A Management Consultant's Guide to How Strategic Architecture Can Improve an Organisation's "Bottom Line"

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Abstract

Gary Hamel and CK Prahalad (1990) introduced the term strategic architecture to the strategy discipline. Hamel and Prahalad (1990) had in mind the idea that in an increasingly uncertain, nonlinear world firms need the ability to think in innovative ways to connect effectively with customers and markets. Building the strategic architecture of the firm is an enabler and a facilitator of the desired connection of the firm to its customers and markets. This paper notes that since Hamel and Prahalad introduced the term strategic architecture to the strategy vocabulary there have been several interesting developments in our know-ledge of the practice of strategy. In particular influential insight from Kaplan and Norton (1992, 1996, 2004) on the balanced scorecard and strategy maps, and Hart and Banbury (1994) on strategy-making processes and organisation performance is leveraged in this paper to enhance understanding of strategic architecture. A model of the strategic architecture of the firm integrating a performance measurement tool and research propositions for a future empirical study are developed using these important insights in the strategy literature.

Key Words: Strategic architecture, performance measurement, strategy process, strategic resources, strategy cycles

Hamel (2000) has drawn attention to the challenge of environmental uncertainty for business, creating an increasingly nonlinear world with greater pressure on organisations to speed their strategy cycle to compete effectively. Over the years, the strategy literature evidences a variety of suggestions for organisations to follow to cope with this challenge of delivering organisation performance in an uncertain environment including strategic management (Pearce and Robinson, 1988), strategic intent (Prahalad and Hamel, 1989), strategy-making processes (Hart, 1992; Burgelman and Grove, 2007), strategic thinking (Mintzberg, 1994; Liedtka, 1998), value innovation (Kim and Mauborgne, 1999) and

strategic innovation (Markides, 2000). The strategy discipline has evolved and come a long way since the early prescriptive strategic planning models of Andrews (1965) and Ansoff (1965) with the development of an array of terms and words which can inform but also confuse academics and practitioners alike (Markides, 2000).

One of these intriguing terms in the literature is strategic architecture (Hamel and Prahalad, 1990). This paper seeks to explore, clarify and enhance understanding of the concept of strategic architecture. A model of strategic architecture is developed which integrates strategy formulation and strategy implementation using performance measurement data to improve the quality and outcome of these activities iteratively over time.

Hamel and Prahalad (1990) describe strategic architecture as "a road map of the future that identifies which core competencies to build and their constituent technologies". Hamel and Prahalad (1990) developed their explanation of strategic architecture as referring to:

> Consistency of resource allocation and the development of an administrative infrastructure appropriate to it that breathes life into a strategic architecture and creates a managerial culture, teamwork, a capacity to change, and a willingness to share resources, to protect proprietary skills and to think long term.

Hamel and Prahalad (1990) had in mind the idea that in this increasingly uncertain, nonlinear world firms need the ability to think in strategic, innovative ways to connect effectively with customers and markets. Building the strategic architecture of the firm is an enabler and a facilitator of this desired connection of the firm to its customers and markets. Hamel and Prahalad (1990) talked about how strategy solutions are generated from the resource-based view perspective, however they did not go on to examine in detail the organisation performance implications of the development of strategic architecture. Instead they developed a case study of the Vickers Group of companies and explained "a broad map of the evolving linkages between customer functionality requirements, potential technologies, and core competencies" (Hamel and Prahalad, 1990). At the heart of this was the concept of core competence, "the collective learning in the organisation, especially how to coordinate diverse production skills and integrate multiple streams of technologies . . . the organisation of work and delivery of value . . . blending . . . functional expertise" (Hamel and Prahalad, 1990). This discussion did not touch on the usefulness of effective performance measurement and how the results

and learning from the performance measurement activity can be utilised in future strategy cycles.

In the context of our business and consulting experience, we see the non-discussion of performance measurement giving feedback from customers and markets as an important gap in the discussion of strategic architecture. Insightful, reliable, and timely performance measurement information can enhance the quality and speed of the strategy cycle for an organisation. The ability to leverage feedback data for the purpose of organisational learning and adaptation (Burgelman and Grove, 2007) is a desirable outcome in the context of Hamel and Prahalad's (1990) article. Hence, we formulated the first research question (RQ) we wish to explore:

> *RQ1:* In the strategic architecture of an organisation, how are superior strategy solutions that enhance organisation performance generated, decided and evaluated?

We are impressed with the important contribution Kaplan and Norton (1992, 1996, 2004) have made to the strategic management discipline in recent years with their insight on the balanced scorecard and strategy maps. Hart and Banbury (1994) also have highlighted the importance of good strategy process to the achievement of social responsiveness in organisational performance, a perspective not highlighted by Kaplan and Norton (1992, 1996, 2004). Based on our consulting experience over many years we believe the integration of these insights have merit. Hence, we developed our second question:

> *RQ2:* In developing the strategic architecture of the organisation should performance be measured and considered only in terms of financial outcomes, or should a wider range of stakeholder concerns be considered?

We respond to *RQ1* and *RQ2* in this paper by developing our model of strategic architecture informed by research and consulting practice. This paper also seeks to provide a basis for future empirical research in this important area.

Background

The strategic management process has traditionally been associated with the activities of planning, leading, directing and controlling (Pearce and Robinson, 1988). Our understanding of the intricacies and subtleties

of the practice of strategic management has continued to develop in the past 20 years with greater emphasis now on strategic intent (Hamel and Prahalad, 1989), learning (Mintzberg, 1994; Burgelman and Grove, 2007) and being entrepreneurial (Porter, 1996). Mintzberg (1994) distinguished between strategic thinking and strategic planning activities. Mintzberg (1994) associated strategic thinking with vision and learning and strategic planning with the programming of the "messy" vision of the future which emerges from strategic thinking. Mintzberg (1994) also articulated particular roles for the chief executive officer, top managers, internal consultants and line managers in strategy process. Hamel and Prahalad (1989, 1990) discussed the value to organisations of having a direct intuitive understanding of the future direction of the business articulated clearly by the CEO and top managers—strategic intent, and the concepts of core competence and strategic architecture. Campbell and Alexander (1997) discussed the respective roles of the corporate headquarters and the strategic business units, noting some tension between the head office and the business units, and also between financial goals (for example, cash flow, profit) and strategic goals (for example, market position, sales growth). Campbell and Alexander (1997) also noted that consideration of stakeholder objectives can create some confusion for strategists in determining priorities and that strategy development is ". . . messy, experimental . . . iterative, and . . . driven from the bottom up". Whittington (2004) discusses the importance of the "top-down" and "bottom-up" interaction in contemporary strategy process and the complex and problematic inclusion of line managers in strategy process. This literature has focused on the difficult to understand human aspects of strategy process—people working with people—and this writing partly informs development of our model of strategic architecture.

A further major influence from the 1990s relevant to our discussion of strategic architecture has been the rise in embrace by industry of the balanced scorecard approach to strategic control (Kaplan and Norton, 1996). Kaplan and Norton (1996, 2004) argue that traditional financial measures were effective in the industrial era but do not provide sufficient feedback for organisations to affect the behaviour of managers and employees in the modern, competitive business environment. With this in mind Kaplan and Norton (1992) originally devised the balanced scorecard to consider a range of financial and operational measures:

> The balanced scorecard includes financial measures that tell the results of actions already taken. And it compliments the financial measures with operational measures on customer satisfaction, internal processes, and the organisation's innovation and improvement activi-

ties—operational measures that are the drivers of future financial performance.

In a single management report the many disparate aspects of an organisation are brought together to ". . . focus the attention of its top executives on a short list of critical indicators of current and future performance" (Kaplan and Norton 1992). The balanced scorecard provides ". . . a way to clarify, simplify and then operationalise the vision at the top of the organisation" (Kaplan and Norton 1992). The name indicates the balance between short term and long term objectives, financial and non-financial measures, lagging and leading indicators, and external and internal performance criteria. Our knowledge of the balanced scorecard tool links with some interesting themes in the empirical literature relevant to this paper.

In the empirical literature Hart (1992), Hart and Banbury (1994) and Homburg, Krohmer and Workman (1999) confirm the need for balance between a range of performance criteria in managing an organisation effectively. Similar to the balanced scorecard work, Hart and Banbury (1994) suggest an interaction of financial performance and non-financial performance measures (e.g. social responsiveness) as an area of interest for future research with the possibility of lag effects present in the correlation of strategy-making processes and financial performance. In their discussion Hart and Banbury (1994) elaborate on this, referring to a time lag effect between the practice of strategy-making and achievement of non-financial organisation performance (that is, adaptiveness or change cap-ability, and effectiveness in terms of marketing, quality and social responsiveness) at a point in time and actual financial performance in later time periods.

Kaplan and Norton (2004) have also considered how to link a company's intangible assets to its strategy and performance. Kaplan and Norton's (2004) solution was to develop the "strategy map". The "strategy map" displays how "intangible assets influence a company's performance by enhancing the internal processes most critical to creating value for customers and shareholders" (Kaplan and Norton, 2004). Strategy maps are developed in organisations from the "top-down". Organisations start by establishing their long-term financial goals and then "determining the value proposition, that will deliver the revenue growth specified in those goals" (Kaplan and Norton, 2004). In building understanding of this value proposition, organisations need to identify the processes that will be critical to the development and delivery of the desired financial result. Finally, the organisation determines "the human information, and organisation capital

these processes require" (Kaplan and Norton, 2004). Our criticism of this approach is that it appears overly focused on the financial outcome very early in the analytical process potentially to the detriment of other strategic goals and other intuitive insights related to an executives experience, knowledge, skill and instincts critical to building robust and sustainable corporate performance (Mintzberg, 1994).

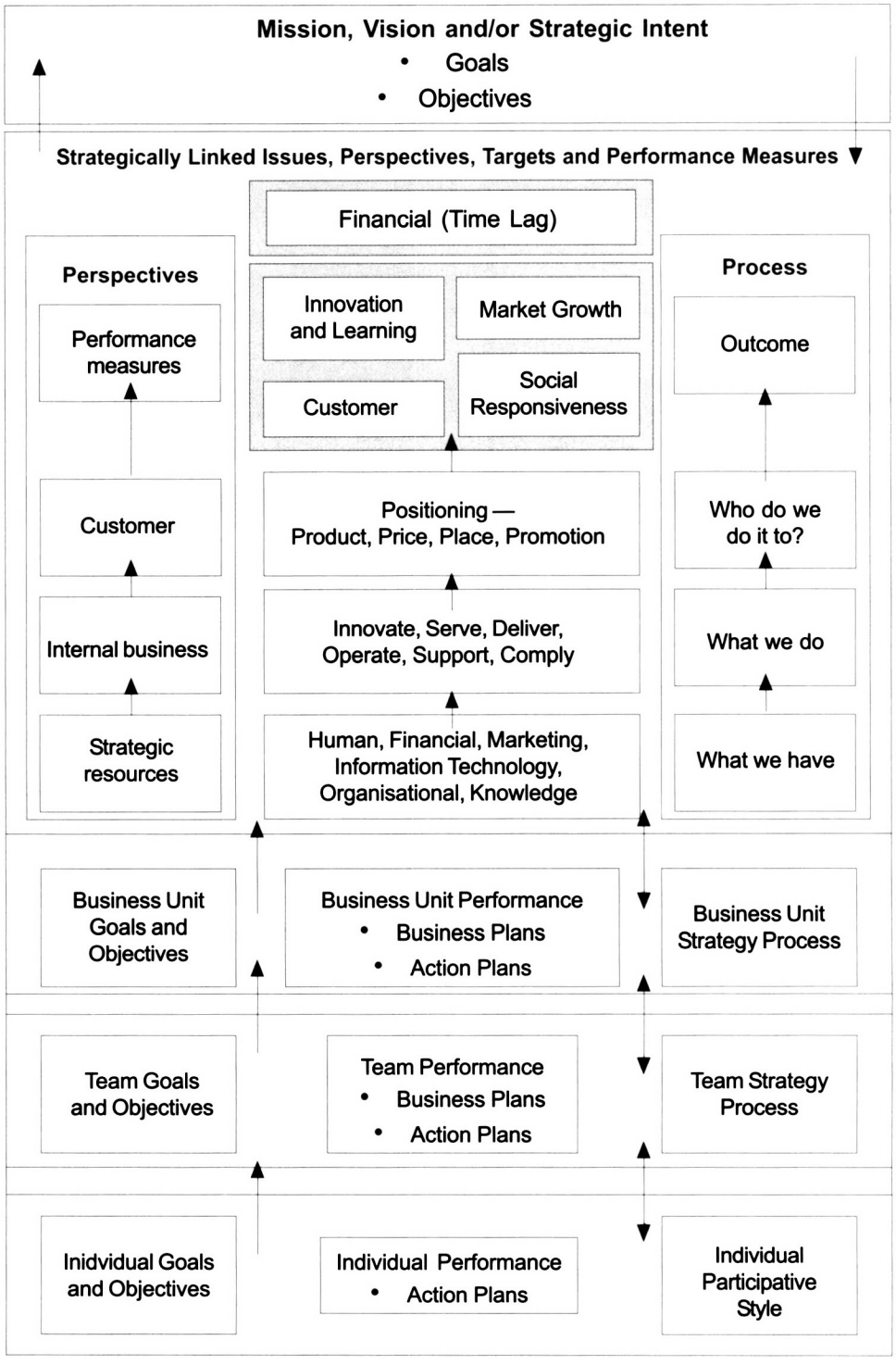
What we have as a discipline from the development of the balanced scorecard by Kaplan and Norton (1996), research by Hart and Banbury (1994) on strategy-making process and performance, Campbell and Alexander (1997) on the interaction of the corporate headquarters and strategic business units, and Liedtka (1998) on the value of strategic thinking practice respectively is four critical points of understanding going forward with this paper. First, that strategy-making processes are significant predictors of organisation performance (Hart and Banbury, 1994). Second, that there are tensions between the corporate headquarters and strategic business units on a range of key strategy issues and effective "top-down" and "bottom-up" communication is required to resolve these tensions. Third, that the there are time lag effects between the "soft", entrepreneurial and people-oriented aspects of strategic behaviour correlating with non-financial organisation performance at a point in time to predict future actual financial results (Hart and Banbury, 1994; Kaplan and Norton, 1996). Fourth, a well-developed analytical performance measurement tool can enhance strategy practice and resource allocation in organisations (Kaplan and Norton, 2004).

Strategic Architecture, Performance Measurement, and the "Bottom Line"

Strategic architecture in Figure 1 is guided by the articulation of the mission, vision (Mintzberg 1994) and/or strategic intent (Hamel, 2000) of the organisation from the corporate headquarters. The parameters (Markides, 2000) set out by the corporate headquarters provide some guidance for the strategic business units as they develop their respective strategies and negotiate the content of their business plans with the directors and executives in the corporate headquarters. The directors, executives, internal and external consultants and line managers involved in the strategy process are then encouraged to pose three important questions which provide guidance as to the organisations strengths and weaknesses.

First, participants in the strategy process are encouraged to review the strategic resources asking "What do we have?" in terms of human, financial, marketing, information technology, organisational and knowledge resources—the tangible and intangible resources of the firm. This

Figure 1: Strategic Architecture Model



question is vital in understanding the source of the firm's core competencies. Having resolved that question the organisation is encouraged to ask "What do we do?" in terms of its internal business perspective and address issues such as innovation, service, delivery, operations, support and compliance.

Third, organisations are encouraged to consider the customer perspective asking "Who do we do it to?" to inform decisions on product, price, place and promotion. We argue that the learning and feedback discussed as being useful in important contributions to strategy process by writers including Hamel (2000), Hart (1992) and Burgelman and Grove (2007) be fostered in organisations to resolve understanding of the strategic resources, internal business and customer perspectives for organisations. The focus here is on an iterative, ongoing cycle of dialogue and learning activity with both "top down" and "bottom-up" interaction on strategy content (Burgelman and Grove, 2007). This questioning, dialogue, learning and feedback should cascade down through the organisation in a modern, evolved, sophisticated strategy process with both "top-down" and "bottom-up" interaction. In this way business and action plans are developed and refined at the strategic business unit and team levels taking advantage of experience, knowledge and skill (Mintzberg 1994; Gavetti, Levinthal and Rivkin, 2005). This dialogue, learning and feedback can inform refinement and enhancement of the valuable core competencies embedded in the organisation. The job descriptions and work plans of individual line managers and executives will reflect their contribution to the goals and objectives of the team, the business unit and the overall corporation. These job descriptions and work plans can be structured, worded and oriented to the nurturing and sustenance of the core competencies and achievement of the desired end outcomes of the organisation.

In Figure 1, the shaded region depicts our preferred approach to performance measurement which has similarities and differences with the balanced scorecard. Where we differ from Kaplan and Norton (1996) is in the emphasis on particular dimensions. Similar to Kaplan and Norton (1996) we give strong emphasis to the time lag effect between current non-financial performance and actual future financial results also suggested by Hart and Banbury (1994).

We are also keen to include a broader organisational stakeholder perspective in performance measurement as effectiveness in this area is perceived as important in the current legal and commercial context (Banerjee, 2002) and helps predict future actual financial performance (Hart and Banbury, 1994). Our preferred dimensions for performance measurement are slightly different to Kaplan and Norton (1992, 1996)

including Innovation and Learning, Market Growth, Customer, Social Responsiveness, and Financial.

In Figure 2, we propose several preferred items for organisations to consider for their performance measurement tool. However, our consulting experience informs that the final selection of items for organisations will be contingent on their own strategic goals, priorities, product and/or market focus. Our clients take ownership of the content of their performance measurement tools and build some insight and capability in this area with the benefit of the learning and feedback from each strategy cycle.

Following on from the development of this insight into strategic architecture the following propositions are suggested for future research. First, this paper has discussed the concept of strategic architecture and linked the effective development of strategic architecture to organisations creating better strategy solutions (Prahalad and Hamel, 1990) and achieving better organisation performance leveraging insight from the strategy process domain (Hart and Banbury, 1992). Hence:

> *Proposition 1:* Development of effective strategic architecture in an organisation increases the probability of developing better strategy solutions, and achieving better organisation performance.

Second, we have seen from the empirical literature that the practice of strong strategy processes deliver better strategy outcomes and that there is evidence of a time lag effect between achieving strong non-financial performance and later achieving better financial results (Hart and Banbury 1994; Kaplan and Norton, 1996; Burgelman and Grove, 2007). Hence:

> *Proposition 2:* Development of effective strategic architecture and strong non-financial organisation performance in the current time period increases the probability of developing better strategy solutions in current and future time periods and achieving better financial performance in future time periods.

Third, Hart and Banbury (1994) also suggested that strong organisation performance may be a predictor of strategy-making process capability. Strong organisation performance provides the availability of resource slack, especially financial resources, that can be invested in enhanced strategy-making capability. This finding is worthy of exploring empirically in relation to the concept of strategic architecture, hence:

Figure 2: Performance Measures

Innovation and Learning
- Percentage of sales from new products
- Product and/or service development
- New products and/or services next year
- New product introduction versus competition
- Time to develop new products and/or services

Market Growth
- Sales or market share
- Sales growth or market share growth
- Number of suggestions from marketing employees
- Attracting new customers
- Improvement in share of key customer business

Customer
- Customer satisfaction
- Customer retention
- Number of customer complaints
- Service and/or product quality
- Image or reputation

Social Responsiveness
- Image or reputation for environmental responsibility
- Number of initiatives to support the natural environment
- Image or reputation for community responsibility
- Number of initiatives to support the communities in which we do business

Financial
- Return on equity
- Return on assets
- Profit
- Cash flow

Proposition 3: Strong organisation performance encourages greater emphasis on developing effective strategic architecture.

Discussion

We argue that the model in Figure 1 is a contribution to the theory and practice of interest to academics, business executives, and consultants (the ABCs) in that it further develops insight and understanding into the term "strategic architecture" and how this term can be applied to improve shareholder and stakeholder outcomes. We encourage our consulting clients to practise sound performance measurement to assist and support effective strategy implementation as we argue that explanation of strategic architecture and its application in industry talked about by Prahalad and Hamel (1990) could be enhanced with this refinement in view of the following:

- The model in Figure 1 embraces the resource-based view of the firm giving greater emphasis to the orchestration of the organisation's resources and uses the findings of recent empirical research to inform the design and use of a performance measurement tool.

- Compared with Kaplan and Norton (1992, 1996, 2004) and the focus on implementation in the balanced scorecard and their work on strategy maps, the new model in Figure 1 accommodates the importance of strategy formulation and cycles of iteration (Burgelman and Grove, 2007) to inform current and future strategy, the nurturing and sustenance of core competencies, and a faster strategy cycle (Hamel, 2000).

- The new model in Figure 1 demonstrates the effective integration of the corporate headquarters with the strategic business units by encouraging both "top-down" and "bottom-up" communication and a participative style of formulating and implementing strategy (Mason and Mitroff, 1981; Whittington, 2004; Burgelman and Grove, 2007).

- The model also considers both leading and lagging performance data and uses that information to inform the current and future strategy cycles of the business, in particular the link to action plans and prioritisation of tasks down through the organisation. The accumulated results of the individuals

and teams in the strategic business units then flow up through the organisation for the top managers and chief executive officer to integrate into the over-all performance for shareholders and stakeholders with their interaction, experience, insight, instinct, guile and political skill. Figure 2 can be particularly informative in this context as it is designed to provide timely guidance to executives on business performance.

- Figure 2 gives greater emphasis to social responsiveness and its influence than Kaplan and Norton (1996) reflecting current empirical research trends and findings (Hart, 1997; Banerjee, 2002).

- Both Figures 1 and 2 can be used as consulting tools to visually identify where the strengths and weaknesses are in an organisation's strategy-making and performance.

Going forward, we can further improve understanding of strategic architecture integrating learning from Prahalad and Hamel (1990), Kaplan and Norton (1992, 1996, 2004), Hart and Banbury (1994), Campbell and Alexander (1997), Burgelman and Grove (2007) and also our own research and consulting insights by exploring the research propositions developed in this paper using qualitative and quantitative methods.

Limitations and Implications

Leading strategic management researchers seek to actively introduce new vocabulary to explain points of ambiguity in understanding of strategy practice and this is frequently praised and rewarded by journal reviewers. We argue that there is also some vocabulary in the strategic management discipline where improvement of our present understanding and practice could also be a timely and a useful application of scholarship and research resources, especially where there is an evolution of understanding evident in the literature in relation to strategy-making processes and how firms organise to perform this crucial activity. There is certainly evidence in the literature (Liedtka, 1998; Markides, 2000) and from our experience in the executive education and management consulting domains where clarification and consistency in the use of vocabulary would assist both teaching and practice. It is also evident that this evolution of understanding of the practice of strategy-making can inform and enhance understanding of the concept of strategic architecture articulated by Hamel and Prahalad (1990). This paper is limited to developing a model and re-

search propositions related to extending understanding of the concept of strategic architecture to inform current practice and executive education, and also provide a conceptual basis for a future empirical research project. It provides a very useful insight into how strategy process in an organisation works and how performance measurement is an important aspect of that activity. The paper also provides insight into how core competencies can be nurtured and sustained which compliments what we have learned from Prahalad and Hamel (1990).

Conclusion

This paper leverages the definition of strategic architecture from Hamel and Prahalad (1990) and develops a deeper insight into the linkage of strategy formulation and strategy implementation with strategic resources, what people do in strategy practice and how they are organised to do it. Whittington (2004) has been calling for more thought and research in this area in recent years. In relation to *RQ1* we have seen that the model developed in Figure 2 indicates how firms can organise to achieve a faster, better informed strategy cycle. A connection is made linking high level strategy formulation with strategy implementation and what happens at the business unit, team and individual level with job descriptions, work plans and "day-to-day" management of people. In relation to *RQ2* we can see that effective performance measurement of non-financial and financial outcomes which balance both stakeholder and shareholder concerns has some merit and can inform future strategy cycles and the nurturing of core competencies from the learning and insight provided. These are issues not always understood and connected well by line managers with limited corporate experience, and even executives with several years experience—the professionals often participating in Master of Business Administration and executive education type programmes. In this way this paper makes a useful extension of learning and a contribution to teaching and professional practice.

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