahra, S., Newey, L., and Shaver, J. (2011). Academic Advisory Boards' Contributions to Education and Learning: Lessons from Entrepreneurship Centers. *Academy of Management Learning and Education*, *10*(1), 113-129.