THE BUTTERFLY MODEL OF CAREERS: ILLUSTRATING HOW PLANNING AND CHANCE CAN BE INTEGRATED IN THE CAREERS OF SECONDARY SCHOOL STUDENTS

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Simple matching models of decision making are no longer sufficient as a basis for career counselling and education. The challenge for contemporary careers advisers is how to communicate some of the complexities of modern career development to their students; in particular, the apparently contradictory relationship between the need for planning and the influence of unplanned events. Deriving from the Chaos Theory of Careers, this paper outlines a practical technique currently being used in the secondary school context that illustrates how both planning and contingency can be linked, understood and utilised in career decision making. The implementation of the Butterfly Model of Careers is outlined in detail to enable others in the career counselling field to be able to use it as well.

The realities of modern work have called into question some of the traditional practices in career counselling and their theoretical assumptions. In particular, counselling based on person–job matching and the motivating theories behind it have been criticised as 'insufficient' (Savickas, 2005); limited and oversimplified (McMahon & Patton, 2002) and 'simple-minded' (Pryor, 2006). In the last ten years,

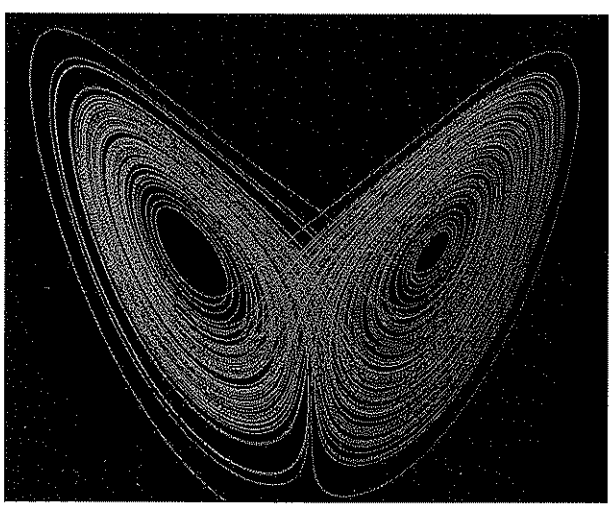
a raft of new approaches have been developed that attempt to capture some of the previously neglected aspects of career, such as personal construction (Savickas, 2002); systemic influences (Patton & McMahon, 1997, 1999); context (Young & Valach, 1996); and complexity (Bloch, 2005; Bright & Pryor, 2005).

Of particular interest is increased acknowledgement of the role of unplanned or chance events in career development and on career decision making. The planned happenstance formulation (Krumboltz, 1998; Krumboltz & Levin, 2004; Mitchell, Levin & Krumboltz, 1999) has drawn attention to the importance of unplanned events. Most recently the Chaos Theory of Careers (Pryor & Bright, 2003a, 2003b) has provided a theoretical conceptualisation of the relationship between pattern and unpredictability, order and instability, organisation and chance. Fundamental to this new conceptualisation of such relationships is the notion of the Strange Attractor (Bright & Pryor, 2005). A dynamical system (i.e., a moving or living system) can be described in terms of its motion. The first chaotic (strange) attractor was identified in the 1960s by Lorenz (1993), which he called the butterfly attractor because of its resemblance to a butterfly (see Figure 1). Observing this attractor in real time reveals a series of trajectories that appear like concentric circles on the left-hand side and which then suddenly jump across to circle around the right-hand part of the pattern and then back again. So within this attractor, we see both stability (there is a discernible emergent pattern) intertwined with inherent uncertainty (one cannot predict where the trajectory will go next). Thus, the Strange Attractor pattern of motion is characterised by a self-similar, but ever changing pattern which is prone to radical transformation. Pryor and Bright (2003a, 2003b) have argued that this attractor best describes modern career paths.

'Within this attractor, we see both stability intertwined with inherent uncertainty.'

However, the new realities of career development present careers advisers in secondary schools with a dilemma: how to convey abstract and complex ideas about the chaotic world of work, such as the Strange Attractor, cogently and with clarity and utility? The remainder of this paper outlines a technique to illustrate the relationship between planning (order) and the unplanned (chance) in career decision making that has been used effectively in the classroom, and could easily be adapted for use with adult clients.

Figure 1: The Lorenz (Butterfly Attractor)

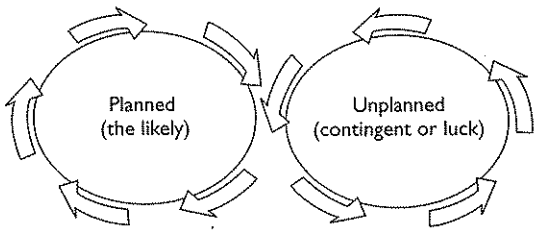


The Butterfly Attractor Model of Careers Technique

The Butterfly Model (see Figure 2) seeks to assist students to meet the two challenges of current career development—the likely and the contingent. It characterises career education as comprising two complementary elements: developing skills in planning (the likely) and skills to cope with—and preferably thrive on—the unplanned (the contingent). In the past, most career education has focused on planning for the likely at the cost of adapting and taking advantage of the contingent. However, recently there have been some promising initiatives within schools such as the *School to Work Program: Creating Future Pathways: Student Survey* (for further details see Bell, Smith & Bright, 2005); and the *Real Game* (Jarvis & Richardt, 2001). Such approaches recognise that planning must include the unplanned, if career plans are to be successful.

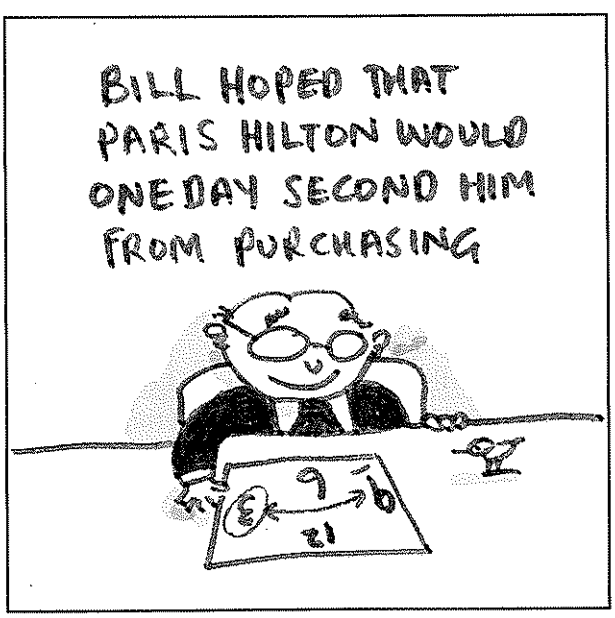
The Butterfly Model resembles the Lorenz strange attractor, in that it represents a typical trajectory of a person's developing career. There is no start or end point on this trajectory indicating that a career epoch may begin after careful planning, or that one might simply find a path opens up after an unplanned event. The arrows indicate the inevitability of movement

FIGURE 2: THE BUTTERFLY MODEL OF CHAOS



and the impending possibility of change. By linking what can be planned with what cannot, the model reinforces the need for skills to deal with both the likely and the contingent. Further, in having to take account of unplanned events as well as planned actions, this model draws attention to both the need and the responsibility to plan and at the same time identifies the limitations of such planning due to the inescapable reality of unforeseen events. Adolescents and young adults are often characterised as being overconfident in their skills and feeling invulnerable. Hence, the high motor vehicle accident rates for this demographic group. If this characterisation is reasonably accurate, then the Butterfly Model in emphasising limitation as well as potential may be especially germane to this group of young people.

To illustrate how the model integrates the planned and unplanned, consider Bill who might start off in the left-hand 'wing' thinking logically and rationally about his career (refer to Figure 2). Through this process of rational planning he might have a vocational assessment—the results of which refine his plans and cause him to do further planning based on these results. Then, suddenly, his trajectory makes an unexpected turn into the realm of chance events. For instance, he might fail to get the predicted grades for entry into his chosen training course. Despondent and confused he might then apply for the first job he sees in the local paper. It happens that he does not get the job, because the employer sees greater potential and instead offers to sponsor him to complete some vocational training. As a consequence, a new trajectory of planning is embarked on as Bill enters into a structured training program and a period of relative career stability.



PRACTICAL APPLICATIONS WITH SCHOOL STUDENTS (AND OTHER CLIENTS)

This model has been used in classroom teaching with Year 10 students at Muswellbrook High School, NSW and also individually with counselling students, especially those students who believed they had experienced an unplanned setback. The classroom session was conducted as follows:

1. On a worksheet students are asked to make notes on where they see themselves in one, two, three and five years—living and working;
2. Students make cards with these jobs and living plans;
3. Students are given 'chance cards' containing a chance event as outlined in Table 1 on p. 57;
4. Students discuss the possibility of these happening;
5. Students give examples from their own lives of planning and chance, such as a family member's career path or stories such as how their parents met;
6. Butterfly model is shown on the whiteboard and its merits are discussed;
7. Students individually or in pairs or small groups draw the model and place in examples along lines that could suit their own case or one they prefer to make up:
   a. Students draw one of their planned destinations into the left side of the model at the 12 o'clock point (see Figure 3);
   b. Ask the students to write in at the 3 o'clock point, their planned outcome three years hence, and again at the 6 o'clock point, six years hence,

and again at the 9 o'clock point, nine years hence;

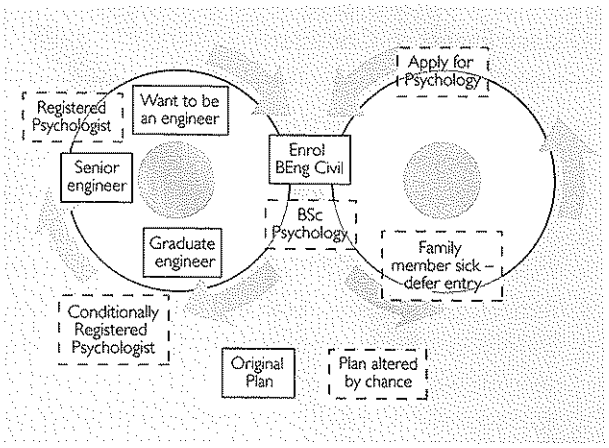
c. Now ask the students each to draw a chance card from the pack, and read it;
d. Ask the students to write in this event at the 6 o'clock point on the right-hand side of the model;
e. Ask the students to consider what impact this could have on their planning and to write this at the 12 o'clock point on the right-hand side of the chance circle;
f. Now ask the student to follow the chance circle anti-clockwise around until it meets the planning circle in the middle;
g. At this point ask the student to write in the revised plan three years from now alongside the original plan;
h. Now ask the student to write in the revised plan six years from now at the 6 o'clock point, and the same for nine years from now at the 9 o'clock point; and
i. Encourage students to see the differences (and sometimes improvements in their revised plans compared to the originals).

In debriefing the students at the end of this exercise, there is an opportunity to remark on the way a planned career path changes with chance and that after adjustment to the chance event we can work positively through events of chance back through a planning phase that can be better than the original plan, emphasising that this is a common feature in most people's lives. This exercise then allows for a natural introduction of key career terms such as: transferable skills, retraining, relocating, networking, downshifting, seachange, training articulation, credit transfer and alternative entry.

The introduction of the Butterfly Model of Careers was memorable for students, parents and colleagues alike. A Year 11 student summed up his experience of the exercise thus:

> I don't remember much from last year's lessons but I remember the planning and chance drawing because it just made sense to me and is true in the lives of people I know. It helped me think about what I plan to do, how things might change but how I could make adjustments and still have a good career.

FIGURE 3: A WORKED EXAMPLE OF THE MODEL



A parent provided the following feedback:

> We get caught up in planning a perfect Universities Admission Index and pathway to universities for our kids and it's a mistake. The teacher's use of the diagram with real life examples in a meeting just after a bit of an unexpected Universities Admission Index helped us both. I thought it was a really good way of looking at things.

CONCLUSION

The Butterfly Model of Careers shows how the planned and unplanned can be linked and understood in the process of career development. It is also a reminder that career education needs to place a greater emphasis on teaching strategies to help people come to terms with and thrive on chance events. Careers rarely follow logical and linear paths, especially modern careers. In order to equip students with the skills to confront and thrive in a chaotic world, we must find ways of conceptualising this complexity and point to the skills needed to capitalise on it. The Chaos Theory of Careers is a conceptualisation of careers that captures some of the most important aspects of work in the 21st century—namely, continuous change, uncertainty, complexity, constructivism, non-linearity and connectedness. The Butterfly Model of Careers communicates the concepts of stability and disorder within a practical technique that demonstrates how these might be integrated into students' thinking and decision making.

'I remember the planning and chance drawing because it just made sense to me.'

TABLE 1: A LISTING OF CHANCE EVENTS FOR SECONDARY SCHOOL STUDENTS TO CONSIDER

Chance Events to Consider
a. Your employer is undergoing a merger and your position is now redundant.
b. Your employer is undergoing a merger and offers you a large promotion, but in a town 40 kilometres away.
c. Your employer has gone bankrupt, you are unemployed and will need to pursue entitlements.
d. A family member is sick and you need to look after them at home.
e. You have an accident at home and are unable to work.
f. Technological advances mean that your job will become redundant.
g. Technological advances mean that you are offered the opportunity to spend six months in Melbourne training for a new role within the company.
h. Your employer is closing down their local operation and transferring you to a 40 per cent more expensive city/town, e.g., Muswellbrook to Sydney.
i. Your employer is closing down their city operation and transferring you to a 40 per cent less expensive city/town, e.g., Sydney to Muswellbrook.
j. You are going to move town to support your wife's promotion at work; she will make another $15,000, but you have no firm offers of employment in the new town.
k. The only offer you receive for university is in a town seven hours away by car.
l. You failed to gain entry to university.
m. You got better grades than expected, opening up a range of courses at university you hadn't considered.
n. You dreamed of entering the Australian Defence Force Academy, but the third round of selection in Year 12 finds you cannot due to colour blindness.
o. You decide to quit your university course six weeks into semester because you are homesick.

The Butterfly Model of Careers may also serve to encourage practitioners to continue to develop innovative techniques to assist students to develop positive strategies for thriving on uncertainty. See Pryor and Bright (2005, 2006) for further examples of techniques that relate aspects of chaos theory to career counselling practice.

If chaos has a pattern, it is both historically and quintessentially that of the butterfly. The term *butterfly effect* has been incorporated into popular culture and vernacular and the Strange Attractor is the distinctive contribution both conceptually and mathematically of chaos theory. The Butterfly Model of Careers presented here, therefore, follows in this tradition and illustrates the importance of the contemporary challenge to be able to view stability and chance as two sides of one reality in which careers and indeed life as a whole has to be negotiated. Between chaos and planning lies creativity and opportunity. Assisting students to recognise and be able to constructively use both looms as one of the great challenges of career education for this century.

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