The systems approach to career

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Although systems theory has considerable potential to give new understanding of career, it has been given little attention. Its underpinning assumptions about how to interpret the world differ from our everyday linear, cause-and-effect approaches, and so we need to use systems thinking. Rather than taking career to be a system, the concept of system is used as a tool to examine career. This systems model gives views of individual and environmental factors and their dynamic interplay in career which are not open to other theories. I shall show how such a model would contribute to theory, research, and practice.

Introduction

I first encountered systems theory over thirty years ago when it was all but unknown in the career field (see Patton and McMahon, 1999; 2006a). I recognised (Collin, 1984; 1985) that it could be used to make good where the career theories (North American) of the time, with their focus on intra-individual factors, gave insufficient explanations of career, neglecting the individual’s context, subjective experience, and the process of change. Although I have remained committed to that view, I developed other interests in the field, and did not pursue the systems approach again until recently (Collin, 2006). Meanwhile, as in other fields such as family therapy (e.g. Kreppner, and Lerner, 1989; Bor, Legg, and Scher, 1996; Street, 1996), its value has gradually become recognised and it has now been taken up in our field, but still not given the wider attention it deserves. So although it is not an ‘innovation’, I am taking the opportunity presented by this issue dedicated to Innovation in Theory and Practice to draw attention to its potential to help us see more clearly the workings of career, and to address them more effectively in practice.

This would be especially valuable now that major contextual changes are shaking some of the traditional foundations of career.

What is systems theory?

Systems theory originated in the work of scientists in several fields, particularly those in cybernetics and biology (e.g. von Bertalanffy, 1968), and has since been developed into a meta-disciplinary approach (Checkland, 1981). It arose through the study of organised complexity like that, for example, of a plant, which cannot be adequately understood by being analysed as one might strip down a machine into its parts. The relationships between the parts of an organism and between the parts of a machine are different. An organism has to be considered as a whole, as a system, which is ‘the idea of a set of elements connected together to form a whole’ (Checkland, 1981: 3). This whole is greater than the sum of its parts, having emergent properties which cannot be explained in terms of its elements: ‘[t]he taste of water, for example, is a property of the substance water, not of the hydrogen and oxygen which combine to form it.’ (Checkland, 1981: 3)

The system itself is a part (a sub-system) of a superordinate whole; this constitutes its environment, and this is composed of other systems. The system which is open to its environment, like a plant, takes in (inputs) materials, energy and information from the systems in its environment, and converts them into what it needs to sustain itself. The products of that conversion are returned into the environment (outputs); some are used in exchange for new inputs, others are waste products. The system receives feedback upon them. This is not linear and reciprocal, but multidirectional, and there can also be feedforward. Patton and McMahon (1999: 176; 2006a: 221-222)
call this ‘recursiveness’, and explain that the various influences upon a system are ‘interrelated and therefore act on each other’ in a ‘mutuality of influence.’ Figure One is a model of the open system with its ‘continuous exchanges’ (Checkland, 1981: 83), but for the sake of simplicity does not indicate the multidirectionality of feedback.

**Figure 1: Model of an open system**

Figure Two elaborates on the functions of the sub-systems and their interactions. One converts the inputs (the operational sub-system); another, as the eye in the diagram indicates, scans the environment for opportunities and threats (the awareness sub-system), and another controls the adjustments the system has to make (monitoring and control subsystem).

**Figure 2: The sub-systems of an open system**
Thus a system exists in continuous interrelationships with other systems in its environment, and its sub-systems have continuous interactions with one another. These bring about changes in both the environment and the system itself which has to make various adjustments in order to counteract threatened disequilibrium and decay (entropy) and to maintain a steady state. This homeostatic process modifies the sub-systems, prompting further interactions and coordination between them. As a result, they bring about further changes in the environment which set up new opportunities and threats and so necessitate further adaptations in the system in a dynamic process of change.

Systems thinking

The outline of systems theory above gives a glimpse of how it could be used to help to identify significant aspects of career. As the following section shows, conceiving of career as a system, whether career considered as a general notion or an individual experience, would throw new light on what I referred to as the ‘workings of career’: the effect of the environment on it, its interactions with other systems in its environment, and its ongoing process of adaptation to them.

It has to be recognised, however, that taking up systems theory is not like choosing to use any of the traditional career theories. First, it is based on very different assumptions from those we customarily make: this difference is as great as that between interpreting the world as though it were an organism or as though it were a machine. Systems theory is holistic: it is concerned with wholes (not, as Checkland (1981: 14) says, ‘with the whole’: [italics in original]) and with the interrelationships, interactions and multidirectional feedback between them. It does not conceive of linear causes-and-effects, and hence it is not possible to gain the same kind of benefits from using it as we derive from our usual analytical and statistical approaches. Secondly, both the notion of career itself and career-as-a-system are conceptual constructions, not empirical realities. A system’s boundaries, its sub-systems, environment, feedback to it: these are all constructions. (This is also true of the elements in the traditional theories of career, but we are not accustomed to thinking in that way.)

So I am not suggesting here that career is a system, adopting what Checkland (1981: 249) refers to as a ‘systemic ontology’, but that we use the notion of a system as a ‘tool[.] of an epistemological kind which can be used in a process of exploration within social reality’ [italics in original]. Nor am I proposing that we develop a systems theory of career. There has long been concern about the plethora of career theories and interest in bringing about their convergence (Savickas and Lent, 1994; Patton and McMahon, 1999; 2006a). It is telling that Super (1981: 51) used systems language when he looked forward to a ‘synthesising theory’ that would ‘cement’ together existing ‘segmental’ theories of career development ‘to constitute a whole which will be more powerful than the sum of its parts’. He suggested that self concept theory could do that. Commenting on this (Collin, 1984; 1985), I argued not for a systems theory of career, but for systems thinking in which we use the notion of a system as an epistemological tool. Thinking of career as though it were a system, using system as a metaphor for career, we could develop a systems model of career which would enable us to see it afresh and become aware of some of its workings that we generally do not see. For this Checkland (1981) has developed a ‘soft systems methodology’. This involves constructing a model which has ‘the structured set of activities which logic requires in a notional system’ (Checkland, 1981, p. 170). This model is compared with the ‘real-life’ situation and the differences between them discussed by the actors in and observers of it in order to understand that situation better.

It is for these reasons that I am using the term ‘the systems approach’ to embrace not just the use of systems theory but also systems thinking.

The contribution of the systems approach to the understanding of career

We are already aware of the many influences on career, such as parents, family, social class, education, employing organisations, government policies, etc., but using a systems model of career makes us recognise they are some of the many other systems of which its
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environment is composed. A complex picture emerges as we recognise that they interact between themselves as well as with the career system, as Bronfenbrenner’s (1977) ecological model shows. The outputs of one are the inputs of others; changes in one can ripple through to others which may have no direct relationship with it.

Among the inputs into the career system are genetic inheritance, sex, race, social class, education, occupational opportunities, etc. A sub-system converts these into whatever is needed to sustain the system, such as health, skills, interests, a job. The sub-systems are notional, not empirical realities; it would require research to identify how their functions are carried out in any given case. In my earlier work (Collin, 1984; 1985; 1986) I suggested that the conversion process was carried out by the self concept, although I was aware that this made me guilty of reification. This conversion generates such outputs as getting a job, progressing in it, changing it, all of which become inputs into other systems. There may also be waste products, such as stress, which becomes an input into the marriage or family systems. The functions of the awareness sub-system could be carried out in various ways by, for example, scanning the environment for changes and opportunities or threats in local employment. The monitoring and control sub-system might include checking progress by comparing self with others or learning from job appraisals. Multidirectional feedback to such outputs from the other systems in the environment might result in promotion or redundancy, which could prompt relocation or the gaining of new skills, which in turn would lead to yet another round of adjustments.

One could continue in this way, through research and collaboration with the career actor, to identify the various interactions with the environment and the multiple adjustments to them. This would trace the dynamic process of change and bring to light some of the inner workings of career not always visible to other career theories. Clearly it would be impossible, and generally unnecessary, to identify all these interactions, but one can focus upon whatever part of the environment and system is relevant to one’s interest.

The principle of emergence means that interactions of the parts of a system lead to higher levels of organisation at which properties emerge that do not exist at lower levels. For example, instead of thinking of a dual-career family, a more complex, and perhaps realistic, understanding arises from seeing how the interactions of parental and other systems, such as school, employer, grandparents, produce a new whole: a family career system (Collin, 2006).

There remains one issue which I have not yet resolved. Checkland (1981) developed soft systems methodology explicitly as a phenomenological approach. Because this incorporates an actor’s interpretations into the construction of a systems model, I had initially hoped that this would mean that the systems approach would adequately address the subjective as well as the objective career which other theories, in my view, failed to do (Collin, 1984; 1985). However, definition of the subjective career is problematic (Collin, 1990). This methodology can elicit career actors’ interpretations of their experiences, but while those are internal cognitive constructions, they are shaped by a model proffered by researcher or counsellor; they are not the actors’ unprompted interpretations. This suggests that the methodology does not access subjective experience and so apparently is unable to fulfil my hopes. Nevertheless I remain undecided because if, as social constructionism (Young and Collin, 2004) proposes, individual experience is considered to be constructed through social meanings, then perhaps the systems model could be understood as but one instance of such meanings, one that is formally expressed.

Other applications of systems theory in the career field

Although Osipow (1968; 1973) had referred to systems theory, little was known about it in the career field when I first came across it while studying organisations (e.g. Katz and Kahn, 1978). It was the spread of the influence of ecological ideas that eventually opened the door into the career field. There was increasing recognition of the significance of context and of person/environment interactions in career (e.g. Law, 1981), but under the banner of
‘ecology’ not ‘systems theory’ (e.g. Young, 1983). Bronfenbrenner’s (1977) conceptualisation of the environment as a nested series of systems, from the microsystem through the meso- and exo- to the macrosystem, proved to be a helpful way of looking at the relationship between individual development and the environment. Vondracek, Lerner and Schulenberg (1986) took these ideas further in their major statement on these interactions and their role in career development in their developmental-contextual theory.

Systems theory was finally fully recognised in the career field when Patton and McMahon (1999: xix; 2006a: xiii) introduced their ‘metatheoretical framework for the integration of career theories’, thereby addressing, though not referring to, Super’s (1981: 51) wish for a synthesising theory. Their systems theory framework for career development (STF) was ‘not designed to be a theory of career development’ (Patton and McMahon, 1999: 153; Patton and McMahon, 2006a: 193), but to provide an overarching ‘metatheoretical framework for integrating existing theories and integrating theory and practice’ (1999: 178; 2006a: 223). These books provide a valuable introduction to systems theory and a helpful overview of a wide range of career theories. They also cover the application of systems theory to various aspects of career practice such as counselling, counsellor training and supervision.

At the same time, these books demonstrate that there is no one version of systems theory nor an accepted view of how it could be applied in the career field. For example, Patton and McMahon take a different perspective upon the systems approach from mine in the terminology and treatment of the sub-systems (mine is derived from Checkland, 1981). They regard the various ‘intrapersonal factors’, such as gender, age, personality, which they label ‘influences’ (Patton and McMahon (1999: 155; 2006a: 196), as the sub-systems (1999: 158; 2006a: 201) whereas in my systems model those are inputs into the career system from systems in the environment. We may also be differing in what we think systems theory could achieve in the study of career. For me (Collin, 1984; 1985:49), it could be the means of ‘generat[ing] a comprehensive, appropriate and grounded … theory’, while Patton and McMahon intend their theory-derived STF framework to integrate existing career theories. However, this may not be what their books actually achieve. Like me, they are not proposing STF as a theory of career development, but they go on to write (1999: 154; 2006a: 195) that, as well as ‘reflect[ing] a micropicture of career theories’, their STF has a second purpose as a framework ‘of the influences relevant to an individual’s career development’. Perhaps their framework is more effective in integrating, not career theories, but the topics they address. The adoption of the systems approach is in its infancy, and there will undoubtedly be many other instances of differences to be debated.

As the major proponents of systems theory in the career field, Patton and McMahon have opened up a very productive field, and there is much left to explore. They continue their work on STF and how it might be applied in career counselling (e.g. Patton and McMahon, 2006b) and have developed and tested (e.g. McMahon, Watson and Patton, 2005) a reflective activity called My System of Career Influences for clients to use. The CareersGroup blog (2011b) also suggest ways of using systems theory in counselling practice.

Conclusions: The value of the systems approach

The systems approach at first sight might seem off-putting because of its abstract language and unfamiliar assumptions. The CareersGroup blog (2011a) ‘struggles’ with Patton and McMahon’s STF: it ‘is a massive beast to try and remember to implement’, but this is not necessary. The systems model, as the diagrams show, is very simple and easily grasped, but it can be elaborated to whatever degree of detail is required, and can be used to uncover layer upon layer of interpretation of career. Using this one model, theorists can conceptualise many aspects of career that other theorists have neglected or dealt with only ‘segmentally’: a contextualised individual, the impact of changes in context and the individual’s response to them, the dynamic process of change. Researchers can use that model to make an overall map of the territory, and to follow through the various interactions in outline or detail. Similarly, practitioners can use it to work with their clients, and clients can
use it for themselves.

There will be some issues to be addressed before these benefits can be gained. What is being stipulated as the system in question? The individual as a system? An individual’s career? Career in general? An organisational career? Then, what are its boundaries? Elements? The other systems in its environment? These are questions that I have suggested (Collin, 1984; 2006) that soft systems methodology could help address.

The participants, many of them career professionals, in a 2011 NICEC seminar in which I talked about the systems approach, recognised its value. They saw that it opened up a wide perspective on career, and could be used when working with different cultures. It offered a language to think about career, and a means of foregrounding or backgrounding any part of a career; it allowed the focus to be placed on one part of career where, for example, an individual feels stuck. It could be the means for young people to distance themselves from their history, unpick it and identify how they had processed it. It drew attention to the dynamics of career. These are different benefits from those given by the use of other career theories, and indeed from the mere application of systems theory. They arise from systems thinking and the use of the systems model as a means, a tool, to explore reality. Practitioners could well be more comfortable with that than with having to try to apply theory to the everyday life of their clients.

The systems approach excited me when I was setting out on my career in the study of career and, as I see that career beginning to wind down, I hope that I have done it the justice it deserves.

References


Qualitative Career Assessment: Developing the My System of Career Influences Reflection Activity, in 


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