The effects of scenario planning on perceptions of conversation quality and engagement

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Abstract: This article presents a replication and extension study of the relationship between scenario planning and perceptions of conversation quality and engagement. The key contribution of this article is that it addresses a major limitation of the previous study – a small sample size. This article begins with descriptions of scenario planning, conversation quality, and dialogue which establish a foundation for scenario planning and theoretical framework for measuring the effects of scenario planning on perceptions of conversation quality and engagement. Data from participant perceptions of strategic conversations skills were collected pre-and post-scenario planning project, and were subsequently compared using paired samples *t*-test for data analysis. For testing the construct validities of the proposed measurement models, confirmatory factor analysis (CFA) was also conducted. This study suggests strong evidence of construct validity for the scale measuring conversation quality and engagement and further demonstrates that scenario planning is associated with significant increases in self-reported personal and interpersonal conversation and engagement skills, with moderate and strong effect sizes respectively.

Keywords: scenario planning; dialogue; conversation quality; engagement.

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1 Introduction

As a discipline, scenario planning suffers from a lack of rigorous research that demonstrates and documents its effectiveness. On the one hand, the literature tends to provide anecdotal evidence of successful scenario planning or building exercises in which positive impacts on strategic thinking, organisational learning, or consensus building are achieved (Schreifer, 1995; Tenaglia and Noonan, 1992; van der Heijden, 2005; Wack, 1984). On the other, there remains a gap between scenario planning projects and concrete data to support economic performance (Godet and Roubelat, 1996; Mietzner and Reger, 2005; Mintzberg, 1994; Phelps et al., 2001).

However, there is an emerging body of research that attempts to establish the relevance of scenario planning as a strategy development method in organisations (Burt and Chermack, 2008; Chermack et al., 2006, 2007; Chermack and Nimon, 2008; Linneman and Klein, 1979, 1983; Phelps et al., 2001; Schoemaker, 1995). While emerging research is aiding in a deeper understanding of scenario planning outcomes, there is not yet enough evidence to make definitive statements or predictions about scenario planning and its results. Extant research is predominantly anecdotal, or presents the results from studies with samples too small to generalise. There is a significant need to understand the utility of scenario planning and explicate its benefits to the organisation through documentation and rigorous research.

A currently articulated theory of scenario planning included five domains: dialogue, conversation quality, and engagement; learning; mental models; decision-making; and leadership (Chermack, 2004, 2005). Several studies have explored the results and/or outcomes of scenario planning (Burt and Chermack, 2008; Chermack, 2004; Chermack et al., 2006, 2007; Chermack and Nimon, 2008); however, more work is needed to replicate these studies and increase support of these knowledge claims (Burman et al., 2010).

An exploratory study of the relationship between scenario planning and conversation quality and engagement was published in 2007 (Chermack et al., 2007). The study was intended to explore one element of the theoretical model, and used a pre-test, post-test design, with nine participants (a key limitation) exposed to the scenario planning intervention. Results were promising, indicating significant changes in self-report measures of conversation quality, yet no further work on this scenario planning construct has been produced. Thus, this article undertakes a replication study of the relationship between scenario planning and perceptions of the quality of conversation and engagement, with a much larger sample size. In addition, the present study uses participants involved in scenario work from 10 different organisations, increasing the robustness of the research results in a variety of ways. Research questions, method, results, and discussion follow.

2 Purpose of the article and research question

Previous research explored the relationship between scenario planning and perceptions of dialogue, conversation quality, and engagement (Chermack et al., 2007). Authors identified two key shortcomings of the study, namely

1 a small sample size

2 lack of instrument confidence in terms of its validity and reliability.

The current study focuses on replicating the previous research and addressing these two limitations.

The purpose of this article is therefore to verify an outcome of the scenario planning process documented in previous research; increase understanding of dialogue, conversation quality, and engagement and their interaction within scenario planning; and analyse the link between scenario planning and the perceptions of the quality of conversation and engagement. Thus, the research question for this inquiry is:

Research Question 1 What are the effects of scenario planning on perceptions of conversation quality and engagement?

We hypothesise an increase in mean scores of Level 1 and Level 2 skills as measured by the conversation quality and engagement checklist (CQEC). Level 1 skills measure individual conversation patterns and abilities while Level 2 skills assess the ways in which individuals interact with others.

The null hypothesis and our hypothesis are notated symbolically as follows:

$$H_0 : \mu_D = 0$$
$$H_1 : \mu_D \neq 0$$

Two more specific hypotheses that form the focus of this research are as follows:

H1 Scenario planning participants will increase their Level 1 skills as measured by the CQEC.

H2 Scenario planning participants will increase their Level 2 skills as measured by the CQEC.

3 Scenario planning

While many theories or approaches to strategic planning have been utilised and promoted, scenario planning is unique in its focus on multiple possible futures, rather than a single focus on one desired future (Kleiner, 2008). Scenario planning takes into account the fact that organisations exist within unpredictable environments whose futures cannot be anticipated or secured (van der Heijden, 2005). Scenario planning also applies a group-centred approach, wherein multiple members from various levels of the organisation participate (Chermack, 2011). A thorough review of the scenario planning literature is presented by several authors and will not be reproduced here (see Chermack, 2011; Chermack and Swanson, 2008; Schwartz, 1991; van der Heijden, 2005, for a comprehensive literature review). However, some discussion is provided regarding dialogue, conversation quality, and engagement in an effort to highlight the relationship between Chermack's (2004, 2005) theory of scenario planning and our research.

4 Dialogue

Strategic conversations occur through the basic component of dialogue. As de Haas and Kleingeld (1999) pointed out:

> …recurring strategic dialogue throughout [an] organization should [be developed]. If such a dialogue develops between the organization's multiple constituencies, diverging attitudes of mind about what is good and bad for the organization are shared. As a consequence, congruent goals, which are fundamentally different from unitary goals, might ultimately develop. (p.234)

Since the concept is integral to the study of strategic conversation, discussion is provided on its definitions and how it might be fostered within scenario planning.

4.1 Dialogue defined

In their original study on the link between scenario planning and perceptions of individual conversation and communication skills, Chermack et al. (2007) drew on Bohm's (1996) definition for the term as 'stream of meaning', – that is, coming from the root concepts of language and pairs. In addition to this definition, dialogue is connected to the concept of communication, which Bohm (1996) described as being based on "the Latin *commun* and the suffix 'ie' which is similar to 'fie', in that it means 'to make or to do'. One understanding of 'to communicate' is 'to make something common'" (p.2). Commonality and understanding can be achieved through dialogue, such that a pathway toward strategic conversation can be created.

Further, dialogue is a means for impacting and altering organisational thought processes and culture (van der Heijden, 2005). This is true, in part, because dialogue allows those who engage in it to "present their viewpoints, engage in the exchange of ideas, and learn by revealing their perceptions and assumptions" [McLean and Egan, (2008), p.252]. Moreover, dialogue is a participative process (de Hass and Kleingeld, 1999). As such, it stands to reason that strategic conversation cannot truly occur among members of an organisation without effective dialogue. Hoone (2007) argued that dialogue through strategic conversations generates understanding and alignment towards an issue. Strategic conversations enhance the flow of discussion amongst members from various levels in the organisation by developing a shared understanding and commitment towards a strategic issue.

4.2 Fostering dialogue

The scenario planning process, as a whole, involves members from all areas of the organisation in an ongoing dialogue about the future of the organisation. This very process serves to foster dialogue that might not otherwise occur.

In addition, organisation members must work to achieve non-competitive, open exchanges of intellectual information. One technique for doing this involves the concept of storytelling. Boje (1991) explained how storytelling can be the basic framework for dialogue. He asserted that people engaged in conversation can be considered co-producers of meaning, indicating their shared world views. Organisational storytelling is one potential avenue to fostering dialogue and this is a significant piece of the scenario

planning process. Organisation members develop stories or scenarios which help them to consider possible futures.

While, the scenario planning process fosters dialogue, dialogue serves as a strategic tool for cultivating alignment in organisation members' worldview. It is the first step toward achieving strategic conversations and a foundation to conversation quality.

5 Conversation quality

Earlier work on the connections between scenario planning and strategic conversation asserted that: "The ability of an organisation to consistently harness change and constantly rediscover its entrepreneurial vision…rests on the organisation's ability to continuously create and hold strategic conversations" [Chermack et al., (2007), p.379]. It has also been noted that scenario planning is a key technique for facilitating strategic conversation – an ongoing dialogue about possibilities, opportunities, and change/execution (Manning, 2002). Central to the capacity to create strategic conversations is the ability to ensure conversation quality. A definition as well as discussion on how conversation quality might be fostered is provided below.

5.1 Conversation quality defined

Interestingly, it is not uncommon for terms like "Quality conversation…and dialogue…[to be] used … interchangeably" [van der Merwe et al., (2007), p.215]. There is agreement around the notion that scenario planning offers a competitive advantage to firms that use this technique because it provides "strategic learning through conversation" [Chermack et al., (2007), p.380]. However, the lack of clarity for the definition of the term 'conversation quality' poses some difficulties in the broader discussion of how this concept functions within scenario planning outcomes. Schwartz's (1991) definition – "a carefully thought-out but loosely facilitated series of in depth conversations for key decision makers throughout an organization" – is provided as the most specific conceptualisation to date (p.221).

The characteristics of effective strategic conversation, as provided by van der Heijden (2005), might provide further insight into the definition of conversation quality. Effective strategic conversation requires: a common language, alignment of ideas, willingness to engage in rational argumentation, and the evolutions of ideas inside the organisation. These four components might serve as criteria for conversation quality. For the purposes of this paper, the concept of conversation quality encompasses the tone and nature of communication between organisation members. When conversation quality is high, organisation members are able to engage with one another in open, honest communication.

5.2 Fostering quality conversations

Manning's (2002) work set out some key indicators of conversation quality, including the content of the language used, awareness on the part of managers regarding who is involved in the communication exchange, and consciousness about the 'nourishing' or 'toxic' nature of the discussions. Like the four elements of strategic conversation

presented by van der Hejden (2005), these criteria begin to establish indicators regarding how conversation quality might be fostered.

From the above descriptions of conversation quality, we can suggest that an environment that fosters characteristics such as carefully thought-out but loosely facilitated dialogue, alignment of ideas, rational argumentation, and nourishing discussions would in turn foster conversation quality. The context of scenario planning, which provides organisation members extended periods of gently facilitated interaction, focused idea generation, and nurtures multiple perspectives is an ideal setting for fostering the above mentioned characteristics (Chermack, 2011).

Like dialogue, conversation quality is a second foundational component to strategic conversations. Both dialogue and conversation quality contribute to engagement, a third integral component of strategic conversations.

6 Engagement

Several scholars have suggested that scenario planning effectiveness is dependent on organisational member engagement in genuine conversations about the future and that fostering this engagement is the responsibility of scenario planning facilitators (Chermack et al., 2007; Schwartz, 1991). In order to understand engagement, as it functions within scenario planning, discussion follows on definitions of engagement, how it might be fostered and by whom, and how scenario planning facilitates this process.

6.1 Engagement defined

The earliest published work on engagement comes from Kahn (1990). He was the first to define engagement as a separate concept using research from an ethnographic study at a summer camp. Shuck and Wollard (2010) argued that since Kahn's work, empirical research, consistent definition, and clear interpretation of engagement have been lacking. They provided a thorough summary of the literature on engagement since Kahn's seminal work, which will not be duplicated here. After reviewing work on engagement, they offer this definition: "an individual employee's cognitive, emotional, and behavioural state directed toward desired organizational outcomes" (p.103). Other helpful definitions of engagement include Roche's (2005) explanation that engaged employees feel passion about their work, provide drive and innovation, and feel that their contribution helps in moving the company forward. Zhang and Bartol (2010, p.108) defined engagement in terms of the creative process: "creative process engagement is defined as employee involvement in creativity-relevant methods or processes, including

1 problem identification

2 information searching and encoding

3 idea and alternative generation".

This definition is most relevant to the scenario planning process, a creative endeavour that aims to involve employees in collaborative dialogue and scenario generation. It is necessary to then consider how this engagement might be facilitated.

6.2 Fostering engagement

The decision to engage is an internal one based on external factors outside an employee's control but within the leader's sphere of influence (Shuck, 2009). The individual employee must make a decision to engage; however, the leader's behaviours can produce a culture or environment where employees are more likely to engage (Mester et al., 2003). The strategy-making process has been identified as one way for leaders to meaningfully engage employees (Tegarden et al., 2005).

With scenario planning, strategic conversations might be the site where engagement is enacted and propagated. Employees who are more engaged will be more ready to participate in strategy conversations and employees who are disengaged are less likely to focus on strategic outcomes in the organisation (Payne et al., 1998). Scenario planning provides an opportunity for engagement through strategic conversations and has been shown to improve the quality of these conversations (Chermack et al., 2007). Participants are engaged when they are involved in strategic conversations; in turn, participants, when engaged in their work, are more eager to participate in strategic conversations (Chermack et al., 2007; Payne et al., 1998).

7 Dialogue, conversation quality, and engagement in scenario planning

Scenario planning improves dialogue, conversation quality, and engagement, and engaged employees are more likely to be satisfied with their work, contribute to organisational goals, and make meaningful contributions to scenario planning (Fleming and Asplund, 2007; Richman, 2006; Schuck and Herd, 2011; Wagner and Harter, 2006). As foundations for stronger strategic conversations, dialogue and conversation quality aid in establishing the framework for engagement among organisation members.

Scenario planning is impacted by dialogue, conversation quality, and engagement, but it impacts these factors within an organisation as well. While it can be a more meaningful exercise when these factors are already strong among organisation members, it is also a technique for fostering stronger dialogue, improving conversation quality, and deepening engagement. The above discussion of these terms aims to strengthen the link that has been suggested between scenario planning and dialogue, conversation quality, and engagement through Chermack's theory (2004, 2005} and previous research (Chermack et al., 2007). In addition, our research, which is detailed below, sought to explore and confirm this relationship.

8 Method

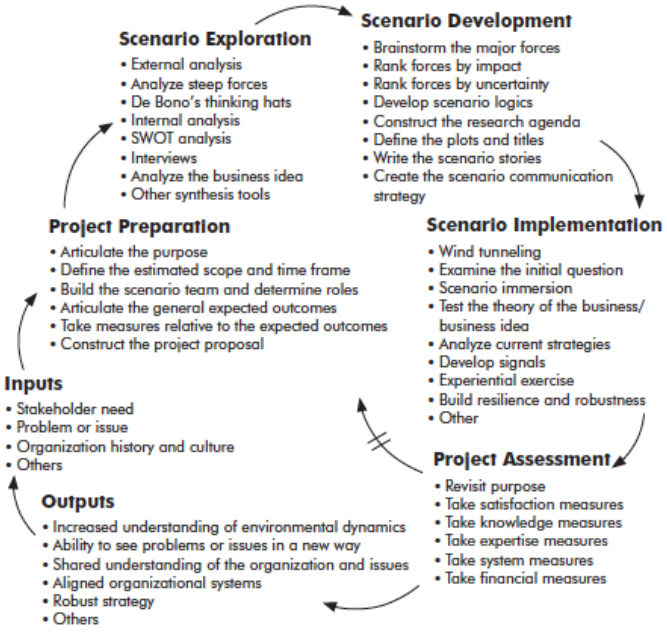
Having reviewed and synthesised the major concepts involved in this research study, the following sections describe the research method, sampling strategy, and instrument used to assess the relationship between scenario planning and strategic conversation quality and engagement.

8.1 Scenario planning process

The approach to scenario planning implemented as the intervention for this research study followed the model in Figure 1 (Chermack, 2011). Facilitators were given the same scenario planning materials and were trained by the same individual. Each team had the creative freedom to customise the workshops according to organisation, context, and industry nuances (as scenario planning practices demand). Thus, while there was some variation in the specific project details, all projects followed the same general framework (as in Figure 1) and were advised by a single project leader who oversaw all ten scenario projects.

While leaders in each organisation may have sought scenario planning with different strategic issues, and with different specific purposes in mind, all were generally interested in addressing the uncertainty inherent in their operating environments. Pre-work and analysis differed for some of the organisations involved, but all ten projects featured workshops which followed the five phases as suggested by Chermack (2011) and detailed in Figure 1, utilising workshops based on brainstorming the forces affecting the issue, ranking those forces first on impact on the issue, and then on uncertainty. Various combinations of high impact, high uncertainty items were positioned on 2 × 2 matrices, and clients chose the most compelling framework in all cases.

Figure 1 Scenario planning process



8.2 Sample

Participants in a scenario planning project at ten organisations in the USA comprised the sample for this research study. The selection of participants was solely dependent upon

participation in the scenario planning project. In total, there were 137 participants in this study ($N = 137$) from ten different organisations.

8.3 Instrument

The CQEC was the instrument used in this study. As noted in the prior study, the CQEC is intended to assess participant perceptions of conversation and communication skills and is founded on over thirty years of practitioner-based experience with executives and planning teams within a scenario planning context (Chermack et al., 2007). van der Merwe et al. (2007) developed the instrument from key works in the counselling, transformational change, and action science literature. Measurement of individual skills in conversing with others was the primary goal of the instrument. In addition, the level of engagement in conversations was of interest. Four theoretical components informed the survey; Roger's (1957) communication theory, Nunnally's work on communication in families, particularly his self-awareness wheel (Miller, 1971; Miller et al., 1976, 1982; Nunnally, 1970, 1971; Nunnally and Moy, 1989), Argyris' work on advocacy and inquiry (Argyris and Schon, 1996; Bolman and Deal, 1997), and Lewin's work on group dynamics (1948, 1951) (for a full description see van der Merwe et al., 2007).

The instrument consists of 20 items, divided into two categories of ten items: Level 1 skills and Level 2 skills. The 20 items are based on a five-point Likert scale with participants rating their own behaviour in organisational conversations ranging from 1 = 'never' to 5 = 'always'. Sample items include:

1 I do my best to be explicit about the assumptions under my opinions.

2 I use concrete examples to describe behaviour, sensing, feelings and impact.

3 I confront others constructively when I disagree with their opinions.

The full instrument is available in Appendix.

8.4 Data collection and analysis

The primary objective of the data collection and analysis in this study was to further substantiate that scenario planning is a method for improving the quality of conversation and engagement. Surveys were administered at two separate times (pre-test and post-test) during meetings that occurred over a three month period during the scenario planning project. The analysis consisted of descriptive statistics, specifically looking at participant variance among the responses to the pre-and post-surveys according to changes in mean scores. The core analyses to answer the research questions were paired sample *t*-tests among pre-and post-groups.

9 Results

This section reports the descriptive statistics, results of an EFA, CFA, and *t*-tests for the two hypotheses. Table 3, Figure 2, and Table 4 provide the results.

9.1 Demographic data – organisations and participants

This section reports the responses to queries about organisational and participant demographics. One immediate limitation here is that we were not able to gather demographic data from all organisations that participated in this scenario planning research. We were able to obtain demographic data from 87 of the 137 participants, and recognise this as not only a limitation to this study, but also a reality of organisational research. Responses to organisational and participant demographic queries are provided below, and in Tables 1 and 2. The tables include reporting of the valid percentages, which are the accurate percentages of the 87 respondents.

Highlights from the organisational demographics include the respondent population representing 53 (60.9%) companies from the west. In addition, 89.6% of participating organisations have less than 1,000 full-time equivalent (FTE) employees with 93.1% of those respondents having annual revenues between $1 million and $500 million. Overall, participating organisations were small to mid size companies with less than 1,000 employees.

In addition to the collection of organisation demographics, five questions on the survey requested individual demographic information from participants. Overall, 39.1% of participants had been in their organisations for two years or less, with 64.4% of responses coming from female participants. 36.8% of participants identified themselves as mid-level managers, and 74.7% of participants had no prior experience with scenario planning.

Table 1 Description of the organisations

Demographic variable	*n*	*%*	*Valid %*
Organisation age			
0–5 years	34	19.1	39.1
6–10 years	7	3.9	8.0
11–15 years	6	3.4	6.9
16–20 years	19	10.7	21.8
20+ years	20	11.2	23.0
Total	87	48.4	100
Number of full-time equivalents (all locations)			
100 or less	23	12.9	26.4
101–500	29	16.3	33.3
501–1000	26	14.6	29.9
1,001–10,000	7	3.9	8.0

Notes: *NORTHEAST = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, Pennsylvania. MIDWEST = Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Wisconsin, South Dakota. SOUTH = Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia. WEST = Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Wyoming, Washington.

Table 1 Description of the organisations (continued)

Demographic variable	*n*	*%*	*Valid %*
Number of full-time equivalents (all locations)			
10,001+	0	0	0
Total	87	48.4	100
Geographic location *			
Northeast	15	8.4	17.2
Midwest	4	2.3	4.6
South	14	7.9	16.1
West	53	29.8	60.9
Total	87	48.4	100
Annual revenue (rounded to millions)			
Less than $1 million	0	0	0
$1 million–$10 million	30	16.9	34.5
$11 million–$50 million	27	15.2	31.0
$51 million–$500 million	24	13.5	27.6
$501 million–$1 billion	5	2.8	5.7
$1 billion–$10 billion	0	0	0
$11 billion–$50 billion	0	0	0
$51 billion+	0	0	0
Total	87	48.4	100
Classification			
For profit	54	30.4	62
Not-for-profit	33	18	38
Total	87	48.4	100

Notes: *NORTHEAST = Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, Pennsylvania. MIDWEST = Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Wisconsin, South Dakota. SOUTH = Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia. WEST = Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Wyoming, Washington.

9.1.1 Skewness and kurtosis

For the dataset, skewness values ranged from –.29 to .44, and kurtosis values ranged from –.31 to .59. These statistics indicate a dataset with an acceptably normal shape, meeting the assumption of normality.

Table 2 Description of the participants

Demographic variable	*n*	*%*	*Valid %*
Tenure in organisation			
0–2 years	34	19.1	39.1
3–5 years	25	14.0	28.7
6–10 years	16	9.0	18.5
10+ years	11	6.3	12.6
Total	87	48.4	100
Gender			
Female	56	31.5	64.4
Male	30	16.9	34.5
Total	87	48.4	100
Position			
Line worker	15	8.4	17.2
Mid-level manager	32	18.0	36.8
Senior manager	25	13.5	27.6
Executive	15	8.4	17.2
Total	87	48.4	100
Prior experience with scenario planning			
None	65	36.5	74.7
Some experience (1–3 scenario exercises)	18	10.1	20.7
Moderate experience (3+ scenario exercises)	2	1.1	2.3
Total	87	48.4	100

9.1.2 A note on data 'Nestedness'

The assumptions for *t*-tests are that the data are normally distributed, and that the variation in scores among groups is not reliably different. The skewness and kurtosis statistics reported show that the data are generally normally distributed. The variation in scores between groups was examined using hierarchical linear modelling (HLM). Difference scores from pre to post-tests were computed and analysed. The interclass correlation coefficients (ICC) are the key indicators of group variation. The ICC scores give an indication of the variance that is accounted for among a series of groups, taking into account the nestedness of the data. The ICC scores for the seven dimensions were .08, or 8% for *Level 1 skills*, .11, or 11% for *Level 2 skills*. Lee (2000) clarified that any ICC value exceeding 11% would require closer examination. In our case, there was no need for further examination as the ICC scores were within acceptable range, indicating there was not significant variation in responses from organisation to organisation. In other words, the analysis indicates that there was insignificant variability among the groups, meeting the assumption that variation in scores across the groups is not reliability different. Further, this analysis lends evidence to support the generalisability of our findings. Because the HLM statistics showed insignificant variation among the organisations, *t*-test results are presented for parsimony.

9.2 Validity and reliability

This study furthered the reliability and validity of the survey instrument. In the previous study, Cronbach's alpha was calculated at .90. According to the standards for interpreting alpha scores, a value greater than .70 indicates a good measure for reliability. Exploratory factor analysis (EFA) was also conducted and Cronbach's alpha was computed at .93 (Chermack et al., 2007). The present study repeated EFA and the corresponding alphas were reported at .89 for Level 1 skills and .90 for Level 2 skills, indicative of high instrument reliability and validity for both groups.

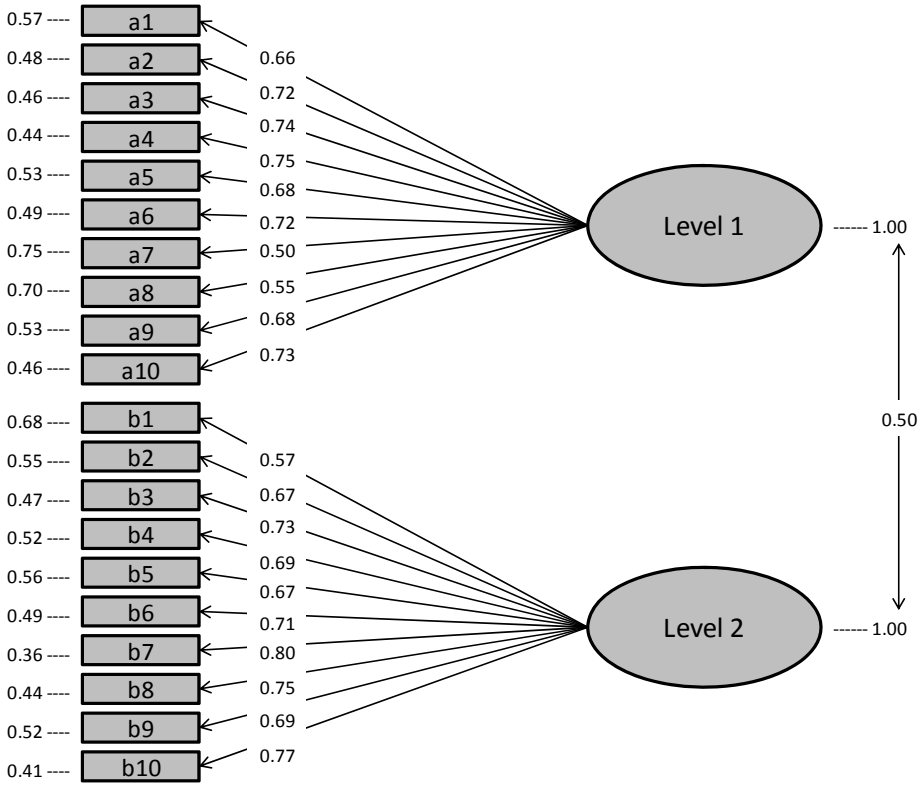
Because the CQEC does not have a strong track record of use in organisational research, participant responses were analysed with both an EFA and confirmatory factor analysis (CFA), given that only one previous study reported score validities (van der Merwe et al., 2007).

Table 3 Exploratory factor analysis results, with reliabilities, item loading, and variance explained

	Rotated component matrix[a]				*Variance explained*
	M	*SD*	*Alpha*	*Item loading*	
Level 1 skills	3.52	.63	.89		38.52%
Level 1–1	3.59	.86		.465	
Level 1–2	3.31	.90		.604	
Level 1–3	3.77	.84		.701	
Level 1–4	3.59	.90		.827	
Level 1–5	3.40	.90		.762	
Level 1–6	3.57	.83		.641	
Level 1–7	3.45	1.0		.593	
Level 1–8	3.50	.84		.410	
Level 1–9	3.55	.91		.593	
Level 1–10	3.47	.91		.761	
Level 2 skills	3.30	.72	.90		22.70%
Level 2–1	3.31	.88		.602	
Level 2–2	3.36	1.04		.688	
Level 2–3	3.26	.96		.753	
Level 2–4	3.34	.89		.722	
Level 2–5	3.43	1.08		.706	
Level 2–6	3.21	.94		.721	
Level 2–7	3.31	.93		.778	
Level 2–8	3.23	1.07		.716	
Level 2–9	3.24	.85		.749	
Level 2–10	3.28	1.06		.764	

Notes: Extraction method: principal component analysis.
Rotation method: Varimax with Kaiser normalisation.
[a]Rotation converged in six iterations.

Figure 2 LISREL estimates of structural model coefficients for a Nomological network between level one and level two skills on the conversation quality and engagement checklist



9.3 Exploratory factor analysis

We used an EFA to confirm the factor structure as suggested by Chermack et al. (2007). Cronbach's alphas of .89 for Level 1 skills and .90 for Level 2 skills were reported.

9.4 Confirmatory factor analysis

For testing the construct validities of the proposed measurement models, CFA was also computed. The approach of the CFA assesses the relation of the observed variables to the hypothesised underlying constructs from the construct validation process perspectives (Anderson and Gerbing, 1988; DeVellis, 2003; Thompson, 2004). In order to determine the adequacy of the overall structural model fit of the hypothesised constructs, several indices (Bentler, 1990; Jöreskog and Sörbom, 2001; Steiger, 1990) were assessed, including chi-square (χ^2), root mean square error of approximation (RMSEA), root mean square residual (RMR), non-normed fit index (NNFI), comparative fit index (CFI), and goodness-of-fit index (GFI).

The results (Figure 2) suggest that the measurement model was statistically acceptable in terms of construct validity based on the several model fit indices. Two error term indices were found to be reasonably acceptable, which means the model fit the collected datasets and the designed measurement model has a low magnitude of residuals (RMSEA = .09 / RMR = .05). In addition, except for the value of chi-square estimates, all other comparative model fit indices and goodness of fit indices were found to be statistically acceptable as follows: goodness of fit (GFI = .83), CFI (CFI = .93), and NNFI (NNFI = .92), respectively. In addition, all factor loadings of the observed measurement items on each assigned latent variable ranged from .50 to .80, indicating well-designed constructs in terms of observed item validity. Although due to the sample size sensitivity (n = 137) the chi-square estimate was not supported [$\chi^2(137) = 997.01$ / $\chi^{2/}df = 5.89$], according to the CFI (GFI = .83), almost 83% variance and covariance of the measurement model could be explained by the collected dataset. In accordance with these results, the measurement model was found to be a valid measurement model for the current research in terms of the low magnitude of the error values and the significant amount of shared variance between the proposed measurement model and the research dataset.

9.5 t-test results

The descriptive statistics indicate an overall increase in mean scores from pre-to post-test assessment. For Level 1 skills, score means increased from 3.52 to 3.80 and for Level 2 skills from 3.29 to 3.91 on a scale of one to five. Both of these mean increases denote overall increases from pre-assessment to post-assessment on participant self-reporting of their behaviour in organisational conversations.

Our first hypothesis proposed that scenario planning participants would increase their Level 1 skills as measured by the CQEC. Level 1 skills, measuring individual conversation patterns and abilities, increased from pre-assessment to post-assessment ($t = –4.35$, $p < 0.05$, $d = .75$). According to Cohen (1988) the change is statistically significant with a medium to large effect size. The results confirm hypothesis one, that those who participated in the scenario planning process perceived to have increased their individual conversation patterns and abilities.

Our second hypothesis proposed that scenario planning participants would increase their Level 2 skills as measured by the CQEC. Level 2 skills, measuring the ways in which individuals interact with others, also increased from pre-assessment to post-assessment ($t = –10.32$, $p < 0.05$, $d = 1.77$). The change is statistically significant with a much larger than typical effect size (Nunnally and Moy, 1989). The results confirm hypothesis two, that those who participated in the scenario planning process perceived to have increased their interpersonal communication and engagement skills with others. Table 4 provides the results of the *t*-test.

Table 4 Paired-samples *t*-tests for the two constructs of the CQEC

		M	*N*	*SD*	*t*	*p*	*d*
Pair 1	Level 1 pre – Level 1 post	3.52	137	.63184	–4.35*	.00	.75
Pair 2	Level 2 pre – level 2 post	3.30	137	.71896	–10.32*	.00	1.77

Notes: $df = 136$; *significant at $\alpha < 0.01$

10 Discussion and implications

The current study aimed to investigate the relationship between scenario planning and perceptions of conversation quality and engagement. We formed two specific hypotheses. The first hypothesis stated that scenario planning participants will increase their level of conversation patterns and abilities (Level 1) as measured by the CQEC. The results of the study indicate that level 1 skills increased as measured by pre-and post-assessments ($t = 4.35$) and were found significant ($p < 0.05$). Our results reinforce the claims in the literature and results from Chermack et al. (2007) that communication skills are improved through scenario planning efforts.

The second hypothesis asserted that scenario planning participants will increase their skills of interacting with others (Level 2) as measured by the CQEC. Results demonstrate that level 2 skills also improved from pre-to post-test scores ($t = –10.32$; $p < 0.05$) indicating a considerable change in these skills as well. This finding reinforces the claims in the literature that scenario planning improves engagement as well (Fleming and Asplund, 2007; Richman, 2006; Shuck and Herd, 2011; Wagner and Harter, 2006).

Results from the study provide further empirical support for Chermack's (2011) theory of scenario planning, confirming that dialogue, conversation quality, and engagement are outcomes of the scenario planning process. Given the size of the sample and the *t*-values, this study's findings may represent an accurate assessment of the effect of scenario planning on individual perceptions of communication and conversation skills, and engagement. The results suggest that there is a relationship between individual perceptions of communication and conversation skills, and engagement improving as a result of participation in scenario planning. There is evidence to suggest that, as we have speculated, a self-reinforcing, recursive process exists between scenario planning and the factors of dialogue, conversation quality, and engagement, despite the fact that these components are not a direct focus of scenario planning exercises. Scenario planning is enhanced when the three exist already among organisation members, but it is also a means of improving them. The participants in this study were actively involved with other organisational members in generating scenarios, making decisions, and contributing to strategy development. As mentioned above, scenario planning takes on a group-centred approach, where multiple members from various levels of the organisation participate, allowing for all participating members to feel meaning in their work and assist in directing the company towards a desired outcome (Chermack, 2011). Thus, the importance of interpersonal communication skills is evident in the relationship amongst dialogue, conversation quality, and engagement. Along with an increased understanding of dialogue, conversation quality, and engagement, we may be able to better understand the outcomes of scenario planning.

Finally, the results of the HLM analysis indicate that the responses across the groups do not vary significantly, and the *t*-test results can be considered robust and equally significant across the organisations. This finding is critical for scenario planning research, because it negates the possibility of a particular factor other than scenario planning that may have caused the significant results in some organisations and not in others. In other words, there are a variety of factors that could theoretically account for differences in some organisations, such as facilitation style, industry, organisation size, among others. The HLM analysis has shown that this was not the case for the ten organisations we worked with – the scenario planning intervention had a significant effect in all ten cases.

The current results are consistent with the findings presented in the 2007 study that was replicated (Chermack et al., 2007), and because the scope of the project extended to nine additional organisations, the results not only confirm the previous study, but also lend considerable additional generalisability. Both studies have provided empirical evidence that while dialogue, conversation quality, and engagement may not be direct components of the scenario planning process, they appear to be noticeable outcomes and a significant relationship seems to exist.

Furthermore, this study addressed the limitations present in the 2007 study (small sample size and lack of instrument confidence) (Chermack et al., 2007). While this study does not go without its own limitations (discussed below), consistent findings from both studies warrant notice from researchers and practitioners regarding the existence of a relationship between scenario planning and increased levels of organisational communication and engagement, that can help foster organisational performance and change.

11 Limitations and recommendations for future research

In response to limitations noted by Chermack et al. (2007), this study incorporated a significantly larger sample size and conducted a CFA to refine the instrument's overall reliability and validity. However, this study did not make use of a control group, which suggests that the results could possibly be a by-product of some other change in the environment of the sample, preventing the ability to establish causation and generalise research findings. While there is a strong association among the variables studied, association cannot simply be extended to causation. Thus, it is possible that some other intervening variable may have caused the increase in participant perceptions of conversation quality and engagement.

Likewise, there are inherent limitations in conducting a correlational study that utilises measures of self-assessment. There is the possibility that social desirability caused participants to simply provide answers that they assumed were favourable. In addition, subjects may have recognised the intent of the study and intentionally given themselves higher marks on the post-test. The research situation may have provided cues to the purpose of the study and guided the participant's behaviour. As Chermack et al. (2007) suggested, future research could attempt to address this as a potential factor by examining not only perceptions but also objective measures or observable behaviours. As mentioned, this study also failed to gather demographics on all study participants which may skew our understanding of the results.

This study also responds to Chermack et al.'s (2007) suggestion to look at small samples from similar situations so that a larger sample could be examined. However, this study does not look at the phenomenon longitudinally as suggested. This could improve our understanding of the outcomes of scenario planning.

While this examination of dialogue, conversation quality, and engagement aimed to explore these terms and their place within scenario planning, there is still much room for understanding these concepts and thus improving means for measuring them. An integrative literature review of the three terms with implications regarding their role within scenario planning would enhance our understanding. In addition, as the concept of engagement gains increased attention in the literature, it may be possible to develop

means for measuring this construct specifically or separately from dialogue and conversation quality.

12 Conclusions

The study showed that scenario planning was associated with significant increases in self-reported personal and interpersonal conversation and engagement skills, with moderate and strong effect sizes respectively. The present study replicated a previous exploratory study that included only nine participants from a single organisation. The replication study involved considerably more participants (N = 137) from a total of ten organisations. Results were stronger and demonstrated strong evidence of construct validity for the scale measuring conversation quality and engagement. The HLM analysis clarified that the intervention was significantly effective across the organisations, lending further credibility and robustness to the results. These results can be interpreted as strong overall evidence that scenario planning is associated with improved participant perceptions of dialogue, conversation quality and engagement, and that the scores obtained using the CQEC were accurate and consistent according to EFA and CFA analyses.

Additional research is recommended in order to continue to support or refute these results, and a stronger tradition of replication research should be established in the social sciences generally. In particular, with the increased popularity of scenario planning, studies that provide rigorous evidence of its outcomes (or lack thereof) will aid practitioners in refining methods for guiding change and understanding uncertainty in organisations.

References

Anderson, J.C. and Gerbing, D.W. (1988) 'Structural equation modeling in practice: a review and recommended two-step approach', *Psychological Bulletin,* Vol. 103, No. 3, pp.411–423.

Argyris, C. and Schon, D.A. (1996) *Organizational Learning II. Theory, Method, and Practice*, FT Press, Reading, MA.

Bentler, P.M. (1990) 'Comparative fit indexes in structural models', *Psychological Bulletin*, Vol. 107, No. 2, pp.238–246.

Bohm, D. (1996) *On Dialogue*, 2nd ed., Routledge, London.

Boje, D.M. (1991) 'The storytelling organization: a study of storytelling performance in an office supply firm', *Administrative Science Quarterly*, Vol. 36, No. 1, pp.106–126.

Bolman, L.G. and Deal, T.E. (1997) *Reframing Organizations. Artistry, Choice, and Leadership*, Jossey-Bass, San Francisco, CA.

Burman, L.E., Reed, R.W. and Alm, J. (2010) 'A call for replication studies', *Public Finance Review,* Vol. 38, No. 6, pp.787–793.

Burt, G. and Chermack, T.J. (2008) 'Learning with scenarios: summary and key research problems', *Advances in Developing Human Resources,* Vol. 10, No. 2, pp.285–295.

Chermack, T.J. (2004) 'A theoretical model of scenario planning', *Human Resource Development Review*, Vol. 3, No. 4, pp.301–325.

Chermack, T.J. (2005) 'Studying scenario planning: theory, research suggestions and hypotheses', *Technological Forecasting and Social Change,* Vol. 72, No. 1, pp.59–73.

Chermack, T.J. (2011) *Scenario Planning in Organizations: How to Create, Use, and Assess Scenarios*, Berrett-Koehler, San Francisco, CA.

Chermack, T.J. and Nimon, K. (2008) 'The effects of scenario planning on participant decision-making style', *Human Resources Development Quarterly*, Vol. 19, No. 4, pp.351–372.

Chermack, T.J. and Swanson, R.A. (2008) 'Scenario planning: human resource development's strategic learning tool', *Advances in Developing Human Resources*, Vol. 10, No. 2, pp.129–146.

Chermack, T.J., Lynham, S.A. and van der Merwe, L. (2006) 'Exploring the relationship between scenario planning and perceptions of learning organization characteristics', *Futures*, Vol. 38, No. 7, pp.767–777.

Chermack, T.J., van der Merwe, L. and Lynham, S.A. (2007) 'Exploring the relationship between scenario planning and strategic conversation quality', *Technological Forecasting and Social Change*, Vol. 74, No. 3, pp.379–390.

Cohen, J. (1988) *Statistical Power for the Behavioral Sciences*, 2nd ed., Erlbaum, Hillsdale, NJ.

de Haas, M. and Kleingeld, A. (1999) 'Multilevel design of performance measurement systems: enhancing strategic dialogue throughout the organization', *Management Accounting Research*, Vol. 10, No. 3, pp.233–261.

DeVellis, R.F. (2003) *Scale Development: Theory and Applications*, Sage Publications, Thousand Oaks, CA.

Fleming, J.H. and Asplund, J. (2007) *Human Sigma*, Gallup Press, New York, NY.

Godet, M. and Roubelat, F. (1996) 'Creating the future – the use and misuse of scenarios', *Long Range Planning*, Vol. 29, No. 2, pp.164–171.

Hoone, C. (2007) 'Committees as strategic practice: the role of strategic conversation in a public administration', *Human Relations*, Vol. 60, No. 6, pp.921–952.

Jöreskog, K. and Sörbom, D. (2001) *LISREL 8: User's Reference Guide*, 2nd ed., Scientific Software International, Inc., Lincolnwood, IL.

Kahn, W.A. (1990) 'Psychological conditions of personal engagement and disengagement at work', *Academy of Management Journal*, Vol. 33, No. 4, pp.692–724.

Kleiner, A. (2008) *The Age of Heretics: A History of the Radical Thinkers Who Reinvented Corporate Management*, Jossey-Bass, San Francisco, CA.

Lee, V.E. (2000) 'Using hierarchical linear modeling to study social contexts: the case of school effects', *Educational Psychologist*, Vol. 35, No. 2, pp.125–141.

Lewin, K. (1948) *Resolving Social Conflicts. Selected Papers on Group Dynamics*, Harper and Row, New York, NY.

Lewin, K. (1951) *Field Theory in Social Science*, Harper and Row, New York, NY.

Linneman, R.E. and Klein, H.E. (1979) 'The use of multiple scenarios by U.S. industrial companies', *Long Range Planning*, Vol. 12, No. 1, pp.83–90.

Linneman, R.E. and Klein, H.E. (1983) 'The use of multiple scenarios by U.S. industrial companies: a comparison study, 1977–1981', *Long Range Planning*, Vol. 16, No. 6, pp.94–101.

Manning, T. (2002) 'The strategic leader: strategic conversation as a tool for change', *Strategy & Leadership*, Vol. 30, No. 5, pp.35–37.

McLean, G.N. and Egan, T.M. (2008) 'Applying organization development tools in scenario planning', *Advances in Developing Human Resources*, Vol. 10, No. 2, pp.240–257, doi: 10.1177/1523422307313328 .

Mester, C., Visser, D., Roodt, G. and Kellerman, R. (2003) 'Leadership style and its relation to employee attitudes and behavior', *Industrial Psychology*, Vol. 29, No. 2, pp.72–82.

Mietzner, D. and Reger, G. (2005) 'Advantages and disadvantages of scenario approaches for strategic foresight', *International Journal of Technology and Intelligence Planning*, Vol. 1, No. 2, pp.220–239.

Miller, S., Wackman, D. and Nunnally, E.W. (1982) *Straight Talk: A New Way to Get Closer to Others by Saying What You Really Mean*, Signet Publishers, New York, NY.

Miller, S.L, Nunnally, E.W. and Wackman, D.B. (1976) 'A communication training program for couples', *Social Casework*, Vol. 57, No. 1, pp.9–18.

Miller, S.L. (1971) 'The effects of communication training in small groups upon self-disclosure and openness in engaged couples' systems of interaction: a field experiment', *Doctoral Dissertation*, University of Minnesota.

Mintzberg, H. (1994) *The Rise and Fall of Strategic Planning*, The Free Press, New York, NY.

Nunnally, E.W. (1971) 'Effects of communication training upon interaction awareness and empathic accuracy of engaged couples: a field experiment', *Doctoral Dissertation*, University of Minnesota.

Nunnally, E.W. and Moy, C. (1989) *Communication Basics for Human Service Professional*, Sage Publications, New York, NY.

Nunnally, J.C. (1970) *Introduction to Psychological Measurement*, Mc-Graw-Hill, New York, NY.

Payne, K., Cangemi, J.P., Fuqua, H. and Muhleakamp, R. (1998) 'Leadership and employee empowerment', in Cangemi, J.P. et al. (Eds.): *Leadership Behavior*, University Press of America, Lantham, MD, pp.119–130.

Phelps, R., Chan, C. and Kapsalis, S.C. (2001) 'Does scenario planning affect performance? Two exploratory studies', *Journal of Business Research*, Vol. 51, No. 3, pp.223–232.

Richman, A. (2006) 'Everyone wants an engaged workforce how can you create it?', *Workspan*, Vol. 49, No. 1, pp.36–39.

Roche, B. (2005) *Types of Employee Surveys*, [online] available at http://www.TopResults.com (accessed on 13 April 2011).

Rogers, C. (1957) 'The necessary and sufficient conditions of therapeutic personality change', *Journal of Consulting Psychology*, Vol. 21, No. 2, pp.95–103.

Schoemaker, P.J.H. (1995) 'Scenario planning: a tool for strategic thinking', *Sloan Management Review*, Vol. 36, No. 2, pp.25–40.

Schreifer, A. (1995) 'Getting the most out of scenarios: advice from the experts', *Planning Review*, Vol. 23, No. 5, pp.33–35.

Schwartz, P. (1991) *The Art of the Long View: Planning for the Future in an Uncertain World*, Doubleday, New York, NY.

Shuck, M.B. (2009) 'Engagement leadership: a new developmental model', in Plakhotnik, M.S. et al. (Eds.): *Proceedings of the Eighth Annual College of Education & GSN Research Conference,* Florida International University, Miami, FL, pp.126–132.

Shuck, M.B. and Herd, A. (2011) 'Employee engagement and leadership: exploring the conceptual convergence of two paradigms and implications for leadership development in HRD', *Proceedings of the Academy of Human Resource Development Americas Conference*, USA, pp.2847–2875.

Shuck, M.B. and Wollard, K. (2010) 'Employee engagement and HRD: a seminal review of the foundations', *Human Resource Development Review*, Vol. 9, No. 1, pp.89–110.

Steiger, J.H. (1990) 'Structural model evaluation and modification: an interval estimation approach', *Multivariate Behavior Research*, Vol. 25, No. 2, pp.173–338.

Tegarden, L.F., Sarason, Y., Childers, J.S. and Hatfield, D.E. (2005) 'The engagement of employees in the strategy process and firm performance: the role of strategic goals and environment', *Journal of Business Strategies*, Vol. 22, No. 2, pp.75–99.

Tenaglia, M. and Noonan, P. (1992) 'Scenario-based strategic planning – a process for building top management consensus', *Planning Review*, Vol. 20, No. 2, pp.12–19.

Thompson, B. (2004) *Exploratory and Confirmatory Factor Analysis: Understanding Concepts and Applications*, American Psychological Association, Washington, DC.

van der Heijden, K. (2005) *Scenarios: The Art of Strategic Conversation*, John Wiley & Sons, England.

van der Merwe, L., Chermack, T.J., Kulikowich, J. and Yang, B. (2007) 'Strategic conversation quality and engagement: Assessment of a new measure', *International Journal of Training & Development*, Vol. 11, No. 3, pp.214–221, doi: 10.1111/j.1468-2419.2007.00282.x.

Wack, P. (1984) 'The gentle art of reperceiving', Unpublished manuscript, Harvard Business School.

Wagner, R. and Harter, J.K. (2006) *12: The Great Elements of Managing*, The Gallup Organization, Washington, DC.

Zhang, X. and Bartol, K.M. (2010) 'Linking empowering leadership and employee creativity: the influence of psychological empowerment, intrinsic motivation, and creative process engagement', *Academy of Management Journal*, Vol. 53, No. 1, pp.107–128.

Appendix

CONVERSATION QUALITY AND ENGAGEMENT CHECKLIST

Please assess your conversation and engagement skills and score yourself. Ask somebody else to also score your skills and compare both scores. Use this checklist both in the work setting as well as other settings such as any leadership, social and family settings to keep practicing and improving your skills. Work on improving Level 1 Shills first

NAME_____

FEEDBACK – LEADERSHIP, AND MANAGING ACCOUNTABILITY AND PERFORMANCE

Complete the following statements by indicating which level of frequency most accurately reflects your conduct in conversations and engagement in a team and one-to-one setting. Each score should be accompanied by concrete feedback support by describing specific behaviour in specific situations. Start the assessment process by asking; **During leadership and performance conversations I… (follow the items below)**		Never	Sometimes	Often	Usually	Always
LEVEL I SKILLS						
1	I use active listening to understand another person's point of view	**1**	**2**	**3**	**4**	**5**
2	I paraphrase what is said to ensure deeper understanding	**1**	**2**	**3**	**4**	**5**
3	I take responsibility for myself by choosing language that indicates this	**1**	**2**	**3**	**4**	**5**
4	I listen to what is being said and am self aware when judging	**1**	**2**	**3**	**4**	**5**
5	I maintain balance between asking questions and stating my opinions	**1**	**2**	**3**	**4**	**5**
6	I do my best to be explicit about the assumptions under my opinions	**1**	**2**	**3**	**4**	**5**
7	I constantly question my opinions with intent of reaching observable data	**1**	**2**	**3**	**4**	**5**
8	I use concrete examples to describe behaviour, sensing, feelings and impact	**1**	**2**	**3**	**4**	**5**
9	I stay engaged to identify events that could assist in understanding underlying patterns of behaviour and structural aspects	**1**	**2**	**3**	**4**	**5**
10	I use open-ended questions to clarify the patterns and structures	**1**	**2**	**3**	**4**	**5**

Appendix (continued)

LEVEL II SKILLS

11	I avoid third party involvement (triangulation) by dealing directly with others with the issues at hand	**1**	**2**	**3**	**4**	**5**
12	I confront others constructively when I disagree with their opinions	**1**	**2**	**3**	**4**	**5**
13	I take a stand and express outcomes while remaining engaged with the conversation at hand	**1**	**2**	**3**	**4**	**5**
14	I make informed choices about personal behaviour by balancing the purpose of the conversation, its desired results and current reality.	**1**	**2**	**3**	**4**	**5**
15	I encourage others to make choices that support engagement in the conversation	**1**	**2**	**3**	**4**	**5**
16	I define personal and organisational boundaries and review them when necessary.	**1**	**2**	**3**	**4**	**5**
17	I know my personal patterns of behaviour and 'hot buttons' and can intervene effectively and make choices.	**1**	**2**	**3**	**4**	**5**
18	I understand the origins of my behavioural patterns and 'hot buttons'	**1**	**2**	**3**	**4**	**5**
19	I apply conflict resolution skills as required	**1**	**2**	**3**	**4**	**5**
20	I use applicable coaching skills such as deep listening, empathy, respect, concreteness, and genuineness as appropriate	**1**	**2**	**3**	**4**	**5**
SUB TOTAL						
				TOTAL SCORE		